northvolt

Enabling the future of energy

Sustainability and Annual report 2022

Our society is in need of a rapid sustainable transformation. Our approach to manufacturing must lead the way.

Northvolt's approach is defined by what we see as a fundamental truth: that securing a sustainable society requires sustainable business models. Embracing fossil-free energy and circularity in manufacturing are pillars in our day-to-day operations, together with a commitment to continuously drive improvement in the way we operate across the value chain.

OUR MISSION

To build the world's greenest battery, with minimal carbon footprint and the highest ambitions for recycling.

OUR VISION

To enable the future of energy

OUR VALUES

Bold *Passionate* Excellent

Our **world**

Our **impact**

Our **people & culture**

Our **structure**

Our **performance**

This is Northvolt's first integrated Sustainability and Annual report. It outlines what we are doing, how we are doing it and the challenges we face in our mission and work to enable the future of energy.

The audited annual accounts and consolidated accounts can be found on pages 84-146. Our vulontary corporate governance report can be found on pages 53-57. Northvolt reports its sustainability work for 2022 in accordance with Global Reporting Initiative (GRI) Standards 2021. The sustainability report, together with Northvolt's voluntary taxonomy report, constitutes the statutory sustainability report in accordance with the Swedish Annual Account Act, chapter 6, section 11. The sustainability information that has been reviewed by the auditors can be found on pages 28-51, 58-60, 66-73 and 148-158. The assurance report issued by the auditors can be found on page 167 and a detailed GRI and other sustainability reporting standards index can be found on pages 162-166.

Our **world**

This is Northvolt

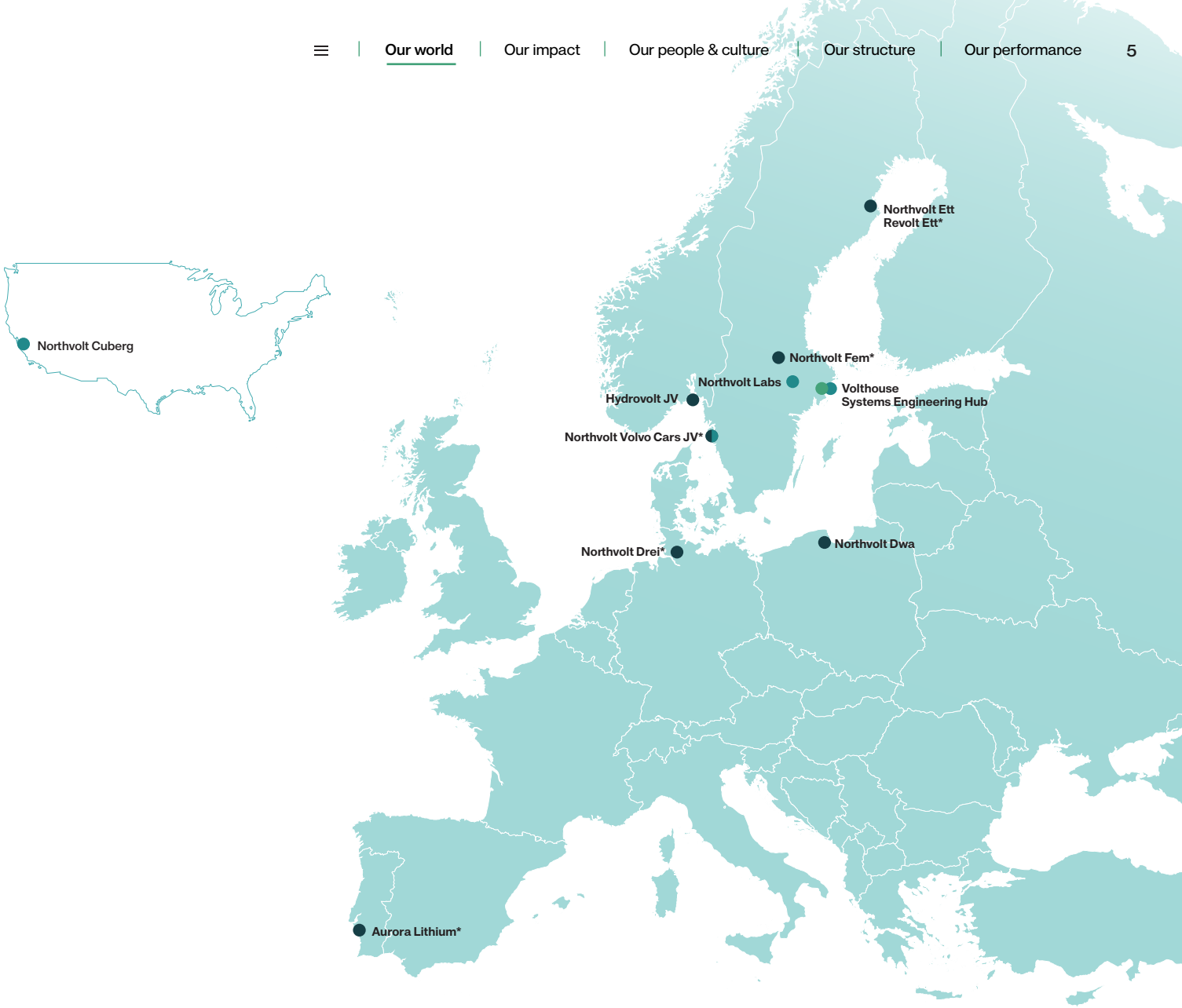
Northvolt was founded to enable the transition to a decarbonized future by supplying sustainable lithium-ion batteries.

In leading the development of a new battery industry for Europe, Northvolt is determined to set a benchmark for sustainability in the industry. To deliver on this ambition, and to do so at scale and at speed, Northvolt has taken the unique approach of integrating significant portions of the battery value chain, including cathode production, cell manufacturing and recycling, into its own operations.

Since its founding in 2016, considerable progress has been made. The company is now a European leader within battery production, engaged in partnerships with some of Europe's premium automotive manufacturers and industry players.

With an order book of USD 55 billion and supported by over USD 8 billion in capital secured, Northvolt has assembled a world-class team of over 4,100 employees from 114 countries, as of the end of 2022.

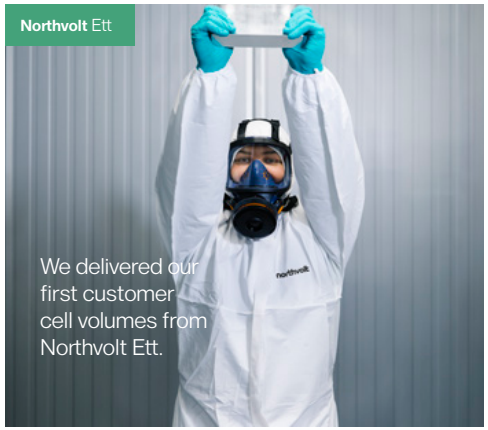
Northvolt is today delivering cells from Northvolt Ett, its first gigafactory in northern Sweden.



The year in brief

For Northvolt, 2022 was a pivotal year of securing our initial gigafactory production base, technology development and strategic expansion.

Northvolt Ett



We delivered our first customer cell volumes from Northvolt Ett.

$1.65 billion

We secured an additional USD 1.65 billion in financing, bringing the total amount raised to over USD 8 billion with a highly supportive shareholder base.

$55 billion

We have secured an order book of USD 55 billion from key customers.

We delivered cell samples to five premium tier automotive manufacturers.

Northvolt Labs

Our new R&D facilities at Northvolt Labs produced their first products, including a new cell for Volvo Cars.

We welcomed our 4,000th employee into the company and closed the year with 4,167 employees.

Hydrovolt

Hydrovolt, our battery recycling joint venture, commenced operations in Norway.

Northvolt Cuberg

Northvolt subsidiary Cuberg validated a lithium metal cell with an energy density of 380 Wh/kg.

Northvolt Labs

At Northvolt Labs, we further diversified our cell portfolio with new platforms, including a second-generation chemistry large format prismatic cell.

Northvolt Dwa

Northvolt Dwa in Poland continued to deliver battery systems to Epiroc – securing a 96% increase in number of systems delivered year-on-year.

Revolt Ett

Construction concluded at our full-scale recycling plant, Revolt Ett, and installation began on schedule.

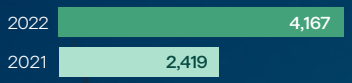
Northvolt–Volvo Cars JV

Northvolt-Volvo Cars joint venture was formally established and Gothenburg was confirmed as the location for its 50 GWh gigafactory and R&D center.

Our year in numbers

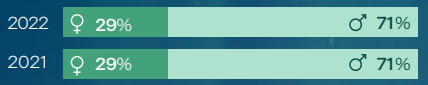
No. of employees

4,167



Gender split

29/71%



Nationalities

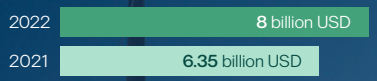
114

Ownership by employees*

8.7%

Total financing secured

$8 billion USD



Total investments

$3.3 billion USD

No. of customer supply agreements

13

* Employees include Executive Management (excl. CEO), current and former employees, as well as Advisors and Board members. Ownership as % of all shares, warrants and options outstanding excluding convertible notes.

Letter from our CEO

This year has reminded us that we live in a highly connected and interdependent world.

While Russia's war on Ukraine is first and foremost a humanitarian tragedy, it has also had consequences around the world. Global supply chains have been challenged, energy and raw material prices have reached record levels and capital markets remain volatile even into the end of the year.

Northvolt has not been immune to these challenges. However, when I see how well the team at Northvolt adapted, whilst continuing to respond to the scale and complexity of the company's mission, I feel reassured. At the same time, the circumstances we face reinforce my belief that what Northvolt stands for and seeks to achieve in leading the establishment of a new, sustainable battery industry from Europe, is now more important than ever before.

Despite delays in delivery of key equipment and construction materials, we made great progress across our activities this year, and secured major accomplishments in our production capabilities, innovation of technologies and strategic expansion.

What has been particularly remarkable to witness this year is the ramp-up of our initial cell production base at Northvolt Ett. The gigafactory's delivery of its first customer volumes was a terrific achievement, one which reminds us that our success translates directly to our customers and is key to their own success in pursuing a sustainable future. The start of deliveries from Northvolt Ett also resulted in Northvolt becoming the first European company to be ranked as a Tier 1 battery supplier by Benchmark Mineral Intelligence.

Our work towards building a sustainable battery industry has also developed. The launch of Carbon Roadmap 2030 is especially significant, as it provides us with a clear, measurable path to reaching our cell carbon footprint target of 10 kg CO_2/kWh by 2030. We have considerable work ahead of us throughout the value chain to achieve this ambition, but the Northvolt approach is already resulting in cells with a carbon footprint roughly one-third that of the industry today.

Our commitment to driving sustainability in the battery raw materials value chain remains a priority, and we have developed our processes in meaningful ways this year to support this. It is also exciting to see the construction of Revolt Ett – our first full-scale recycling facility. Now fully permitted to be developed, Revolt Ett will provide up to 125,000 tonnes of recycled battery metals for the production of new cells.

We continue to advance Europe's collective battery technology capability by deepening our ties with leading automotive partners and broader industrial spheres. The ongoing expansion of R&D and production capabilities at Northvolt

↑ **Peter Carlsson, CEO and Co-Founder,** speaking at Northvolt's annual company Kick-Off.

“Our progress to date is made possible by the dedication and resilience of our people”

Labs is central to positioning ourselves as the European leader in the battery ecosystem, with the ability to work at the very forefront of battery technologies.

Today, we are focused on establishing a foundation from which to expand and deliver the greatest positive impact possible. With both existing and potential customers, we have a solid pipeline from which to grow our order book, which currently stands at USD 55 billion contracted in cell supply agreements.

Despite the challenges of markets today, we are encouraged by the clear indication of a strong appetite to support our plans. Through 2022, we secured USD 1.65 billion in additional financing, bringing us to more than USD 8 billion of capital raised to date.

Reflecting on our current position, I am humbled by what Northvolt has accomplished so far and how quickly it has matured, having been founded just six years ago.

Above all, I am reminded that Northvolt’s progress to date would not have been possible without the dedication and resilience of our people. Across our sites and offices, there is an unmistakable atmosphere created by the collective passion of our teams. This has been key to our success in responding with agility and determination to deliver on our objectives.

Having grown to over 4,100 people this year, I remain absolutely convinced that Northvolt’s greatest strength is found in the talents and mindsets of the individuals who work here. And this is what will enable us to make a holistic and tangible impact on the sustainable development of our industrial landscape.

Peter Carlsson
CEO and Co-Founder

Letter from our former Chair

Northvolt operates at the forefront of a historic shift, defined by an urgent need to transition to a sustainable industry and society – one which embraces circularity and reduces its dependence on fossil-fuels.

While there are great challenges involved in securing this future, there is above all opportunity. First and foremost, the opportunity to overturn convention and demonstrate how industry can seek to drive sustainability in a meaningful way.

At Northvolt, we are working to enable this future by establishing a new industrial base which not only delivers solutions which are key to the ambitions of our customers but sets the standard for the future of the industry.

We made great progress through this year, both in terms of our engagement with customers and our strategic positioning. The delivery of cells to customers from our first gigafactory, Northvolt Ett, was a major event. While it was a milestone for us and something we have worked towards since the company was founded, the event was also symbolic in terms of marking Europe's shift towards establishing its own battery industry. This watershed moment was made all the more significant in light of the market dynamics of the year.

In 2022, we saw increasing demand from end-customers seeking battery solutions to facilitate climate ambitions. Perhaps the clearest example of this is seen in the accelerating momentum for transitioning away from combustion engines and towards electrical vehicle production. This is not only true for passenger vehicles. Trucks and buses, and even larger machinery, are going electric. Although less mature as a market segment, but by no means less exciting, there is also encouraging activity surrounding the electrification of aviation.

In all these segments, Northvolt is ideally positioned to deliver solutions which meet high expectations not only on product performance, but increasingly on environmental, social, and governance requirements.

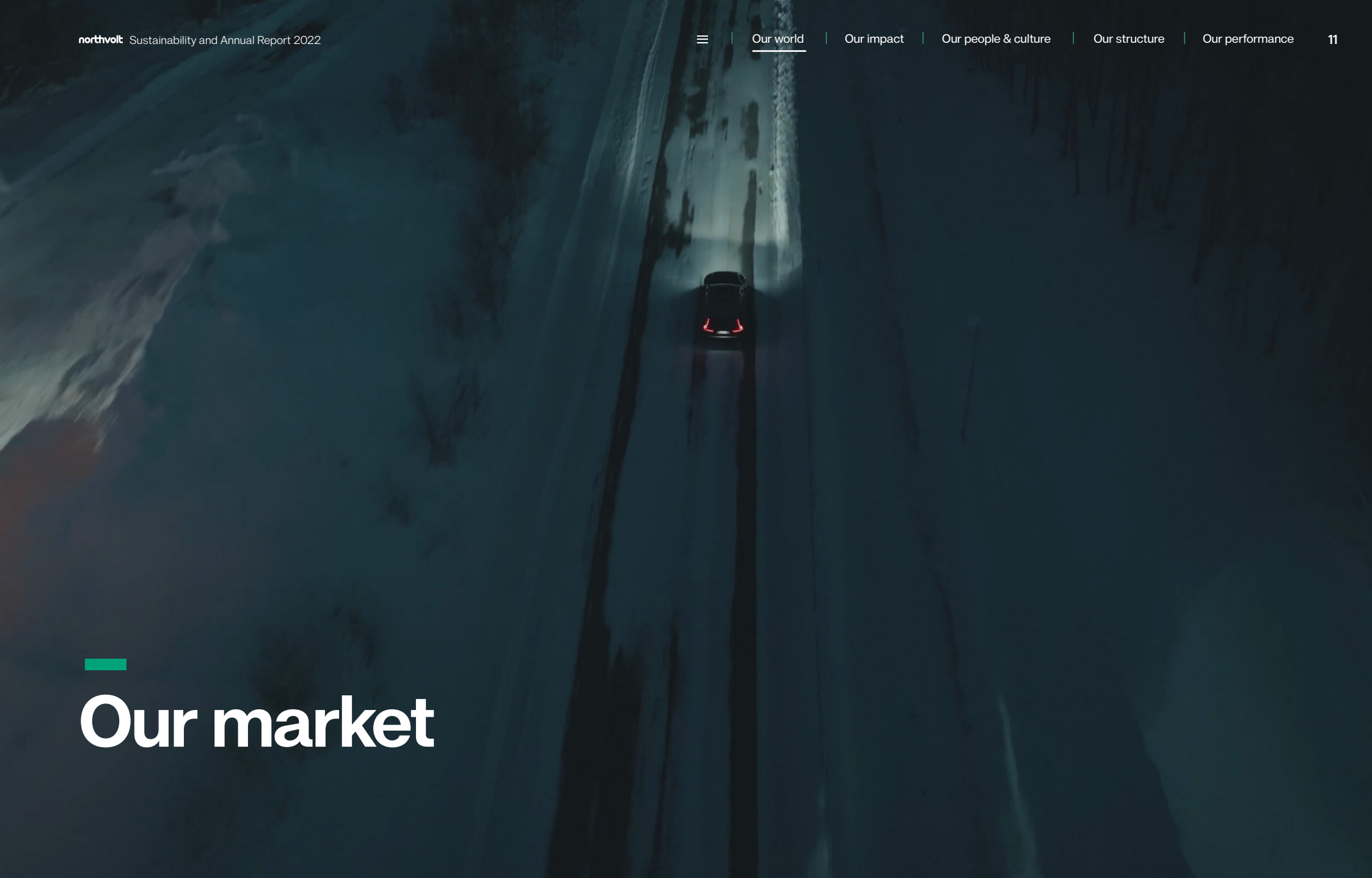
In addition to the quickening pace of the adoption of electric vehicles and energy storage, additional market forces are playing a key role in shaping the industrial landscape. This year, new sources of geopolitical unrest emerged and with them heightened calls for building regional resilience against the risks of highly globalized supply chains. We also saw shortages and price spikes in raw materials markets, driven in part by shortfalls in raw material production capacity in relation to supply and demand.

Considering these trends, I am encouraged to see that Northvolt is not only well-positioned to operate in these circumstances, but to lead. Vertical integration, which was at first a highly novel and ambitious proposal for a battery company when Northvolt was first announced, now provides us with a unique strategic platform, the value of which is outlined within this report. While this approach is entirely aligned with the trends of our primary markets, as we move forward, I am confident that the benefits it presents will only become more apparent, not only in reference to Northvolt, but for our customers and Europe as a whole.

As we look to the future, Northvolt is poised for continued growth and success. We are confident that our commitment to sustainability and innovation will continue to drive our progress and set us apart from our competitors. We are also committed to being a responsible and transparent corporate citizen, and to operating in a manner that benefits all of our stakeholders, including our employees, customers, partners, and the communities in which we operate.

I would like to express my gratitude to all of our stakeholders for their support and trust in Northvolt. In December 2022, Jim Hageman Snabe was elected as the new Chair of the Board. Continuing now as Vice Chair, I have the utmost confidence in Jim's ability to lead Northvolt forward as we work to achieve our mission and enable the future of energy.

Carl-Erik Lagercrantz
Vice Chair and Co-Founder



Our market

A growing market

With the market's rapid acceleration towards an electric future and the global shift towards net-zero, we are in a strong position to emerge as a significant player in the energy transition.

Tackling the climate crisis is prompting a holistic response from all segments of society and industry. While there is no single solution, batteries play a crucial role in the energy transition – enabling the electrification of vehicles as well as the storage of energy to support electricity grids and the use of renewable energy.

We are serving segments of industry seeking premium battery solutions, both in terms of performance and sustainability. Today, we are primarily serving the European automotive industry with customers including BMW, Volvo Cars, premium brands of the VW Group and Scania.

These customers have high requirements on battery capabilities which we are meeting through solutions based around lithium-ion nickel, manganese, cobalt (NMC) cathode chemistry – a technology with the highest energy density currently available for commercial production. The battery represents roughly 40% of the total cost of an electric vehicle, and between 30-40%* of its production carbon footprint – making this a critical component in vehicle manufacturers' final offering to their customers.

We are also delivering battery systems (modules and packs) to industrial vehicle segments. Here, our customers include Swedish mining group Epiroc, which requires robust, high-performance battery packs for the challenging application of electrifying underground mining vehicles.

Battery energy storage has a key role to play in enabling the integration of renewable energy by providing flexibility and stability to electricity grids. We are serving this relatively new market by offering complete energy storage solutions based around our own cells, integrated into battery modules, packs and systems.

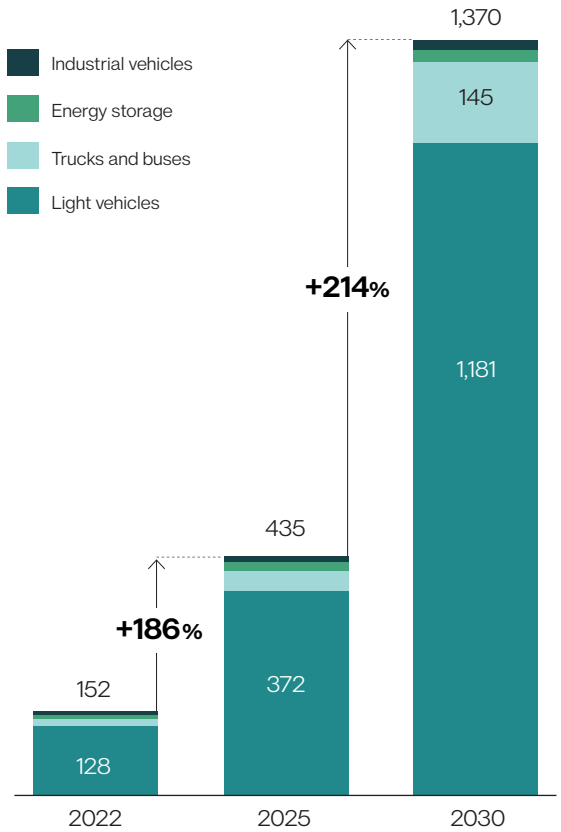
Finally, we are developing a high-performance product for the new emerging market of electric aviation. Through Cuberg, a fully-owned subsidiary based in the San Francisco Bay Area, we are developing a novel lithium metal anode technology which holds higher energy density than conventional lithium-ion technology – a key criteria for the aviation industry. Here we see great opportunity for Northvolt to establish an early leading position.

Our key market segments

Automotive | Energy Storage | Industrial

* Published passenger vehicles LCA.

Battery demand by application type (GWh)
Europe



Note: Unconstrained demand; data does not include demand from micro-mobility, marine, consumer electronics or power tools markets.

Sources: S&P Global, BNEF, Interact Analysis

Global trends

Across industry and society, an unprecedented momentum for change is driving the transition to a sustainable economy. We have identified four key trends which are impacting the markets in which we operate. By adopting a different approach compared to the traditional battery industry, we are uniquely positioned to deliver.

	DECARBONIZATION	ELECTRIFICATION AND TECH INNOVATION	RAW MATERIAL DEPENDENCE	REGIONAL RESILIENCE AND INDEPENDENCE
Trend	A rapidly accelerating industrial and societal shift towards reducing dependence on fossil-fuels, driving the adoption of renewable energy Increased attention being paid by market actors to environmental, social and governance (ESG) performance of companies A general heightening of expectations that the manufacturing of products and sourcing of raw materials is undertaken in a sustainable manner	An increase in the number of vehicle manufacturers phasing out combustion engine production in favor of electric transportation, creating strong demand for battery solutions Supportive EU and North American regulatory frameworks facilitating zero-emission targets for vehicles Electrification of other industrial areas gaining momentum e.g., mining, maritime, manufacturing and aviation Rapid technological development in the battery sector and broader industrial ecosystem	Increasing dependence on raw materials for battery manufacturing, with demand for most battery minerals set to outpace global supply Growing awareness of adverse environmental and social impacts associated with the traditional battery raw material supply chain	Heightened geopolitical unrest exposing the long-term risks of highly globalized supply chains Geographic concentration of key raw materials suppliers Growing momentum for regulatory measures to drive and create local supply chains
Northvolt approach	Leverage a vertically integrated model with a commitment to use fossil-free energy and circular solutions to enable: • Control of raw material sourcing to secure sustainable supply of critical materials • Recycling of end-of-life batteries and production scrap to reduce dependence on virgin raw materials and avoid excessive third-party recycling costs • Working with our suppliers to support decarbonization across the full value chain	Establish a world-leading platform for battery innovation through cutting-edge R&D and close collaboration with customers, academic institutions and industry actors	Secure long-term supply agreements for sustainable raw materials, whilst developing recycling capabilities to enable a reduction in dependence on virgin materials Establish a lithium conversion plant to improve the accessibility of raw materials within our own value chain and in Europe	Adopt a proactive approach to local sourcing of materials, components and equipment wherever possible, whilst nurturing the emergence of new European value chain activities for the battery industry

Our strategy

Our strategy

By combining a commitment to sustainability with a novel approach to manufacturing, we are building a new kind of battery company.

Producing the world's greenest battery – Our mission influences every decision taken at Northvolt. From selecting suppliers to locating and designing our factories, the goal of continuing to improve the sustainability of our batteries provides us with a guiding light. This mission also provides a foundation for talent attraction, and is a prominent reason why many of our employees choose to work at Northvolt.

Unique vertical integration – By combining cathode active material production, cell assembly and recycling into our own business, we gain the level of control required to secure our environmental goals and work unhindered to innovate battery technologies. Our platform enables significantly improved carbon footprint, increased product quality control, margin enhancement and recycling. This ecosystem is only possible by controlling all steps in the value chain and creates a strong competitive advantage.

European leadership – To facilitate Europe's energy transition and assure its industrial position in the global economy, we need to establish a regional battery manufacturing supply chain, enabled by local expertise. We aim to establish a leadership position within this new industry, grounded in close collaboration with European partners.

Industry leading technology and platforms – To ensure we remain at the forefront of the battery industry, we leverage a world-class technology roadmap combined with expertise assembled from around the globe. We have established and continue to expand a comprehensive ecosystem of capacities and platforms to enable delivery on our roadmap and ability to innovate. We nurture the professional growth of our existing talent and continue to attract new colleagues to support our plans.

World's greenest battery in a circular business model

- ✓ Fossil-free energy
- ✓ Responsibly sourced raw materials
- ✓ Recycled materials
- ✓ Minimizing environmental footprint based on life cycle basis

Unique vertical integration performed at scale

- ✓ Active material production
- ✓ Battery cell manufacturing
- ✓ Battery systems
- ✓ Battery recycling
- ✓ Control over sustainability performance

European leadership through European roots

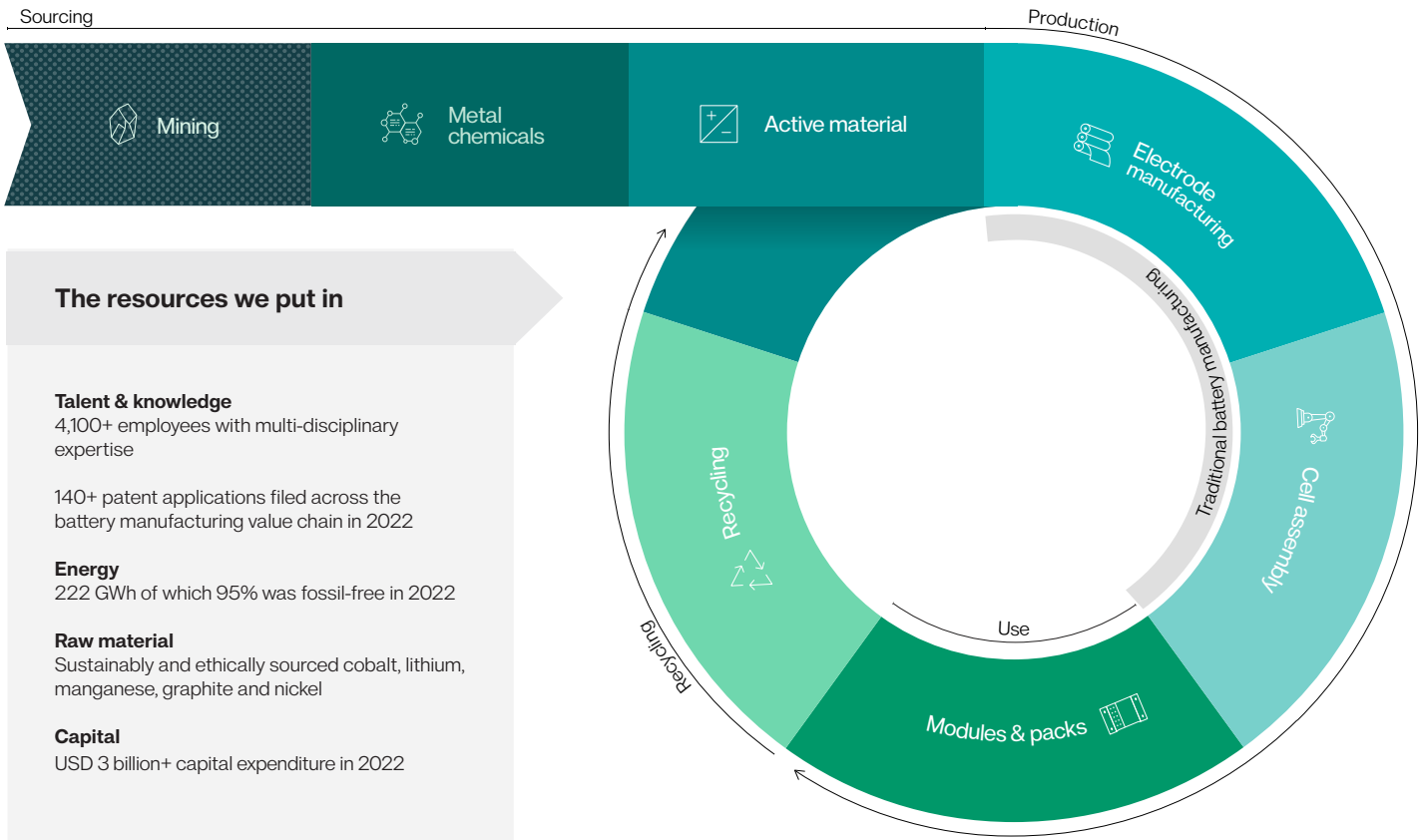
- ✓ Deep partnerships with premium tier customers
- ✓ Localized supply chain
- ✓ Home grown talent
- ✓ European ecosystem

Industry leading technology and platforms

- ✓ High-performance products
- ✓ Technology roadmap
- ✓ Factory blueprint
- ✓ Digitalization

Northvolt value creation model

Northvolt Labs
Northvolt Ett
Cuberg
Northvolt Dwa
Revolt Ett
Aurora Lithium
Outsourced



The resources we put in

Talent & knowledge
4,100+ employees with multi-disciplinary expertise

140+ patent applications filed across the battery manufacturing value chain in 2022

Energy
222 GWh of which 95% was fossil-free in 2022

Raw material
Sustainably and ethically sourced cobalt, lithium, manganese, graphite and nickel

Capital
USD 3 billion+ capital expenditure in 2022

The value we create

Society & employees
Creating job opportunities and nurturing an unparalleled talent base within the battery industry

Expanding and actively engaging with local communities

Environmental value
High control of the value chain enabling sustainable operations

10 kg CO_2e/kWh by 2030

50% recycled material by 2030

Customer value
Enabling electrification of customer portfolios, with a target of 150 GWh cell manufacturing capacity by 2030

Validated performance of a next-generation lithium metal cell

Northvolt's strategic pillars

World's greenest battery
Unique vertical integration
European leadership
Industry leading technology

Our goals

We aim to build a company which is market-leading in terms of its product offering, cost-competitive and designed to scale to meet the needs of a growing market. We also strive to set a benchmark for transparency and sustainability in the battery industry and to foster a workplace that is inclusive and diverse.

	DESCRIPTION	GOAL 2030	STATUS 2022
Climate	To achieve the lowest possible carbon footprint of our battery cells	10 kg CO_2e/kWh at cell level on a life cycle basis	33 kg CO_2e/kWh at cell level on a life cycle basis
Energy	To use fossil-free energy for all of our operations	100% fossil-free energy on an annual basis	95% fossil-free energy on an annual basis
Recycling	To reduce our dependence on virgin material through use of recycled materials in cell production	50% recycled material in cells	6% recycled material in cells
Equality	To have an inclusive workplace, and encourage more women to join our industry	40% female employees	29% female employees
Supply chain	To foster a European battery supply chain to strengthen local competence and mitigate risks	90% components sourced locally in Europe*	35% components sourced locally in Europe*
Cell supply	To be a global leader in cell manufacturing	150 GWh+ cell manufacturing capacity	First customer cell deliveries from Northvolt Ett

↑ **A selection of our company's goals; a full overview of our sustainability goals is found on page 148-149**

Delivery of these goals is enabled through our funding plan, outlined on page 18.

* Does not include raw materials required for anode or cathode manufacturing.

Funding plan

We operate in a highly capital-intensive industry. Access to funding is a critical component for our sustainable growth.

In order to deliver on our goals, strategic expansion of our manufacturing capacity and R&D capabilities is essential. To achieve this, we rely on a robust approach to financing.

Our approach to financing projects

To ensure our factory projects develop in a highly risk-controlled and replicable way, each project holds its own:

- customer off-take contracts
- supply contracts
- limited recourse financing

Using a limited recourse debt structure enables us to grow in a modular and risk-controlled way. We could at any point in time, if necessary, suspend expansion investments into new factories and allow financed factories to continue delivering against the contracted customer orderbook.

Financing of Northvolt Ett

The project financing of Northvolt Ett consists of a group of 18 lenders and financial institutions committing credit guarantees. Northvolt aims to continue to build on its partnerships within this group to enable further project financings with a replicable and scalable structure.

Project financing is supported through robust customer contracts, which today amount to USD 55 billion of backlog revenue to be delivered over the next eight years.

Northvolt's shareholders

On the shareholder side, Northvolt's local and international investors provide highly valuable support and collaboration in executing our expansions. We continue to offer all employees the opportunity to invest into Northvolt, not least through participation in our warrant program.

By end 2022, we have secured more than USD 8 billion in a combination of debt, equity and grants.

NORTHVOLT AB SHAREHOLDERS, AS AT 31 DEC 2022	% OWNERSHIP*
Volkswagen Finance Luxemburg S.A.	21.1%
Goldman Sachs Asset Management funds	19.4%
Vargas Holding AB	7.3%
Rocarma Consulting AB	6.7%
Arbejdsmarkedets Tillægspension	5.1%
Baillie Gifford funds	4.8%
4 to 1 Investments Kommanditbolag	3.6%
AMF Pensionsförsäkring AB	2.9%
BMW España Finance S.L.	2.8%
Stichting IMAS Foundation	2.4%
10 largest shareholders	**76.1%**
Northvolt Executive Management, Employees, Advisors, Board members	8.7%
Other investors	15.2%
Total	**100.0%**

* as % of all shares, warrants and options outstanding, excluding convertible notes

FINANCING NORTHVOLT TO DATE

2017
Seed round

2018
Partnership equity round
USD 120 m

2019
Equity round
USD 1 bn

2020
Debt financing
USD 1.6 bn

Equity round
USD 600 m

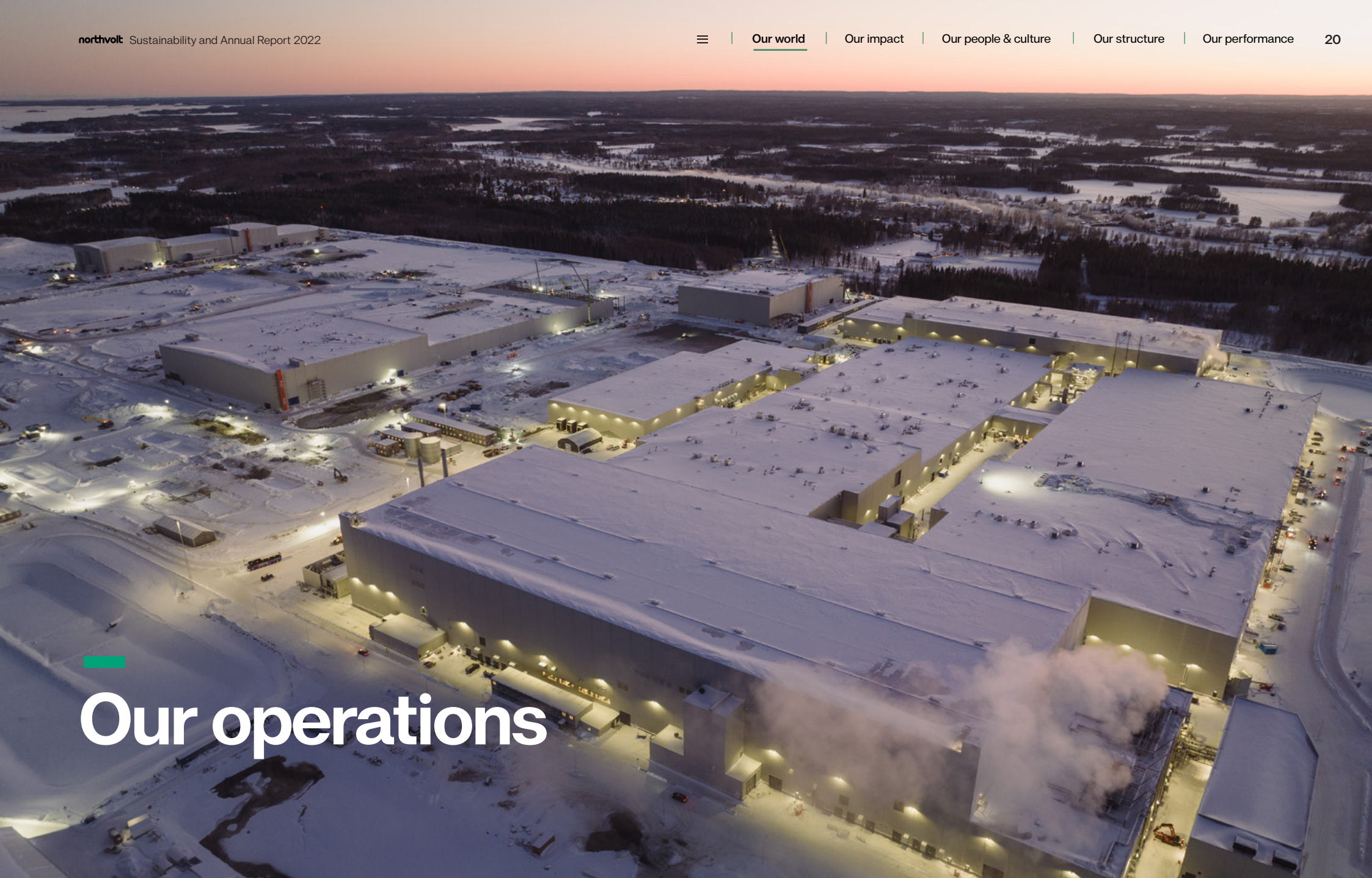
2021
Equity round
USD 2.75 bn

2022
Convertible round
USD 1.65 bn

Our track record

	SITE SELECTION	START OF CONSTRUCTION	START OF PRODUCTION	PRODUCTS TO CUSTOMERS
Northvolt Labs R&D and Industrialization	✓ Västerås, Sweden	✓ 2018	✓ 2019	✓ 2020*
Northvolt Ett (phase 1) 16 GWh (cell and CAM†)	✓ Skellefteå, Sweden	✓ 2018	✓ 2021	✓ 2022*
Northvolt Dwa Industrial (systems)	✓ Gdańsk, Poland	✓ 2018	✓ 2019	✓ 2020
Hydrovolt joint venture up to 12 Ktonnes (recycling)	✓ Fredrikstad, Norway	✓ 2020	✓ 2022	N/A
IN DEVELOPMENT / UNDER CONSIDERATION				
Northvolt Dwa ESS 5 GWh (systems)	✓ Gdańsk, Poland	✓ 2021		
Revolt Ett Up to 125 Ktonnes (recycling)	✓ Skellefteå, Sweden	✓ 2022		
Northvolt Ett (phase 2) 45 GWh (potential cell)	✓ Skellefteå, Sweden	✓ 2022		
Northvolt/Volvo joint venture 50 GWh (potential cell)	✓ Gothenburg, Sweden			
Northvolt Fem 100 GWh (potential CAM)	✓ Borlänge, Sweden			
Northvolt Drei 60 GWh (potential cell)	✓ Heide, Germany			
Aurora Lithium joint venture 35 Ktonnes (potential lithium hydroxide)	✓ Setúbal, Portugal			

* Includes sample cell products
† CAM – cathode active material



Our operations

Our sites

Northvolt Labs

Employees: 705

Location: Västerås, Sweden

Equipped with all the capacities necessary to develop, produce and validate materials and cells, Northvolt Labs has been in production since the end of 2019. Providing a platform for the industrialization of cell products, the expanding campus also functions as an R&D ecosystem for advancing battery science, technologies and solutions.

Northvolt Ett

Employees: 1,354

Location: Skellefteå, Sweden

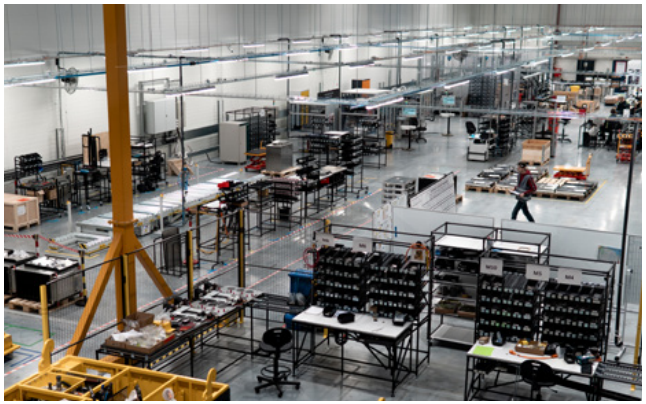
Northvolt Ett is Europe's first homegrown battery gigafactory, hosting both cathode active material and cell production. The factory will expand to enable an annual cell production capacity of up to 60 GWh per year, sufficient for approximately one million electric vehicles.

Northvolt Revolt

Employees: 59

Location: Skellefteå & Västerås, Sweden

Revolt is our battery recycling program. The business is spread across a number of facilities, including the Revolt pilot recycling plant at Northvolt Labs, and the Hydrovolt recycling plant in Norway. We are also developing Europe's largest battery recycling plant, Revolt Ett, alongside Northvolt Ett, to secure a direct feed of recycled metals for cell production.



Northvolt Dwa

Employees: 283

Location: Gdańsk, Poland

Our battery modules and packs are assembled at Northvolt Dwa in Gdańsk. The facility Northvolt Dwa Industrial has been operational since 2019 (previously named 'Northvolt Jeden') and Northvolt Dwa ESS is under development.

Northvolt Systems Engineering Hub

Employees: 357

Location: Stockholm, Sweden

Our systems prototyping facility is used to develop battery systems products, including modules and packs, for our customers. The team works in collaboration with other components of Northvolt Systems, in particular Northvolt Dwa.

Cuberg

Employees: 126

Location: San Francisco Bay Area, USA

Based in the San Francisco Bay Area, Northvolt's advanced technology group, Cuberg, is developing next-generation lithium metal battery technology. The technology holds great potential to reach significantly higher energy densities than conventional NMC lithium-ion chemistries and enable electric aviation as well as the heavy automotive industry.

Innovation

Innovation

We are pushing the boundaries of battery technologies to deliver market-leading products, through world-class R&D and manufacturing.

By leveraging ingenuity in materials science and cell design, we are reconceptualizing factory development and refining both manufacturing and recycling processes.

A new world-class research team was established through 2022 to accelerate novel battery sensing and characterization techniques combined with artificial intelligence. This new frontier will help us unlock asymmetric value through technological advancements that will likely define a new era of battery manufacturing.

Much of our ability to innovate rests upon our team of world-class talent which is working cross-functionally across our different facilities, and collaborating with customers and partners as we build up the European battery industry and advance technologies.

Ultimately, our ambition to establish a new, innovative way forward for battery manufacturing, is what positions Northvolt at the very forefront of the industry.

CELL DESIGN

In-house development of eight lithium-ion cell products, which rank amongst the highest performing in the world across key performance parameters

A technology roadmap leveraging innovations in anode and cathode chemistry, electrolyte, cell design and artificial intelligence-driven simulation models

Validation of a lithium metal cell with specific energy density of 380 Wh/kg at 672 cycles

CELL MANUFACTURING

Iterative approach to design and delivery of advanced cell manufacturing lines, led by in-house teams

In-house development of a state-of-the-art digital architecture, enabling production line efficiency, traceability and reduction in waste through accurate in-line product inspection algorithms

RECYCLING

Developed and proven a patent-protected recycling process that is capable of recovering up to 95% NMC and 75% of lithium to battery-grade levels of purity from input materials

Ongoing development of novel technologies for recycling of graphite and electrolyte

Implementing solutions for on-site recycling of waste and scrap, and upscaling byproducts for sale to other industries

Developing Europe's largest battery recycling plant, with capacity of up to 125,000 tonnes/year

SYSTEMS

High-performance, modular battery subpacks enabling electrification of heavy industrial vehicles

Development of Voltpack Mobile System – a robust, battery-based alternative to diesel generators delivering redeployable power supplies

Battery management systems and supporting software solutions facilitating through-life battery management and battery fleet asset control

In-house data assessment of deployed battery systems accelerating innovation in the space of battery management and battery design

A proactive approach to ensuring recyclability of our Systems products, and a commitment to eco-design with low-carbon primary materials

Northvolt Labs Campus

We are developing Europe's largest and most well-equipped ecosystem for battery technology innovation.

Northvolt Labs has been online since late 2019 and hosts our cell industrialization platform. Today, in addition to our production teams, the site hosts approximately 500 world-class experts who are advancing our R&D work.

Looking forward, we are engaged in developing the site into a complete battery campus featuring numerous facilities covering the full battery value chain. Gathering these capabilities into one campus will be unique for Europe and enable us to concentrate our ability to innovate cell, system and manufacturing technologies.

ONLINE

1. **CELL MANUFACTURING** Primary lithium-ion cell manufacturing lines supporting development of cells for customer projects
2. **UPSTREAM CATHODE PRODUCTION** Full-scale cathode active material production plant operating alongside an integrated Cathode Material Lab
3. **REVOLT PILOT PLANT** A platform for research and development of battery recycling technologies
4. **PERFORMANCE & LIFE** Cell performance validation facility, supporting full life-cycle testing
5. **R&D** Full lithium-ion cell production capability for development of cell prototypes and next-generation products

IN DEVELOPMENT / UNDER CONSIDERATION

6. **SEM VALIDATION** Validation of cell products to meet safety, environmental and mechanical certification standards
7. **NORTHVOLT ACADEMY** Promoting creative learning, fostering innovation and advancing technical skills in a rapidly growing industry.
8. **LABHOUSE** A 900-person office space supporting life and work on campus. Set to open in April 2023.

↑ **Artistic impression of the complete build out of Northvolt Labs Campus**

Innovating tomorrow's battery technology

Northvolt is developing next-generation lithium metal battery technology through its fully-owned subsidiary, Cuberg.

Replacing graphite anode with pure lithium metal, Cuberg technology is positioned to achieve superior power and energy capabilities to today's conventional lithium-ion batteries. The technology is one of the leading technologies for the future electrification of aircraft.

Technology validation

In 2022, Cuberg demonstrated its having made a breakthrough in overcoming the long-standing challenge of achieving long cell lifetimes in a lithium metal cell. Third-party validation confirmed that the cell cycle life has been extended to 672 cycles, with specific energy density of 380 Wh/kg.

Customers and future horizons

Cuberg has received great interest from industrial groups aiming to electrify their applications. At the time of validation work (mid-2022), the group had delivered close to 2,000 cells to customers and was engaged with leading actors in the electric aviation space.

The road ahead now involves scaling up lithium metal manufacturing output to fulfill larger customer orders. Cuberg is also now transitioning its technology to a larger 20 Ah format cell, which is envisioned as a commercial format for its aviation customers.

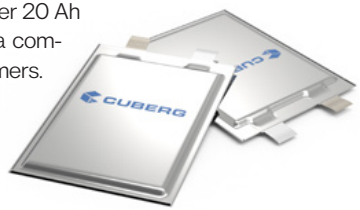


Photo Credit: Heart Aerospace

Our **impact**

Our commitment to sustainability

We believe that there is a sustainable way to produce batteries, and it is not the way that dominates the industry today.

By default, the battery industry requires significant amounts of energy and massive volumes of raw materials. Additionally, it is vulnerable to sustainability risks across the value chain relating to resource use, pollution of air, land and water, biodiversity and human rights.

Considering the requirements and consequences of the scale-up in global battery manufacturing in order to support the energy transition, there is a need to develop a new, sustainable model for the battery industry.

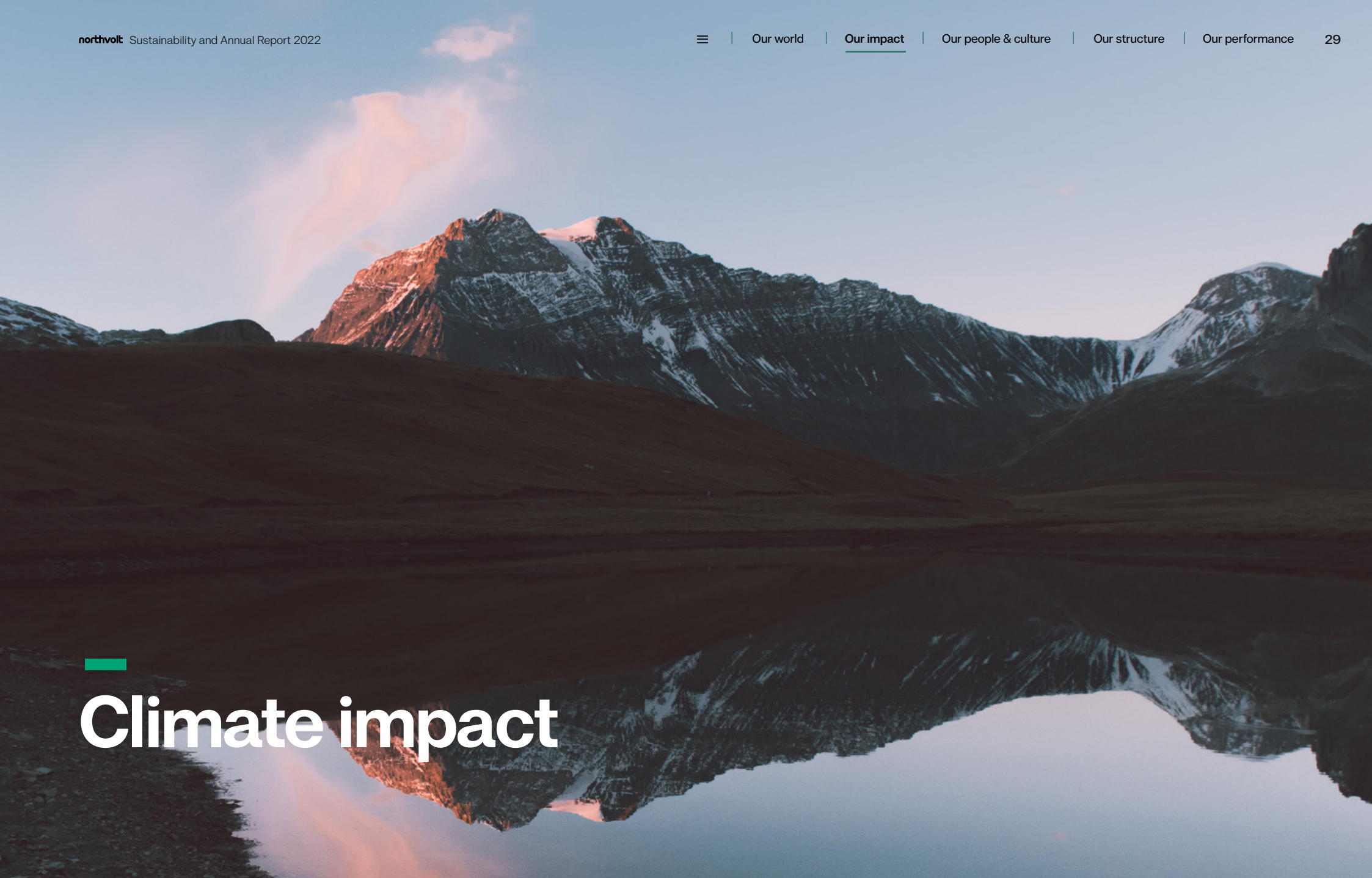
As a pioneer of sustainable battery manufacturing, we are taking a holistic approach to identifying, managing and reducing negative impacts throughout our business.

Sustainability is at the center of our decision making and overall strategy. While many well-established companies today are seeking to transition into a sustainable business model, we are leveraging the range of opportunities which arise through building our company from a blank slate.

Through our work so far, we know that we are on the right path. With sustainable raw materials suppliers, use of fossil-free energy, increased circularity, resource efficiency and the use of recycled material, we can massively reduce the carbon footprint of our batteries. Creating a sustainable battery company takes time, but we are determined honor our commitment to sustainability.

“Our commitment to sustainability will continue to drive our progress”

Carl-Erik Lagercrantz
Vice Chair and Co-Founder



Climate impact

Carbon Roadmap 2030

A plan for decarbonization

In 2022, we introduced Carbon Roadmap 2030 – a data-driven approach to secure a reduction of our cell production carbon footprint from 33 kg today to 10 kg CO_2e/kWh by 2030 through coordinated actions across our value chain. .

Our goal represents an approximate reduction in carbon footprint of 90% compared to an industry reference cell*.

By leveraging insights we have gained through detailed life cycle assessment and engagement with partners throughout our supply chain, Carbon Roadmap 2030 identifies activities which are actionable and time-bound.

Key areas of attention include:

- → Securing sustainable, low carbon raw materials and components
- → Defining component specific and supplier specific footprint targets
- → Improving energy efficiency in production
- → Sourcing locally produced fossil-free energy
- → Upscaling of recycling and circular practices
- → Fostering a local European supply chain
- → Optimizing the inbound logistics flows and choosing low carbon modes of transport

* Industry reference based on IVL 2019 lithium-ion NMC 111 cell, refer to pages 32-33 for further details.

Goals

10 kg
CO_2e/kWh by 2030

100%
fossil-free energy

Key highlights 2022

Introduced **Carbon Roadmap 2030** – a plan to reach 10 kg CO_2e/kWh

First LCAs completed for Northvolt modules, packs and Revolt recycling process

95% fossil-free energy use group-wide

Enhanced procedures for **corporate CO_2 accounting**

The value we create

- ✓ Driving fossil-free electricity generation around our sites
- ✓ Demonstrating the viability of a low carbon approach to battery manufacturing
- ✓ Supplying solutions which enable carbon reduction for our customers
- ✓ Enabling carbon reductions across the full value chain

Accounting for our climate impact

A clear understanding of our climate impact is critical to achieving our mission. Only through accurate accounting of where our impact exists can we formulate responses geared towards reduction.

About 98% of our climate impact through 2022 results from activities external to our production sites, as reflected in our Scope 3 (indirect) emissions seen to the right. Materials used in battery manufacturing and our supply chain are the largest contributors to this category of emissions.

The use of construction materials including steel and concrete, required for the development of our manufacturing plants, also contributed significantly to our Scope 3 emissions in 2022.

Our response

We place significant focus on encouraging our suppliers to relocate to Europe to gain access to energy with a lower carbon intensity and to shorten transportation routes. This will not only contribute towards reducing our company's climate impact, but also increase the resilience of the wider emerging European battery industry.

An area in which we believe significant improvements can be made is in the process and resource efficiency of our factories. We have several initiatives underway involving recirculation of resources, including heat and energy, recycling of by-products and scrap, and reducing waste generation.

We are currently in a period of significant expansion as we scale our operations. As this entails building additional gigafactories and other facilities, our construction and equipment supply will have an increased climate impact in the short term.

Although our largest sources of impact have been identified, we are also addressing other areas for improvement such as business travel. The Northvolt Travel Policy is a key tool that encourages employees to use more sustainable ways of transportation.

Understanding our climate impact enables us to take meaningful actions, aligned with our commitment to sustainability and goal of 10kg CO_2e/kWh by 2030.

Scope 1
(Direct)

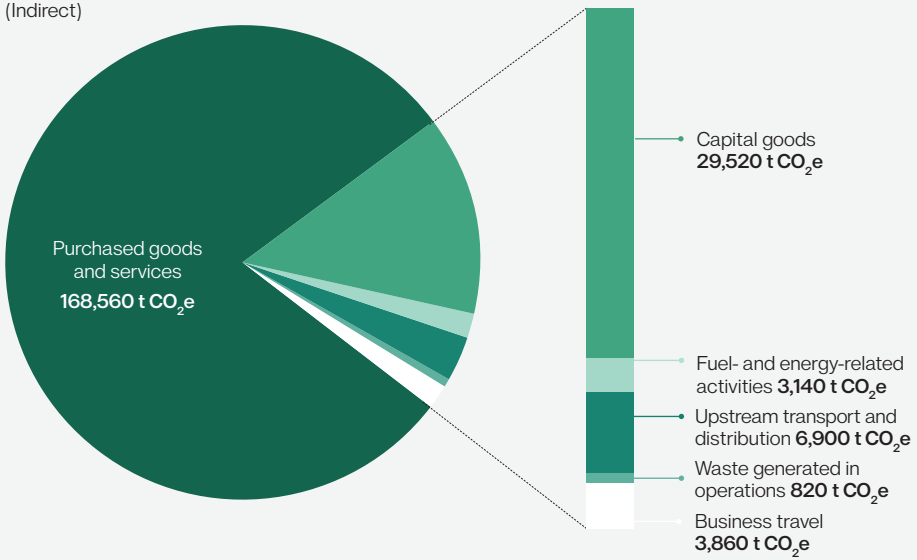
Fuels **2,190 t CO2e**
Fugetive emissions: **80 t CO_2e**

Scope 2
(Indirect)

Market based
District heating **990 t CO_2e**
Electricity **190 t CO_2e**

Location based
District heating **1,280 t CO_2e**
Electricity **3,320 t CO_2e**

Scope 3
(Indirect)



Read more about our environmental performance on page 150-152

Calculated in accordance with the Greenhouse Gas Protocol, and reported in accordance with the GRI Standards.

Life cycle assessment: Cell

The carbon footprint of our cells is reduced by 67% compared to the industry standard. Leveraging life cycle assessment (LCA), we have identified areas for further improvement.

We account for the environmental impact of our cells by calculating 16 impact categories covering climate change impact, water use, ecotoxicity, land use and resource use amongst others.

We have certified LCAs of six Northvolt battery cell models to quantify their cradle-to-gate environmental impacts. This year, we expanded our work by performing cradle-to-cradle LCAs on the same cells, thereby extending the scope of assessment to include the full life cycle: from extraction of resources (cradle), through to end of production (gate) to the disposal or recycling of the product (grave).

These LCAs incorporate both secondary and estimated data from the Product Environmental Footprint (PEF) EF2.0 database, and provide a projection of our cell footprints once Northvolt Ett is in full serial production. The LCA is reported in the manner currently proposed by EU legislation.

Considering an average of our cell models, we see that materials we purchase for cell production, including metals, are responsible for 94% of total climate change impacts. As a result of powering cell production with fossil-free energy, our cell production accounts for just 3% of impacts and transport and logistics for the remaining 3%.

In total, the carbon footprint of our battery cells is approximately 33 kg CO_2e/kWh – a reduction of 67% compared to an industry reference cell. With the use of recycled materials in cell production, our cell carbon footprint can be further reduced to 22 kg CO_2e/kWh (as indicated by cradle-to-cradle (C2C) LCA).

We believe that collecting primary data from our suppliers will result in more accurate and transparent accounting of environmental impact.

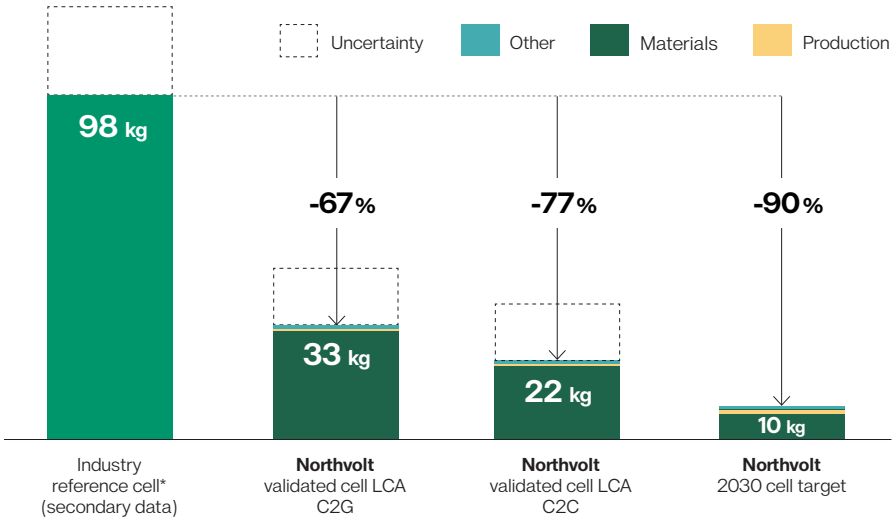
The outcomes of our LCA work reinforce our belief in the value of our vertically integrated strategy and the result serves as the baseline to guide and quantify our decarbonization actions to reach 10 kg CO_2e/kWh by 2030.

Recycling LCA

Recycling being one of the main pathways for decarbonization, through 2022 we also completed a gate-to-gate LCA of our recycling process. This is an important step to account for the complete cradle-to-cradle life cycle of our products and identify ways to also reduce the environmental impacts of recycled materials.

Compared to using fresh metals, producing cathode with 100% recycled metals has the potential to reduce the carbon footprint of cathode by almost 70%.

Projected cell carbon footprint (kg CO_2e/kWh)



Note: As indicated by 'uncertainty' in the graphic above, by replacing secondary data (PEF EF2.0) with primary data collected from suppliers we estimate total cell carbon footprints of 130 kg (external reference cell), 52 kg (Northvolt cell cradle-to-gate, C2G) and 41,7 kg (Northvolt cell cradle-to-cradle, C2C.)

* Industry reference based on IVL 2019 lithium-ion NMC 111 cell.

LIFE CYCLE ASSESSMENT (LCA) is a methodology that quantifies the environmental impact of a product through its life cycle, from extraction of resources (cradle), through to end of production (gate) and its disposal (grave).

PRODUCT ENVIRONMENT FRAMEWORK (PEF) is European Union framework used to establish a common methodological approach to assess, display and benchmark the environmental performance of products, services and companies based on a comprehensive assessment of environmental impacts over the life cycle.

Estimated reduction of 70% carbon footprint of cathode through use of recycled metals

Life cycle assessment: Systems

We are developing an energy storage system with 46% lower carbon emissions than the industry standard. We have identified further improvement areas by leveraging LCA.

This year, we completed the first cradle-to-grave life cycle assessment (LCA) of our energy storage systems (ESS), which are manufactured in Poland. The LCA follows PEF methods and incorporates primary data from 50% of our suppliers.

The climate change impact of raw material and production of ESS amounts to 14.0 kg CO_2e/kWh rated energy (cell excluded). This impact is around 46% lower than an industry reference scenario characterized by ESS manufacturing powered by an average Polish energy mix and a product featuring aluminum produced in China*.

Several factors contribute to the lower carbon footprint of our ESS. One is the adoption of fossil-free energy for ESS manufacturing at Northvolt Dwa in Poland, where the facility is powered by nearly 100% solar and wind power.

Our strategy to develop a European supply chain also contributes to a lower carbon footprint. Approximately 95% of our ESS materials are sourced from Europe. The use of aluminum produced on lower-carbon energy than the industry standard is a major contributor to our reduced carbon footprint.

Further reducing our ESS carbon footprint

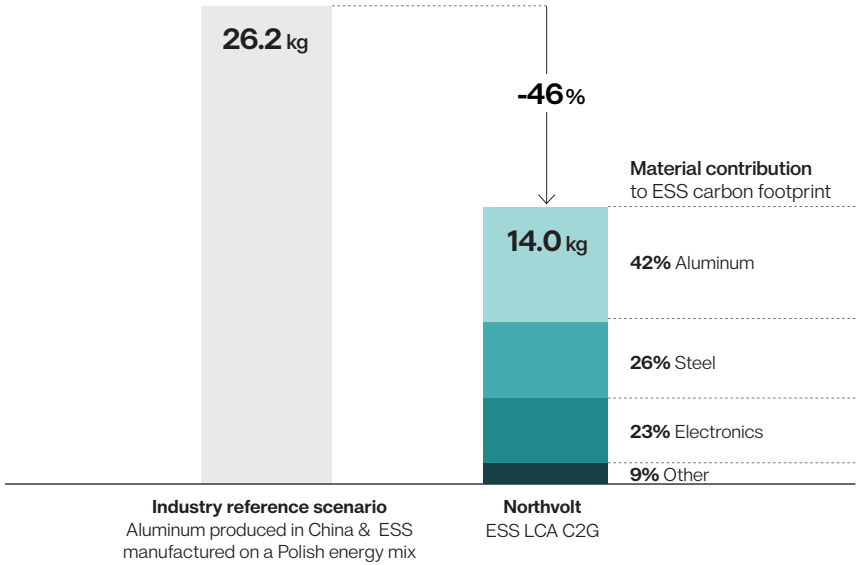
The results of our LCA of our ESS are encouraging and will support our work in reducing our impact further.

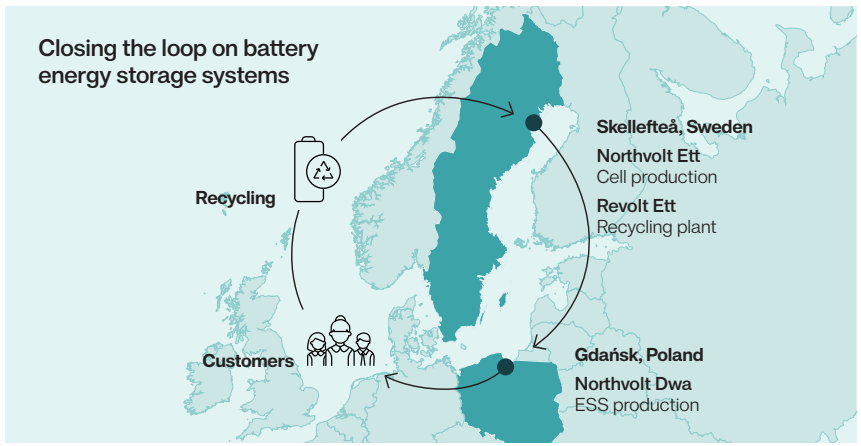
Moving forward, carbon footprint reductions and sustainability gains will be secured through both driving change with our suppliers and implementing eco-design strategies, where sustainable material selection is a primary focus. In addition to remaining proactive in sourcing low-carbon primary materials, we are looking towards using recycled material where possible.

Recognizing the importance of battery recycling, we are designing for product disassembly and recycling from the outset. Our activities in this area are significantly enabled through collaboration between our teams in Systems and our in-house recycling unit, Revolt.

* Industry reference is calculated internally, using the emission factors of an average Polish electricity mix and aluminum produced in China derived from secondary datasets (PEF EF2.0 and Ecoinvent 3.8)

ESS carbon footprint (kg CO_2e/kWh rated energy, excluding cell)





Understanding the impact of climate change

Climate change impacts are projected to have profound implications across the entirety of the battery value chain. We commenced a Climate Scenario Analysis process in 2022 to identify, understand and mitigate risks resulting from climate change in line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

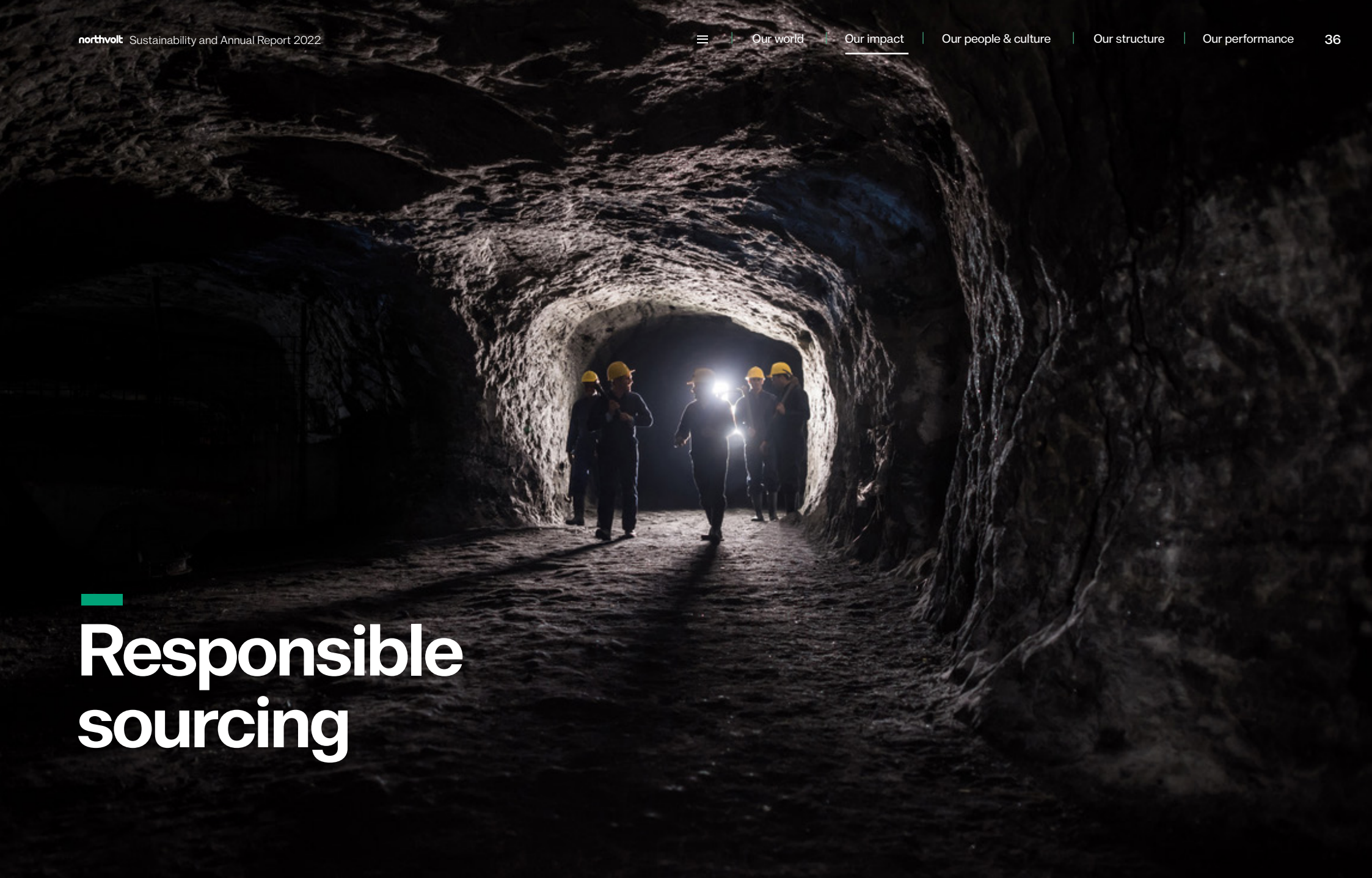
Scenarios are plausible versions of the future based on a coherent and internally consistent set of assumptions about driving forces and key relationships. We utilized two scenarios to investigate a variety of potential risks and opportunities related to climate change. While both scenarios are accepted widely and are recommended by the TCFD for Climate Scenario Analysis, we acknowledge that any scenario is based on a set of restrictive assumptions. Due to the variety of risks and their potential financial impact, we approach Climate Scenario Analysis as an ongoing activity.

Key persons from Northvolt's Finance, Supply chain, Raw Materials, Sustainability and Strategy teams were involved in the process of the first Climate Scenario Analysis. Out of 42 potential climate-related risks and opportunities along our entire value chain, four physical risks, three transition risks and one opportunity were identified to be most relevant for Northvolt based on their expected impact and timeline.

The results of our initial Climate Scenario Analysis are summarized below. We aim to strengthen the internal process of Climate Scenario Analysis, increase the number of scenarios we use and utilize the outcomes to a greater extent to inform our strategic decision-making. The results presented below will be used to increase awareness of climate-related risks and opportunities for our company and inform key decision-makers.

Read more about climate related risks and opportunities in our TCFD report

SCENARIO	RISKS AND OPPORTUNITIES	EXPECTED TIME HORIZON	POTENTIAL FINANCIAL IMPACT
Net Zero Emissions by 2050 (NZE) – Low emissions scenario The NZE represents a scenario with a fast transition to a net zero emissions economy with the achievement of universal energy access by 2030. Developed by the International Energy Agency, the Goal of the Paris Agreement to limit global warming to 1.5°C is achieved in this scenario. **Key scenario characteristics** • Energy projection: share of renewable energy rising from 28% in 2021 to 88% in 2050 • Increased demand for minerals for electric vehicles and battery storage, up from 0.4 Mt in 2020 to 21.5 Mt in 2040 • Annual battery demand for electric vehicles growing from 0.16 TWh in 2020 to 14 TWh in 2050	⚠ Increased competition and increased demand for securing access to renewable energy supply as major industry players shift their energy supply	Medium term	Costs passed through from raw materials suppliers who face increased operational expenditures, in particular for cathode active material Increased operating costs at Northvolt manufacturing locations as demand for renewable energy increases prices Increased revenues from new products and new emerging markets as Northvolt's positioning on the market becomes more attractive Northvolt benefiting from an increase in capital availability for clean energy technologies
	⚠ Scarcity of raw materials due to accelerated transition to electric vehicles with demand for key minerals in batteries exceeding supply	Short term	
	⚠ Fuel taxation impacting logistics in upstream supply chains with limited ability for Northvolt to change their dependency on fossil fuels	Medium term	
	New products and market segments due to increased demand for electric vehicles brings Northvolt into a favourable competitive position	Medium term	
RCP 8.5 – High emissions scenario The RCP 8.5 is a high-emission scenario developed by the Intergovernmental Panel on Climate Change (IPCC) that represents a pathway with limited climate policy, an energy-intensive industry and dependence on fossil-fuels. **Key scenario characteristics** • Increase of extreme heatwaves beyond current levels with higher frequency, intensity and duration • Increase in level and frequency of extreme precipitation • Increase in global average temperatures • Increased number of extreme weather events such as wildfires and flooding	⚠ Water damage to equipment and infrastructure at battery manufacturing sites as well as suppliers in the upstream value chain, in particular raw materials	Medium term	Reduced revenues from sale of batteries due to decreased production output caused by disruptions at manufacturing locations Necessity of write-offs for existing assets such as manufacturing equipment and building, as well as increased maintenance costs at Northvolt manufacturing sites Higher energy costs for cooling in production processes of battery manufacturing Costs passed through from raw material suppliers facing severe disruptions in their operations caused by extreme weather events, in particular mining operations
	⚠ Outages in supply of power and water at battery manufacturing sites causing production process disruptions	Medium term	
	⚠ Damage of exposed harbours and mines as a result of sea level rise, with potential disruption to the availability of key supplies such as raw materials for cathode production	Long term	
	⚠ Heatwaves impacting health of employees, equipment efficiency and causing disruption to production processes	Long term	



Responsible sourcing

Responsible sourcing

Our supply chain holds our highest sustainability risks, but also the highest potential for meaningful change.

Navigating a complex landscape

Our largest sustainability risks exist in sourcing raw materials, and to a lesser extent other components we require for battery manufacturing. It is therefore crucial to our success to operate with a robust and comprehensive approach to securing responsible suppliers, thereby mitigating risks and reducing our environmental impact.

At present, the battery industry supply chain involves complex flows of materials, with multiple transactions made between intermediaries before materials reach battery production facilities. This circumstance limits insight on the origins of raw materials, and consequently restricts the ability to gain an accurate measure of the environmental costs and other sustainability risks associated with materials.

The Northvolt approach of vertical integration aims to reduce this complexity and this is reflected in our goal of full traceability for our battery raw materials. Our current definition of traceability is strict. While we always have transparency of our sources, we only consider materials fully traceable when we have a direct supply from a refinery which is integrated down to the mine. In the future, we may explore alternative forms of receiving assurance of the full traceability of our materials.

We are encouraged to see heightened attention being directed towards the need for sustainable sourcing of materials to support the energy transition. In particular, we welcome a focus on the battery industry and calls within Europe for its adoption of responsible sourcing practices. Both national and international regulations are under development, and we continue to play an active role in advocating for increased environmental and social standards throughout the value chain.

We believe that battery materials can be sourced in a more sustainable manner. Through our sourcing strategy and engagement with suppliers, not only do we aim to secure sustainable materials for our own battery manufacturing, but we intend to act as a force for positive change throughout the entire battery supply chain.

For all of our raw material requirements, we strive to develop a European supply chain where feasible, while recognizing the challenges of developing economically viable and sustainable resources. We continue to follow the development of new projects, both in Europe and globally, which can support this goal.

Goals

100%
traceability to mine for raw materials

50%
recycled material in our cells by 2030

10 kg
CO_2e/ kWh by 2030

Key highlights 2022

Conducted **due diligence training** for our supply chain organization

Development of **new purchasing sustainability risk guidelines**

The value we create

- ✓ Supporting the development of a resilient European battery ecosystem
- ✓ Building sustainable supply chains through long-term partnerships
- ✓ Enhancing the sustainability practices of our suppliers
- ✓ Minimizing sustainability risks associated with the battery industry at large

Our strategy for a sustainable supply chain

Our approach serves to overcome several major shortcomings resulting from complex and opaque chains of intermediaries of traders, refineries and producers of active materials. Two fundamental aspects to our strategy are to source raw materials directly from mines and refineries (integrated suppliers) that can provide us with full traceability and transparency, whilst vertically integrating our supply chain.

By simplifying and shortening our supply chains, we also enable more direct relationships with material suppliers, and thereby create foundations for enacting positive change. In cases where we purchase cathode active material and cells rather than raw materials, we leverage the same due diligence process established for raw materials contracts.

Effective implementation of our sourcing practices is supported through a holistic management system, covering supplier screening and selection, monitoring and reporting (outlined to the right). Our suppliers are selected against their environmental and social performance and ability to work within our standards and expectations for continued improvement, as established during contract deliberations which are designed to deliver progressively more sustainable supply as we scale.

As a precondition for entering business with Northvolt, suppliers confirm that they comply with our Supplier Code of Conduct, which outlines our sustainability requirements. Based on the level of risk assigned to a specific supplier transaction, the supplier then undergoes further screening and due diligence in a risk-based approach.

We systematically monitor risks and impacts in our supply chain. This is undertaken in multiple ways that emphasize close collaboration and continuous dialogue, including regular follow ups on corrective action plans (CAPs) and ongoing media screening. Any new risks or impacts identified follow our escalation route, including referral to our Sustainability & Compliance Committee.

Northvolt's management system for sustainable sourcing

Policies, procedures & governance

Policies and procedures

- ✓ Supplier Code of Conduct
- ✓ Sourcing and procurement Policy
- ✓ Anti-corruption Policy
- ✓ Risk Assessment and Due Diligence Procedures

Core governance functions

- ✓ Sustainability & Compliance Committee
- ✓ Executive Management team
- ✓ Audit, Risk & Liquidity Committee
- ✓ Board of Directors

Impact identification & management

Due diligence process

- ✓ Supplier risk assessments
- ✓ Know your counterpart
- ✓ Basic and enhanced due diligence

Risk mitigation

- ✓ Corrective action plan and improvement measures
- ✓ Contractual obligations

Monitoring & review

Supplier monitoring

- ✓ Supplier monitoring and corrective action plan follow up
- ✓ Ongoing dialogues and supplier engagement

Management system review

- ✓ Annual review of policies
- ✓ Review of management system effectiveness

Reporting

Public reporting

- ✓ Sustainability and Annual report
- ✓ Reporting to customers and investors

Developments in our sourcing strategy

Securing low-carbon, sustainable materials in our supply chain is a key driver in deciding who we partner with. Our activities in this area underpin two of our strategic pillars: producing the world's greenest battery and promoting European leadership by localizing our supply chains.

As such, we remain vigilant towards enhancing our sourcing procedures and acting on our ambitions to source ever more sustainable materials, taking into account a holistic environmental, social and governance perspective.

Securing sustainable materials

In December 2022, we moved towards finalizing a new agreement for the supply of copper foil, commencing in 2024 (contract signed in February 2023). In addition to producing the copper foil in new facilities located in Europe, the supplier has agreed to strict expectations relating to the procurement and use of fossil-free energy in production, use of 100% recycled materials and commitment to carbon reduction targets, in line with our Carbon Roadmap 2030.

The new contract is a testament to how we embed sustainability into our sourcing decisions, leveraging of our position to drive localization of battery supply chain activities into Europe, and of the positive synergies that exist between sustainability and commercial requirements.

Several other sourcing activities undertaken through 2022 warrant highlighting. We enhanced our investigations into opportunities for the sourcing of sustainable natural graphite from mines and refineries closer to Northvolt facilities, as well as synthetic graphite produced with low-carbon electricity. Relatedly, we have been exploring the use of hard carbon as an alternative to graphite anode material in future chemistries. Our aim to establish a new European supply chain for lithium is also materializing through development of our joint venture Aurora Lithium, which involves development of a lithium conversion plant in Portugal.

We are continuing with this same approach in relation to other materials we are purchasing for cell production. For example, through 2022 we were engaged in promising discussions with anode material suppliers over their localization into Europe. We will also be applying the same approach and expectations on sustainability as we did for copper foil in upcoming material sourcing events, such as for aluminium foil.

As we continue to work with existing suppliers, and engage with new ones, we are confident that we are securing an ever more sustainable supply chain for our operations and in turn, our customers.

Extending our scope of assessment

A significant development during 2022 has been to incorporate a fuller spectrum of sustainability risks across our supply chain, in areas beyond raw materials, and for the full end-to-end sourcing process. This more comprehensive approach enables greater transparency over risks to facilitate risk mitigation and strategic decision-making.

We believe that through elevating the position of sustainability across all of our purchasing decisions in this way, we can have a greater degree of control of our impacts across the value chain. As part of the elevation of our procedures during 2022, we have also introduced new processes for filing and tracking compliance with the sustainability screening process and Supplier Code of Conduct acceptance of our suppliers. We are now working to retroactively apply these processes for all existing contracts.

Code of Conduct

Supplier Code of Conduct

↑ **Cathode active material produced by Northvolt**

Responsible production

Responsible production

We strive to be a responsible battery manufacturer. How we manufacture and manage materials lies at the core of this goal. Working in our production environments should also be an activity which is safe, fulfilling and rewarding.

Materials, technology & production

Our iterative approach to manufacturing entails incorporating learnings and experiences from each project into the design and engineering of the next. This engineering philosophy aids in reducing our costs and contributes to improving the levels of resource efficiency and circularity within our production as we scale.

As Northvolt Ett's first production lines have entered into production this year, several of our early circularity initiatives have come online. We are engaged with partners for recycling of production scrap, and look forward to assuming responsibility for this ourselves as Revolt Ett recycling plant comes online during 2023.

Within our upstream cathode production plant, we have integrated a state-of-the-art wastewater treatment plant. The plant is able to remove ammonia, metals and sodium sulphate from wastewater and circulate pure water back into other operations. The recovered ammonia is recycled, while the sodium sulfate is purified and supplied to the market.

Through innovative factory design and iterative process improvements we have secured significant gains in our use of space, materials and energy.

Construction

Engaging in large construction projects and scaling up at the pace we are requires effective control, insight and management of our construction supply chain. To ensure we are delivering projects in a sustainable manner, through 2022 we deepened our level of engagement with all players involved in the development of Northvolt Ett, including subcontractors. Additionally, we entered into tighter collaboration with Swedish Unions to further develop new best practices to tackle social issues within the European construction industry. The unions continue to be our important allies in ensuring a fair and safe workplace for all employees and contractors on site.

Health, Safety and Environment

The health, safety and well-being of our employees is our highest priority. We want everyone to return home safely every day. Our goal is to prevent work-related injuries and illnesses, and to become the safest workplace in our industry.

We believe that everyone at Northvolt, both employees and contractors, has a role to play in contributing to the creation of a safe working environment. While we encourage this mindset throughout our internal communications, we also have a management system for health, safety and environment (HSE) matters.

At all sites, we have health and safety committees responsible for implementing our systematic approach to securing safe working environments throughout our company.

HSE Roadmap

This year we launched the Northvolt Health, Safety and Environment Roadmap, which sets the direction for Northvolt's HSE work across the company.

The main topics prioritized include:

- Establishing clear roles and responsibilities
- Safety training
- Strengthening local HSE organizations
- Further developing emergency preparedness and response
- Chemical handling
- Contractor safety on construction sites.

In 2022, we also launched our Northvolt Safety Network. This network consists of health & safety managers from each of our sites, and meets regularly to execute the HSE roadmap. They share best practices between sites and set standards and ways of working with health and safety throughout the company.

Reporting system

Through our HSE reporting system (TIA system), our employees can report risk observations, near misses, injuries and environmental incidents. Reported incidents are investigated and actions are taken to prevent recurrences. HSE data is collected from the sites and is regularly reported to Executive Management and the Board. Collecting data in this manner allows us to learn from each other and continuously improve.

All sites are required to systematically identify safety risks and carry out mitigation actions to minimize risks in the working environment. However, should employees find any situation unsafe, they have a responsibility to stop work in accordance with our Work Environment Policy.

Goals

Safest workplace in our industry

Targets for 2025

Zero fatalities

LTIFR* below 2.0

TRIFR** below 4.0

Key highlights 2022

Establishment of the **Northvolt HSE roadmap**

More than 5,000 contractors have taken the safety introduction at Northvolt Ett

Environmental permit for Revolt Ett expansion

Northvolt Safety Network was established

The value we create

✓ A safe work environment for our employees and contractors where we involved our partners and reduce risk through leadership awareness

* Lost time injuries per million working hours of employees and contractors

** Total recordable injuries per million working hours of employees and contractors

LTIFR and TRIFR

The two main safety performance indicators that we use are lost time injuries per million working hours of employees (LTIFR) and total recordable injuries per million working hours of employees and contractors (TRIFR).

For 2022 the results were an LTIFR of 3.56 and a TRIFR of 5.88. The most common types of accidents at Northvolt result in injuries to arm, hand, finger, head and eye. The most common root causes for injuries at Northvolt are related to human and organizational factors; the objects that often are involved are battery cells and machines. All contractor incidents are included in Northvolt's safety statistics. We are continuously working to improve our HSE work and avoid all work-related injuries. We work actively to reduce and eliminate risks at an early stage before they lead to an accident.

Union collaboration

We value the work of our union safety representatives. These individuals participate in safety rounds, incident investigations and in everyday safety dialogues, and help ensure that our employees feel safe in their working environment.

Safety training

Safety training has been a point of focus on all sites during the year. At Northvolt Ett, over 5,000 contractors have taken our safety introduction training focusing on safety culture, basic health and safety rules and risk management. Every new employee at Northvolt also receives an introduction to health and safety, fire safety and chemical handling as part of the onboarding process. Every employee also receives local safety training based on specific workplace risks.

Safety on site

Safety walks and rounds are performed on all sites and are important tools for identifying risks at work so that accidents and ill health are prevented. Around 300 safety walks were performed on the construction site at Northvolt Ett through 2022. Risk assessments are used regularly for identifying and handling risks.

Fire safety is a prioritized subject at Northvolt due to the risks involved with handling flammable chemicals and charged battery cells. During 2022, our main focus areas have been developing emergency preparedness and response and further developing fire safety training for all new employees.

We maintain close collaboration with local rescue services, who are invited to regular visits to ensure they understand the relevant processes and risks.

Occupational health services

We offer a health care allowance aimed at encouraging our employees to take care of their physical health. We also offer occupational health services to all our employees. Medical health checks and occupational hygiene measurements are carried out to ensure a healthy work environment.

Nature-related impact

Environmental impact assessment (EIA) has been conducted for all our sites as a requirement under our environmental permit or by EU and/or local regulation. Impact on the nature is one of many environmental topics that is covered in the EIA. We are working with implementing the Task-force on nature related financial disclosure (TNFD) framework. The assessment indicates that our largest impact on biodiversity is related to site selection and upstream in the supply chain.

Read more about our approach to environmental responsibility in our Taxonomy Report, pages 75-82.

Environmental responsibility

Environmental management

We aim for our model for circularity to become the gold-standard business model for all battery factories. With this mindset, we aim to not only fulfill current legislation, but to leverage our leadership position to advocate and drive new environmental and social standards for battery production.

As we scale our research and manufacturing capabilities, environmental aspects are key to our site selection strategy.

Key focus areas include:

- → Avoidance of locations within biodiversity-sensitive areas
- → Ensuring acceptability from local communities
- → Identification of novel circular solutions
- → Formation of partnerships to embed our industry within a larger ecosystem

Responding to the fact that battery production processes are energy intensive, our target is 100% fossil-free energy across all our operations. In 2022 we used 95% fossil-free energy. In addition, we work systematically with energy efficiency and energy recovery at all sites to ensure efficient use of energy regardless of its source.

We work to preserve the environments in which we operate through all means at our disposal. Through the use of advanced purification technologies at our sites, emissions from manufacturing to air and water are minimized. In addition, all resources we are engaged with, including byproducts and scrap, are treated as finite and valuable. Several of our byproducts are recirculated back into our own processes, upcycled or recycled, thereby reducing the need for virgin raw materials and chemicals while enabling reductions in our environmental impact.

Chemical handling

Our battery manufacturing process involves several hazardous chemicals. For this reason, we have a strong focus on continuously strengthening our chemicals management process.

During 2022, we implemented extensive training programs together with a procedure for ordering chemicals, including an assessment of the supplier Safety Data Sheet (SDS) before approval. We have also implemented software for the collection, assessment and storage of compliance information from suppliers of parts. We aim to enable efficient compliance reporting to customers and stakeholders.

For materials we produce, our ongoing work includes REACH registrations and SDS for hazard communication. Other improvements during 2022 include storage management of chemicals as well as safety training for relevant production personnel on correct use of personal protective equipment and chemical handling. Exposures are regularly monitored and the results are used to guide changes in processes and procedures.

Changes in the REACH Candidate list of Substances of Very High Concern (SVHC) are regularly included in a list outlining chemicals which are restricted, prohibited or to be avoided where possible within Northvolt operations. Our suppliers are expected to comply with this list, together with relevant national and international legislation.

We also monitor announced and proposed changes in legislation and inform the organization through internal networks and monthly newsletters.

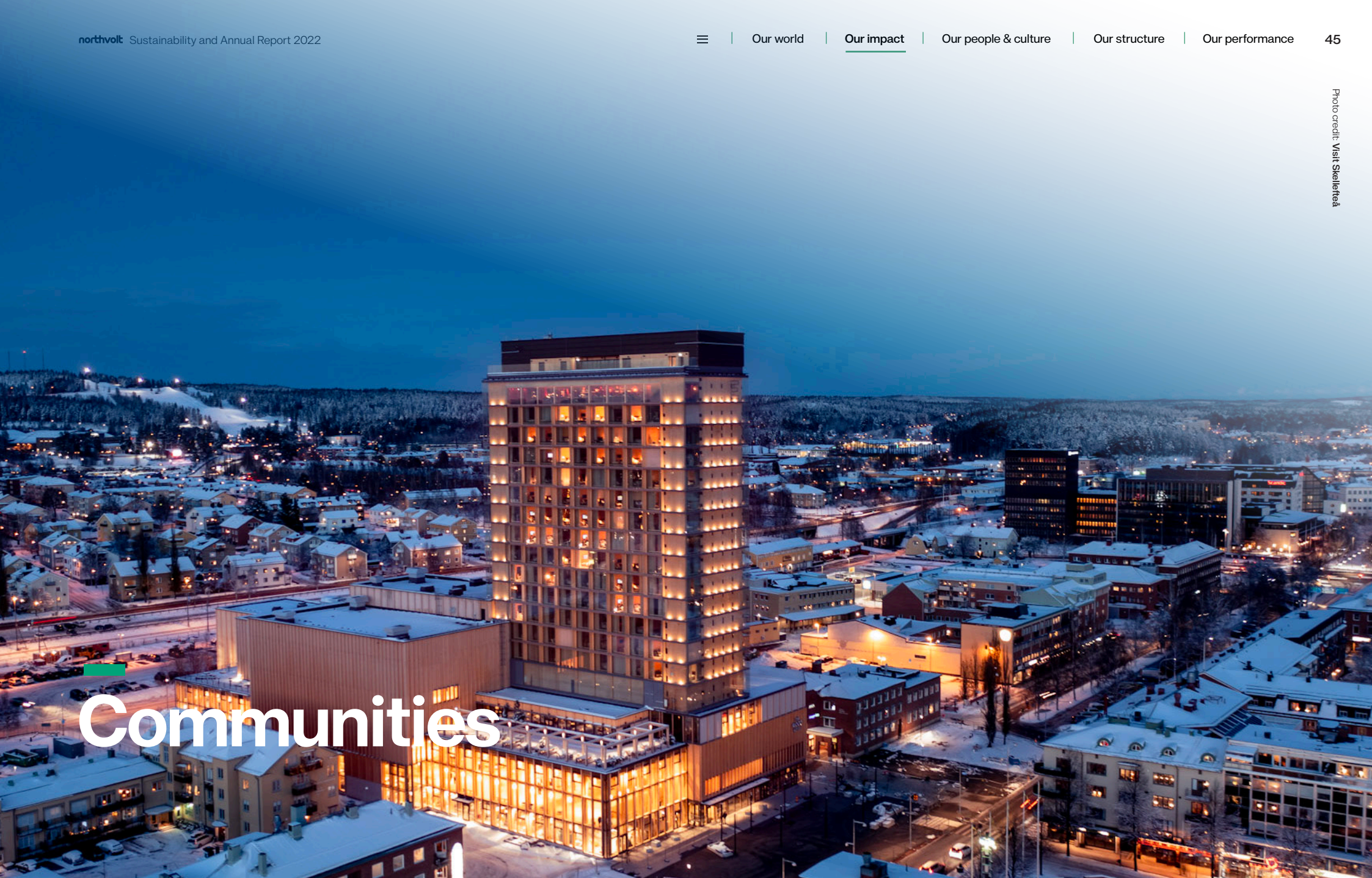


Photo credit: Visit Skellefteå

Communities

Impact on local communities

To succeed in building and operating thriving production and research facilities, we also need to strengthen and work in harmony with the communities that surround them.

Developing Skellefteå

With over 1,300 employees hired at Northvolt Ett, the growth of the city of Skellefteå has accelerated. The city has gained international attention, being awarded one of TIME Magazine's World's Greatest Places of 2022, and the relative increase in property values is among the highest recorded in Sweden in the last decade.

Fast growth of a city is always challenging. Acknowledging our role in the development of Skellefteå, we are collaborating with local and regional stakeholders in areas including the expansion of schools, commuting, new housing projects and the electrification of road and air traffic as well as the city's harbor.

Our securing access to a skilled workforce is also a priority. Unemployment in Skellefteå was at around 4%* in 2022, which is very low, and competition for relevant skills has heightened, both in the private and public sector. Therefore, campaigns and support for relocation to Skellefteå have been set up both by Northvolt and the city during 2022.

Since the start of construction in Skellefteå, we have engaged with the local Sámi community Mausjaur Sameby to ensure an open dialogue surrounding our activities. Through clear and direct contact, we also ensure that information about the indigenous communities of Northern Sweden is relayed to our employees, many of whom are new to the region and country.

We conduct surveys to track public sentiment towards Northvolt in all regions we have operations. We are proud to report that our 2022 survey revealed 74% of respondents believed Northvolt was a positive development for their municipality.

Youth and education initiatives

We have implemented a range of education initiatives in the communities surrounding our operations, to provide our employees with opportunities for further education, and to enable conditions for a more educated workforce in the local community.

Education programs for battery production that have been set up in Skellefteå are now being studied in Borlänge, Gothenburg and Heide in Germany. We work in close collaboration with multiple European universities to expand higher education programs in battery technology.

The English speaking Mälardalen International School in Västerås, founded in cooperation with Northvolt and Hitachi Energy, held its first classes in 2022 and continues to reach out to Västerås youth through its STEM summer camp.

2,000+

job opportunities created in 2022

74%

positive to Northvolt in the local community**

3.5% of respondents indicated that they felt that Northvolt was negative for the development of their municipality, the remainder indicated that they either did not know of Northvolt or had no firm view.

* Source: Arbetsförmedlingen, 2022.

** Average from external survey conducted in Skellefteå and Västerås, Sweden, November 2022

Our **people & culture**

The Northvolt Way

Our mission depends on sustainable application of technology. Our success depends on our people.

We have grown from less than ten employees to over 4,100 in about six years. This rapid growth requires blending structural resilience with organizational adaptability. But it also requires nurturing the culture which has been with us since our earliest days and which has been so crucial to our success.

We operate in new industrial territory for Europe and our plans are as ambitious as they are complex. But at Northvolt we embrace the challenge, knowing that it is through setting such aspirations that we will have a lasting and meaningful impact.

At all times, we take reassurance in the spirit of our people – it is their ingenuity and determination that has led us to where we are today. And it is through nurturing our team that we will continue to progress and advance towards our goals.

As we expand our company, we aim to grow in more than just numbers. We want to continue to foster and develop the Northvolt culture. At the root of this is a clear sense of our mission to build the world's greenest battery. Complementing this are our values – Bold, Passionate and Excellent – which are engrained in everything we do.

Our company was born out of an aspiration to do things differently. This applies foremost to the task of battery manufacturing, but it extends far deeper. In time, our hope is that Northvolt does not simply leave a legacy of what we did, but the way in which we did it.

Goals

40%

female employees by 2030

Key highlights 2022

We hired 2,093 employees in 2022 and **30% were women**

We developed and began implementing a new employer branding strategy focused on attracting candidates that are women, experienced production workers and engineers.

As an employer, Northvolt ranked No.1 among young engineering professionals & No.2 among senior professionals (Universum, MSc's). LinkedIn also ranked us as the No.1 start-up in Sweden.

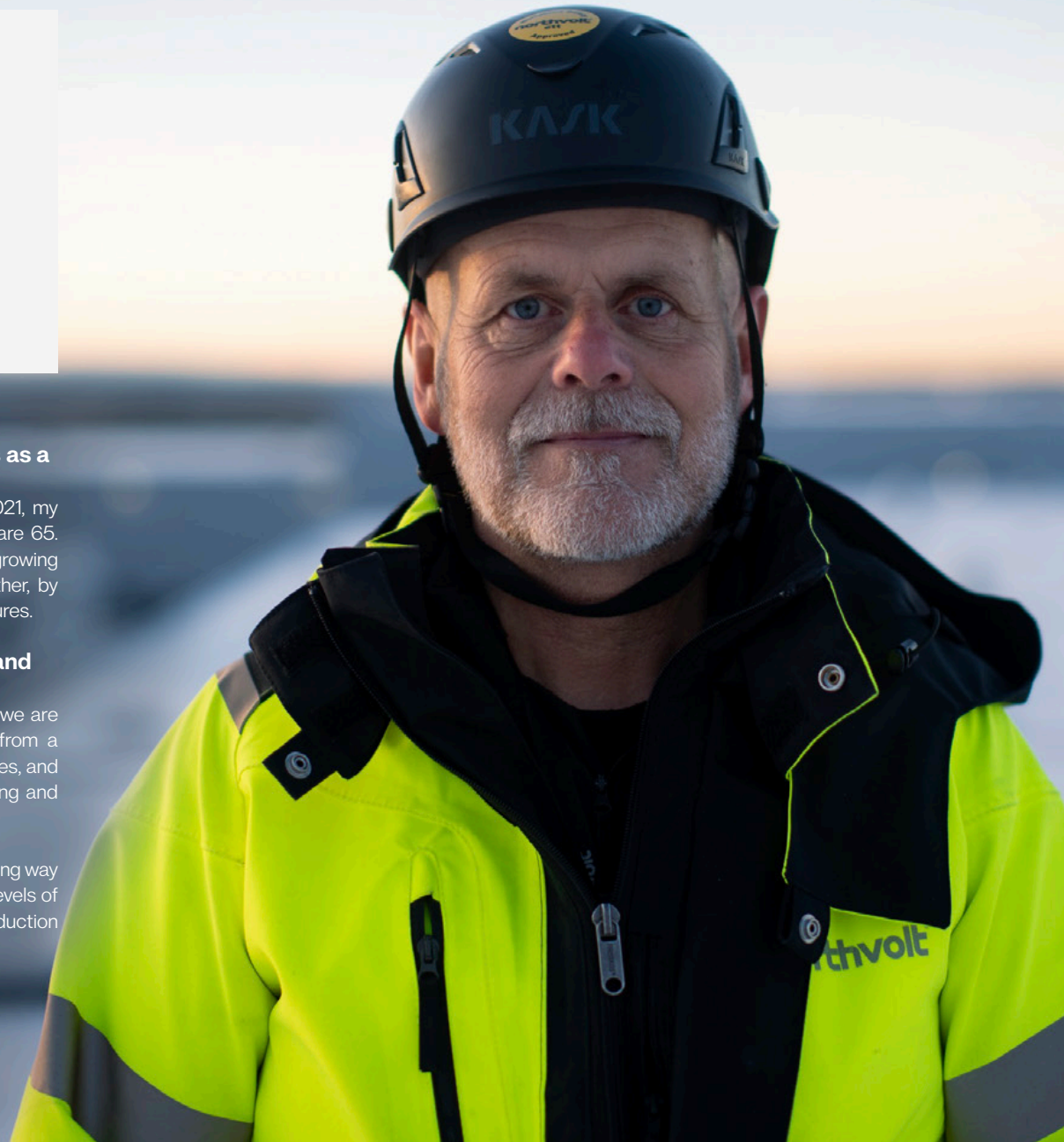
The value we create

- ✓ An unparalleled talent base within the battery industry
- ✓ A culture in which kindness and inclusivity are acknowledged as a benefit in the workplace
- ✓ Empowered leaders who build people and engagement

CASE:

Working at Northvolt Ett

Name:	Mikael Gustavsson
Role:	Senior Manager for Facilities and Utilities, Northvolt Ett
Location:	Skellefteå



Why did you choose Northvolt?

At Northvolt, we have the chance to build a company from the ground up. We are the ones shaping the way that we work. I like that I have the opportunity to put my own spin on things.

How do you encourage engagement in your team?

I try to be a role model. I am optimistic by nature, and always make sure that my team feels comfortable talking to me. I want to make sure that they enjoy coming to work every day. Happy people, that feel supported, are more productive. Which benefits both the employee and the company as a whole.

What are your guiding principles as a manager?

I believe that our people are our most valuable asset. I want everybody in the team to have the chance to grow and develop. Creating a nice workplace and a strong sense of culture allows us to attract people from all over the world, and have them stay and grow with us.

What are your biggest challenges as a manager?

When I started at Northvolt, in March 2021, my team consisted of two people. Now, we are 65. There are challenges that come with growing so quickly, but we overcome them together, by adapting and adjusting our existing structures.

How do you encourage diversity and inclusivity in your team?

Our diversity is our biggest strength. But we are still learning. We have gathered people from a range of backgrounds with different cultures, and we have had to adjust our ways of working and how we communicate to reflect that.

In terms of gender equality, there is still a long way to go. We want to see more women in all levels of the company, in leading roles, and in production and manufacturing.

Our people

To achieve our ambitious vision, we rely on our ability to attract and retain exceptional talent.

Attract

As we are building a new industry, we are recruiting for a range of competencies. In our approach to recruitment we embrace diversity and strive to build a workforce that reflects the world in which we operate.

As part of an industry that is manufacturing-heavy, we see that there is a significant gender split in the pool of potential hires. For this reason, we have a strategy in place to attract more women throughout our recruitment process, with the goal of having women constitute 40% of our workforce by 2030. Our internship program has met its goal of a 50:50 gender balance for the past two years.

The main focus of our recruitment is on Northvolt Ett in Skellefteå, where significant efforts are being made to hire locally as much as possible, and support necessary education and training programs as required.

Retain and develop

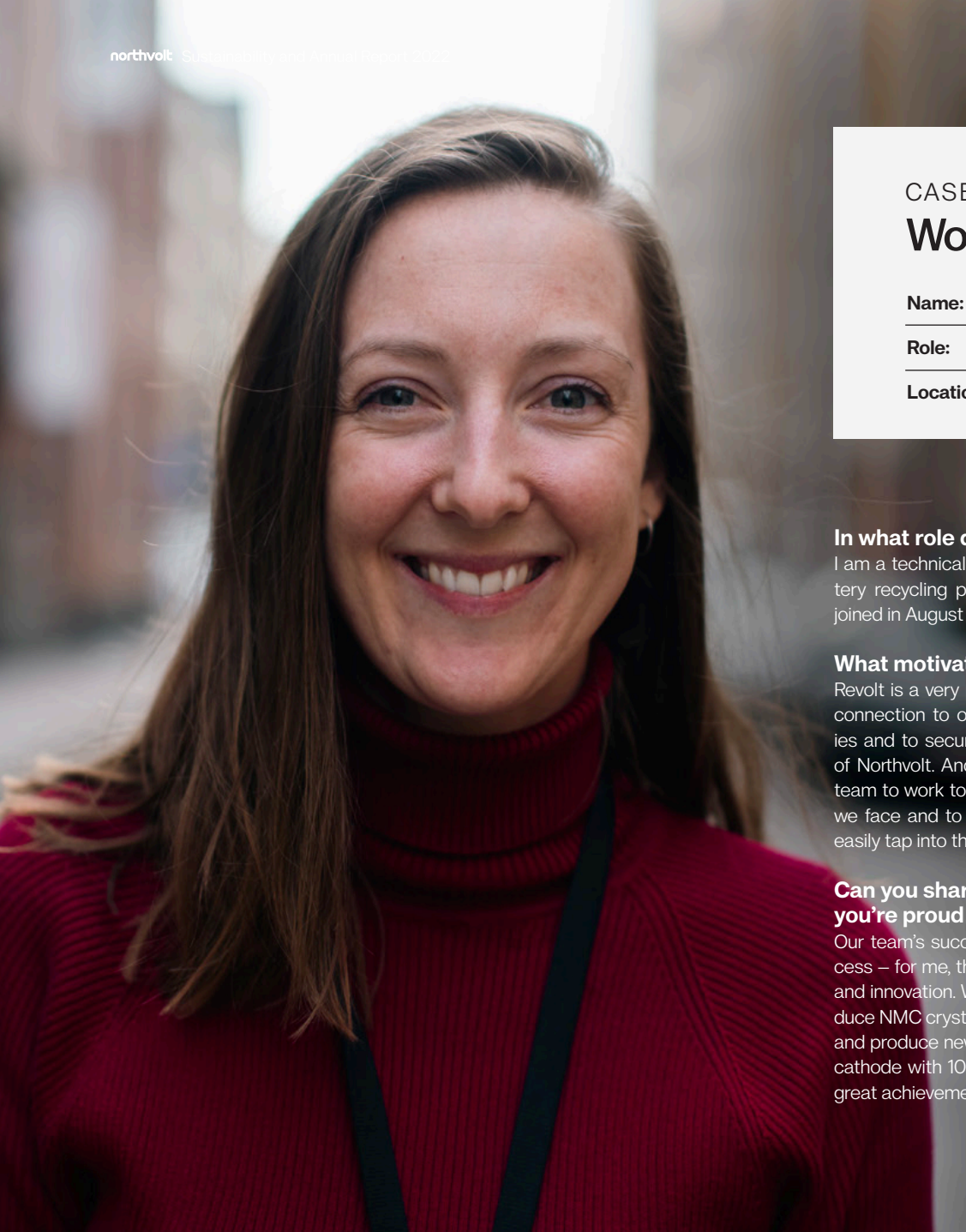
Employee engagement and professional development are two of our main pillars in terms of employee retention. We track employee satisfaction on an ongoing basis and are engaged in multiple initiatives to strengthen our employees' sense of fulfilment and general engagement. We offer a management training series through our learning platform for both managers and employees who want to enhance their skillset, including the Leadership Toolbox, Manager Essentials and Time Management series. Through 2022, we started developing Northvolt Academy, an in-house program offering our employees a curriculum on battery science, technology and manufacturing.

In collaboration with Skellefteå municipality, we also offer current employees the opportunity to sign up for courses to refresh their knowledge of the manufacturing industry, or learn about entirely new subjects. Our cross-functional operations allow employees to learn from each other. To allow employees to share in the value created by their own work and be part of owning the company, we offer a warrants program.

With a diverse workforce of 114 different nationalities, and 57% of our people joining us from outside Sweden, we emphasize the importance of inclusivity. We offer annual Diversity & Inclusion sessions providing insights into the Swedish working culture and encouraging the bridging of cultural differences in the workplace in thoughtful and constructive ways.

Six key strategic focus areas:

- ✓ Increasing the attractiveness of our culture & workplace
- ✓ Building people structures that enable growth
- ✓ Strategic planning of our workforce
- ✓ Ensuring that rewards and benefits are appealing
- ✓ Ensuring that our leaders are role-models
- ✓ Strengthening our identity & employer brand



CASE:

Working at Revolt

Name:	Hanna Schlegel
Role:	Technical Project Manager, Revolt
Location:	Stockholm

In what role do you work?
I am a technical project manager for Revolt Ett, our battery recycling plant under development in Skellefteå. I joined in August last year.

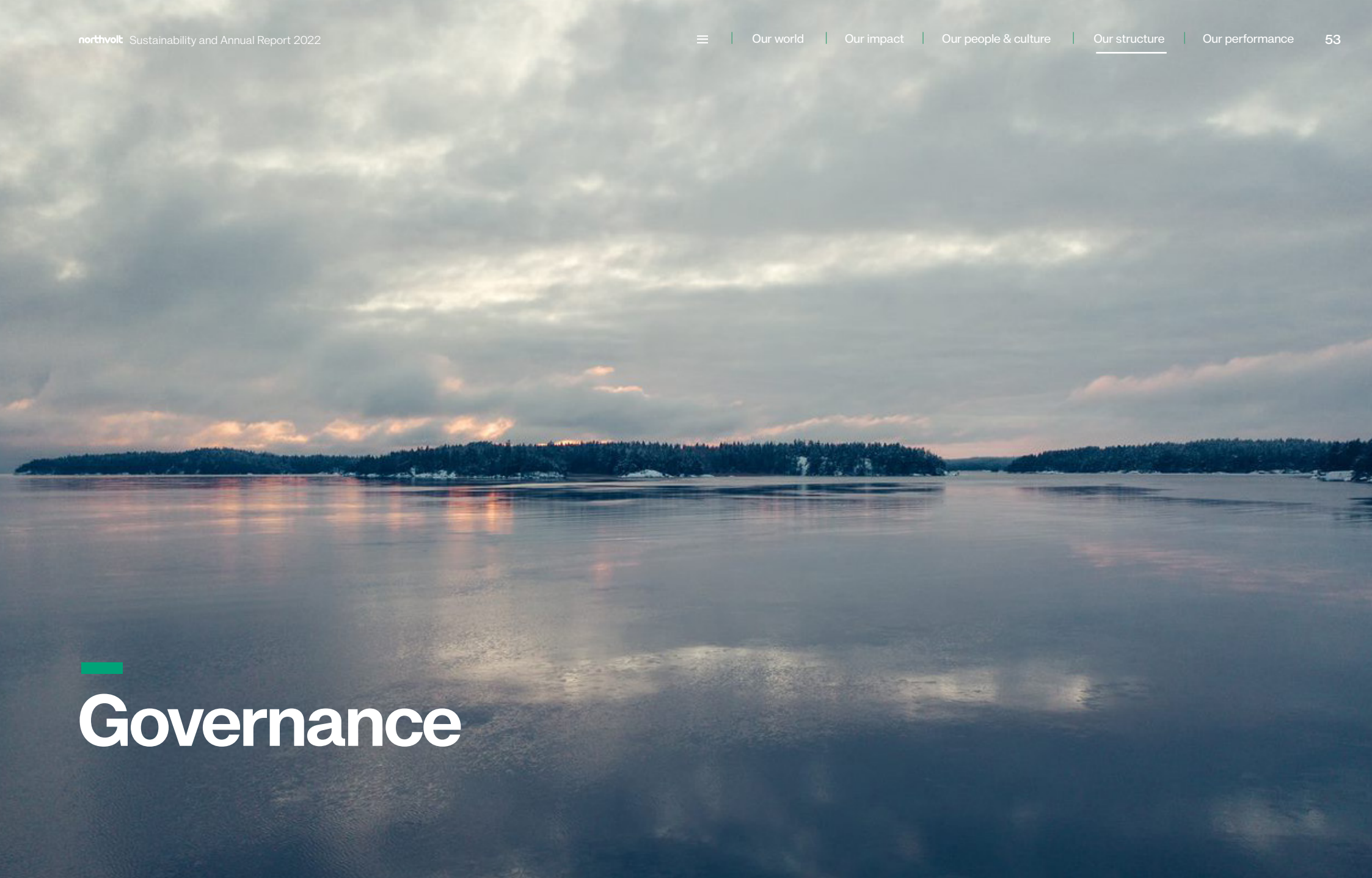
What motivates you and the Revolt team?
Revolt is a very passionate team, we have a very strong connection to our mission to close the loop on batteries and to secure a key foundation to the sustainability of Northvolt. And that makes it very easy for the Revolt team to work together to rise up to all of the challenges we face and to overcome them, because they can just easily tap into this passion and this mission.

Can you share an example of something you're proud of in Revolt?
Our team's success in demonstrating our recycling process – for me, that's really a great example of teamwork and innovation. What we showed was how we could produce NMC crystals from our pilot plant at Northvolt Labs, and produce new batteries with that material, producing cathode with 100% recycled material. I think that was a great achievement.

What do Northvolt values mean for you?
At Northvolt we're growing really fast. We're a big international organization, with people coming from all walks of life and experience. These values become our compass points – they guide us a little bit and help with the unspoken communication, the kind of unwritten rules that we all follow and help us work together.

What is special about working in Revolt?
There is this leap for industrialization with recycling – it has never been done at scale. It's a challenge, but it's an important challenge. It requires a lot of skills all working together. That creates a very special place to be. And at the same time, we have, for example, our business development team that is working out in the field, defining an entirely new market, working with partners and OEMs, to kind of write history and make this future happen. They're working with people who have never thought about these kinds of concepts before. And this is an idea that they are selling and selling successfully. So it is very impressive.

Our **structure**



Governance

Governance report

Governance at Northvolt

Corporate governance refers to the decision-making throughout Northvolt. The purpose of Northvolt's corporate governance structure is to ensure a clear division of responsibilities between the company's highest decision-making bodies to achieve value creation in line with Northvolt's values. As Northvolt AB is a Swedish limited liability company, its corporate bodies and the decision-making process are governed by the Swedish Companies Act. Since the shares of Northvolt AB are not listed on a regulated marketplace in Sweden, Northvolt is not required to apply the Swedish Code of Corporate Governance (the "Code") or to comply with Nasdaq Stockholm's rulebook for issuers nor other relevant laws and regulations applicable to companies with publicly traded shares. This Corporate Governance Report, which describes Northvolt's corporate governance activities during 2022, is submitted in accordance with the Swedish Annual Accounts Act.

Shares and Shareholders

Northvolt AB has three classes of shares, namely ordinary shares of Class A, preference shares of Class D and preference shares of Class E. Each share of Class A, Class D and Class E represents ten votes each. The only shareholders representing 10 percent or more of the outstanding shares and votes in Northvolt AB at year-end were Volkswagen owning 21.1% and Goldman Sachs owning 19.4% of the outstanding shares, warrants and options. For more information on Northvolt's shareholders, please see page 18.

Shareholder meetings

The shareholder meeting is Northvolt's highest decision-making body, where all shareholders are entitled to directly exercise their influence. A shareholder may vote for all shares owned by the relevant shareholder, without any restrictions on number of votes. The annual general meeting (AGM) is the shareholder meeting at which the annual report is presented and where the income statements, balance sheets and the suggested disposition of Northvolt's profit or loss are approved.

During the AGM 2022, the represented shareholders resolved to re-elect all members of the Board as well as Northvolt's auditor. The shareholders also resolved to discharge all members of the Board from liability for their respective management of Northvolt AB's affairs during the previous financial year. In addition to the AGM, Northvolt AB also held an extraordinary general meeting (EGM) in December 2022 to, amongst other things, appoint new members of the Board.

The Board

The Board is Northvolt's second-highest decision-making body, after the shareholders meeting. The Board consists of eight members. As the Code is not formally applicable to Northvolt, Northvolt does not have a nomination committee in accordance with rule 2.1 of the Code. Instead, the members of the Board are nominated jointly by Northvolt's founders and by each of Volkswagen and Goldman Sachs in accordance with an agreement between the shareholders. Upon election of the members of the Board, the relevant shareholders considered rule 4.1 of the Code as guidance in its nomination work.

During 2022, Paolo Cerruti and Sébastien Gagnon resigned and Jim Hageman Snabe and Barbara Frei-Spreiter were appointed as new members of the Board as part of a long-term strategic initiative to ensure a more independent Board. Jim Hageman Snabe was also appointed as Chair of the Board. The members of the Board are presented on pages 62-63.

The Board is, amongst other things, responsible for Northvolt's organization, the effective operations and leadership of the Executive Management team and for ensuring compliance with guidelines and applicable regulations related to internal control. The Board approves strategies and targets and decides on material strategic matters such as certain acquisitions and divestments. The Board also has overall responsibility for overseeing Northvolt's strategies for sustainable development and compliance matters, including approval of key policies. For more information on Northvolt's Sustainability governance, please see pages 58-60.

The work of the Board, which is governed by its rules of procedure, follows an annual cycle to ensure that certain areas of material importance are reviewed on a yearly basis. The Board is expected to meet at least seven times per year. The CFO and the General Counsel, who is the secretary of the Board, also attend the board meetings. The Board conducted a written survey of its work to receive input on the board members' view on the performance of the Board and on the Board composition, as well as to identify measures that could improve the work of the Board. The written survey was followed up by a discussion among the Board members. The evaluation covered areas such as the Board's way of working (e g frequency and focus of meetings), the robustness and effectiveness of the strategy process, the Board committee structure and interactions between the Executive Management team and the Board. Northvolt's Articles of Association includes no provisions regarding appointment or dismissal of the members of the Board or amendments to the Articles of Association.

Authorizations

At the AGM 2022 the shareholders resolved to authorize the Board to, until the next annual general meeting, resolve on issuance of up to 45,000,000 ordinary shares of Class A and 585,412,500 warrants in respect of share of Class A. Further at the EGM, the shareholders resolved to authorize the Board to, during the time until the next annual general meeting, resolve on issuance of up to 26,244,925 ordinary shares of Class A. The authorizations include the right to

issue new shares for cash consideration, by contribution in kind or payment by set-off with or without considering the pre-emption rights of the shareholders. The purpose of the authorizations is to enable issuance of warrants as part of Northvolt's incentive programs available to its employees, allow for issuance of shares upon exercise of outstanding employees stock options and to pay part of the purchase price for Northvolt's acquisition of all outstanding shares in Cuberg Inc.

Chair of the Board

The Chair of the Board oversees the work of the Board and is responsible for ensuring that the Board's work is carried out efficiently and in accordance with applicable laws and regulations. This includes continuously ensuring that other Board members receive information that will enable high-quality discussion and decisions by the Board. The Chair is not a member of the Executive Management team.

Board committees

To improve efficiency, the Board has appointed an Audit, Risk & Liquidity Committee (the "ARL") and a People Committee. The Committees' responsibilities and decision-making powers are regulated in Committee instructions. The Committees monitor and assess certain areas of Northvolt's operations, prepare recommendations to the Board and make proposals on matters that require the Board's approvals. The committees are also responsible for ensuring that the Board is kept informed of the work of and issues encountered by the relevant Committee.

Audit, Risk & Liquidity Committee

The AR Committee assists the Board in fulfilling its responsibilities to monitor and assess, as well as improve the quality of, Northvolt's financial reporting, ESG (Environmental, Social and Governance) reporting, internal and external audit, risk management and compliance with laws and regulations within financial reporting. Further, the committee is responsible for managing liquidity.

The AR committee shall also keep itself informed and asses Northvolt's liquidity needs, approve certain key contracts and monitor Northvolt's whistleblowing system. The AR committee is responsible for identifying and reporting relevant issues to the Board within the Committee's areas of responsibility.

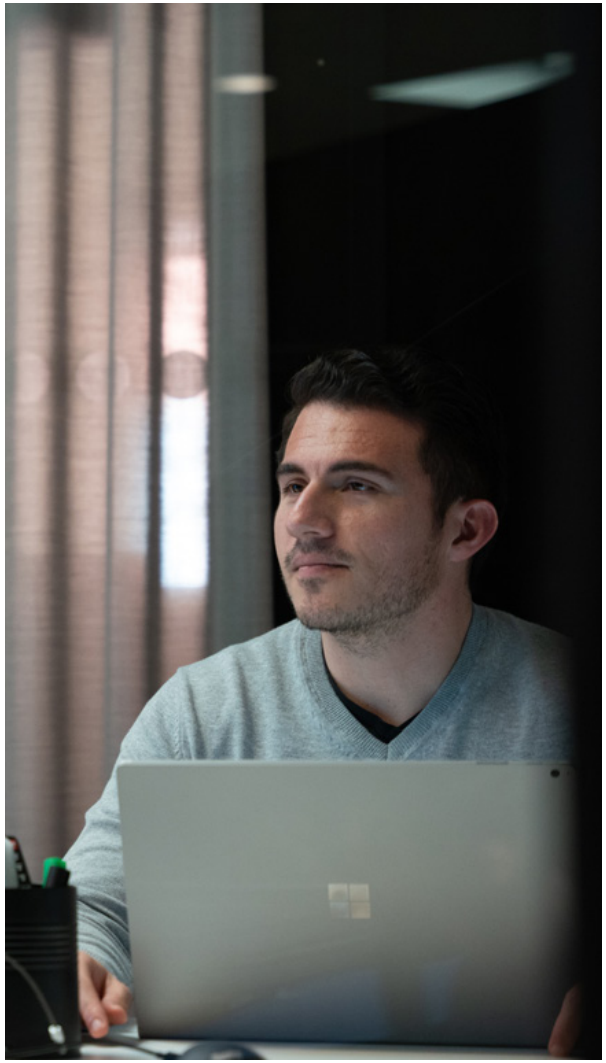
People Committee

The People Committee assists the Board in fulfilling its responsibilities to monitor and assess the frameworks for talent management, talent acquisition and succession planning as well as remuneration principles, employment terms and levels of remuneration for the CEO, Northvolt's Executive Management and other employees of Northvolt. The Committee also handles all incentive programs including warrant programs.

CEO and the Executive Management team

Northvolt's CEO is responsible for and manages the day-to-day operations of Northvolt in accordance with the Board's guidelines and instructions. The CEO is supported by the Executive Management team which consists of 13 members presented in the table on pages 64-65. The work of the Executive Management team has mainly been focused on executing Northvolt's strategic priorities for 2022.

Northvolt adheres to the principle of distinct responsibility and authority. Each business area and function is responsible for its performance against the budget. This responsibility is typically broken down into lower-level cost-centers, for with the corresponding cost-center owners are responsible. The position of the business and results are followed up by reporting to the Executive Management team and the Board on a monthly basis. In addition, business review meetings are conducted monthly during which the management of each business area and function meet with the CEO, CFO, Vice President of Business Control, and Vice President of Strategy. These meetings function as a complement to the daily monitoring of operations.



Internal rules and regulations include:

- ✓ Articles of Association
- ✓ Rules of procedures for the Board of Directors
- ✓ Other policy documents established by the Board and instructions established by the CEO

External rules and regulations include:

- ✓ The Swedish Companies Act
- ✓ The Swedish Annual Accounts Act
- ✓ International Financial Reporting Standards (IFRS)

Whistleblowing System

To achieve transparency and a high level of business ethics, Northvolt maintains a whistleblowing service based on the EU Whistleblowing Directive, also known as the Directive on the protection of persons reporting on breaches of Union law. The whistleblowing process offers a possibility for employees and third parties to anonymously inform Northvolt of suspected misconduct which enables Northvolt to act at an early stage. Northvolt encourages reporting of all incidents that are not in line with Northvolt's values, rules or the law. During 2022, 43 reports of alleged misconduct were reported through the various whistleblowing channels. Remediation plans are in place to prevent certain previously reported incidents from reoccurring. Northvolt's Code of Conduct and Whistleblowing Guideline is available on Northvolt's external website. The whistleblowing guidelines describes the various channels that employees and other stakehodlers can use to either seek advice or report potential allegations of misconduct.

Conflict of interest

Northvolt strives to avoid conflict of interest and to ensure integrity and transparency in all related party transactions as outlined in our related party transactions and conflict of interest policy. Amongst other things, the policy commits members of the Board and employees to report all personal relationships and other circumstances that could potentially result in conflict of interest to Northvolt's compliance department. All related party transactions shall be approved by the Board in accordance with the procedures specified in Northvolt related party transactions and conflict of interest policy to ensure that all related party transactions are entered into on arm's length terms. Each manager at Northvolt is responsible for implementing the related party transactions and conflict of interest policy.

External auditors

The auditor reviews Northvolt's accounting, Northvolt's annual report, the Board's and CEO's administration and submits an audit report to the AGM. The audit is performed in accordance with the Swedish Companies Act, the Swedish Annual Accounts Act, International Standards on Auditing (ISA) and generally accepted auditing principles in Sweden. The auditor also conducts a limited review of Northvolt's sustainability report in accordance with the ISAE 3000 standard. The limited review refers to the Sustainability Report in accordance with GRI Standard 2021 and the Swedish Annual Account Act, chapter 6, section 11. The volontary EU taxonomy report is excluded. For details on remuneration to the auditors, please see note 6.

Internal control over financial reporting

The purpose of internal control is to achieve an efficient operation that reaches its targets and to ensure reliable internal and external financial reporting and compliance with applicable laws, rules, policies and steering documents. Internal control refers to the systems, processes and procedures contributing to the control in these areas.

The processes and procedures for Northvolt's internal control are based on the Committee of Sponsoring Organizations of the Treadway Commission's guidelines on internal control ("**COSO**"). Northvolt has adopted the COSO framework as guidance and in the design, implementation and evaluation of risks and controls throughout the organization. COSO defines internal control as a process that is designed to provide reasonable assurance of the achievement of specified objectives. The internal control processes are implemented by the Board, the Executive Management team and other employees. The COSO definition relates to the aggregated control system of the organization, which is composed of many individual control procedures meaning that all employees have a responsibility to ensure sufficient internal control.

The COSO framework is based on the following five components: control environment, risk assessment, control activities, information and communication and monitoring as further described below.

Control Environment

The control environment establishes the overall tone for the organization and sets the structure for the other four components of the internal control system. The AR committee assists the Board as well as reviews and prepares matters pertaining to Internal Control with respect to financial reporting. The CFO has ultimate operational responsibility for the financial reporting including ensuring adequate Internal Control over Financial Reporting ("**ICFR**") as well as overall responsibility for coordination, execution, monitoring and reporting of internal control within the Group. The internal control function at Northvolt supports the CFO with coordination, monitoring and reporting the Internal Control activities throughout the Group. Global process owners ("**GPOs**") are responsible for ensuring that the processes are accurately described and that all significant risks and controls have been identified and documented.

The control environment for the financial reporting is ensured through different governing documents, such as the internal control policy and ICFR instruction, process documentation for significant processes, policies, procedures, and guidelines related to the governance of operations, financial accounting, and reporting.

Risk Assessment

Risk management is an integral part of business management and the risk management objectives support the achievement of Northvolt's strategic objectives. Northvolt applies a holistic risk management perspective conducting both top-down and bottom-up risk management inspired by COSO Enterprise risk management framework and ISO 31000 for risk management. Risk management related to financial reporting is an integrated part of the risk management program with a specific risk area for managing financial risks. For more information on Northvolt's Risk Management program please see pages 66-72.

Northvolt applies a risk-based approach towards internal controls over financial reporting, with specific procedures in place for risk identification and risk evaluation. Identification, assessment and management of risks within the company are central to financial reporting. A ICFR risk assessment is performed in order to identify where significant risks exist in the financial reporting. The basis for the internal control is identifying and assessing risks. A review of identified risks is conducted every year with the addition of any new identified risks.

The risk of material errors when reporting Northvolt's financial position and results is considered the primary risk. To minimize this risk, control activities for accounting and financial reporting has been established. The Board and Executive Management assess the financial reporting from a risk perspective on an ongoing basis.

Control Activities

Northvolt has specific procedures in place for design and implementation of controls required to mitigate risks identified during the risk assessment. Such procedures include control activities for initiation, approval, recording and accounting of relevant financial transactions. Material internal control processes including related risks and key controls are documented in a common and structured way. Risk of misstatements are identified in the transaction flows for each process and controls are designed to ensure that actions are taken to prevent or detect material misstatement and to safeguard Northvolt's assets.

Information and Communication

The information and communication component in the internal control framework includes systems and procedures to support the identification, capture and exchange of information in a form and time frame that enables employees to carry out their responsibilities and financial reports to be generated accurately and in a timely manner.

Group policies, process descriptions, instructions regarding accounting and reporting, risks and internal controls are available to all employees concerned through Northvolt Intranet and internal channels. GPO forums are held on a quarterly basis with the update of the processes, results of the self-assessments and ongoing initiatives within process development.

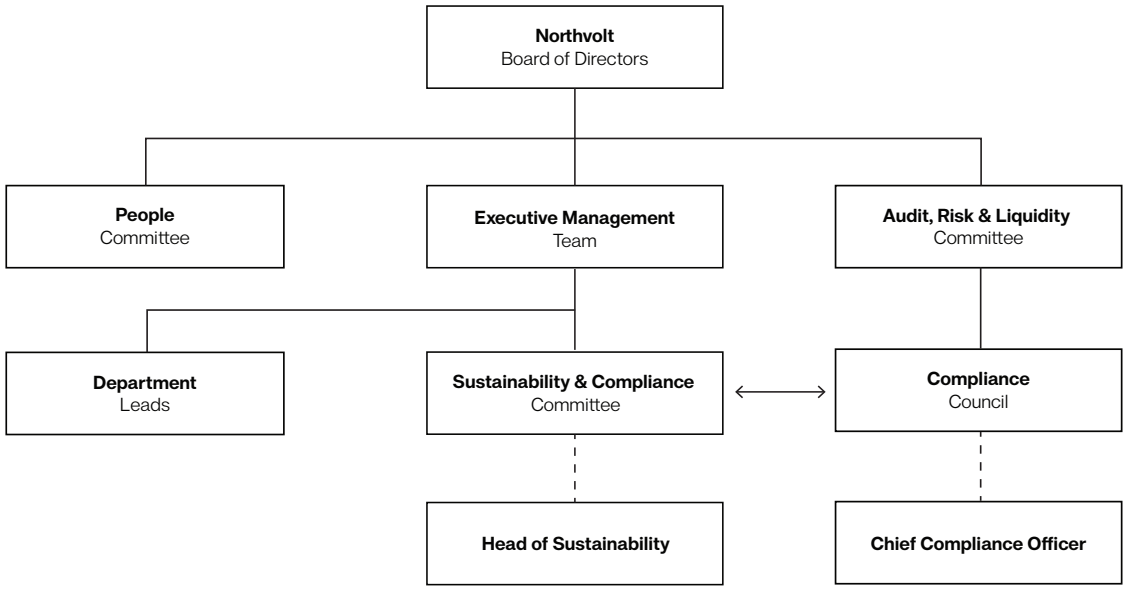
Monitoring Activities

The internal control system is monitored through a process that assesses the quality of the system performance over time. GPOs, which are responsible for ensuring that control owners carry out their work in accordance with the applicable guidelines, are appointed for each major business process. GPOs are also responsible for monitoring changes in working methods or Northvolt's organizational environment that may affect previous risks assessments and for ensuring implementation of necessary amendments to the internal control framework due to the aforesaid. Self-assessments of the efficiency of the internal control system are performed on a regular basis. The Group's internal control function reports the result of the self-assessments and applicable remedial action plans to the AR Committee on a quarterly basis.

Sustainability governance

We see corporate governance as an evolving core discipline that underpins our success. We have implemented key policies and procedures which work in concert with our governance structures to support effective business operations performed in line with our values. Sustainability and compliance is overseen by several groups: the Board, the Executive Management team, the Audit, Risk & Liquidity Committee, the Sustainability & Compliance Committee and the Compliance Council.

The purpose of Northvolt's sustainability governance is to ensure the company upholds commitments to its stakeholders, including customers, employees, suppliers, investors, decision makers and representatives from society.



THE BOARD The Board has overall responsibility for overseeing sustainability and compliance matters, approval of key policies and goals, as well as approval of strategies related to sustainable development. The Board receives an in-depth formal update on sustainability performance once per year, but sustainability forms an integral part of main topics discussed during the company's Board meetings. The Board approves Northvolt's Sustainability and Annual report. Northvolt is continuously working on strengthening the sustainability competencies of the Board and in 2022 the Board received internal training in sustainability governance.

AUDIT, RISK & LIQUIDITY COMMITTEE The ARL Committee is a sub-committee of the Board, overseeing the identification, evaluation, and management of risks, including sustainability and compliance risks. The Committee and the Board also review and approve key contracts and review our whistleblowing system.

EXECUTIVE MANAGEMENT TEAM The Chief Environmental Officer in the Executive Management team is responsible for overseeing and managing key sustainability initiatives of Northvolt, including Northvolt's recycling program, Revolt. Together with the Board, the Executive Management team adopts any updates to the Company's sustainability strategy and goals, including revisions to the materiality analysis as applicable. The General Counsel is responsible for Northvolt's Compliance Program.

SUSTAINABILITY & COMPLIANCE COMMITTEE The Sustainability & Compliance Committee acts on behalf of the Executive Management team to oversee the effectiveness of our systems and processes for sustainable development and management, including due diligence and sustainable supply chain management.

THE COMPLIANCE COUNCIL The Compliance Council is responsible for the oversight of the Northvolt Compliance Program to ensure its effectiveness and that it complies with principles of good corporate governance and achieves applicable standards.

THE HEAD OF SUSTAINABILITY has the overall responsibility for proposing strategic content, goals and actions in order to manage our sustainability impact. The Head of Sustainability reports to the Chief Environment Officer.

CHIEF COMPLIANCE OFFICER has the overall responsibility for the Compliance Program and whistleblowing program. The Head of Compliance reports to the General Counsel.

Responsible business conduct

At Northvolt, ways of working are governed by our values, as outlined in our Code of Conduct and disseminated in our wider policy framework.

Policies and guidelines

Our governing documents are set up across three levels: policies, guidelines and instructions. Policies (including our Code of Conduct and Supplier Code of Conduct) outline the principles and strategic direction by which we operate and are approved by the Board. Guidelines specify recommendations for the effective implementation of our Policies. Instructions outline procedures detailing how we operate.

We care as much about how results are achieved as we do about the results themselves. We are following the precautionary principle, which is integrated into policies and business processes and is monitored by our environmental management system.

All employees, including the Executive Management team, are responsible for compliance within the working areas that they are responsible for. Each policy has an appointed owner who is responsible for communicating, implementing, and following up on the policy within the company.

Our Code of Conduct provides a framework for employees and stakeholders to put business principles into practice with utmost integrity. Our Supplier Code of Conduct applies to all suppliers, contractors and sub-contractors of goods and services.

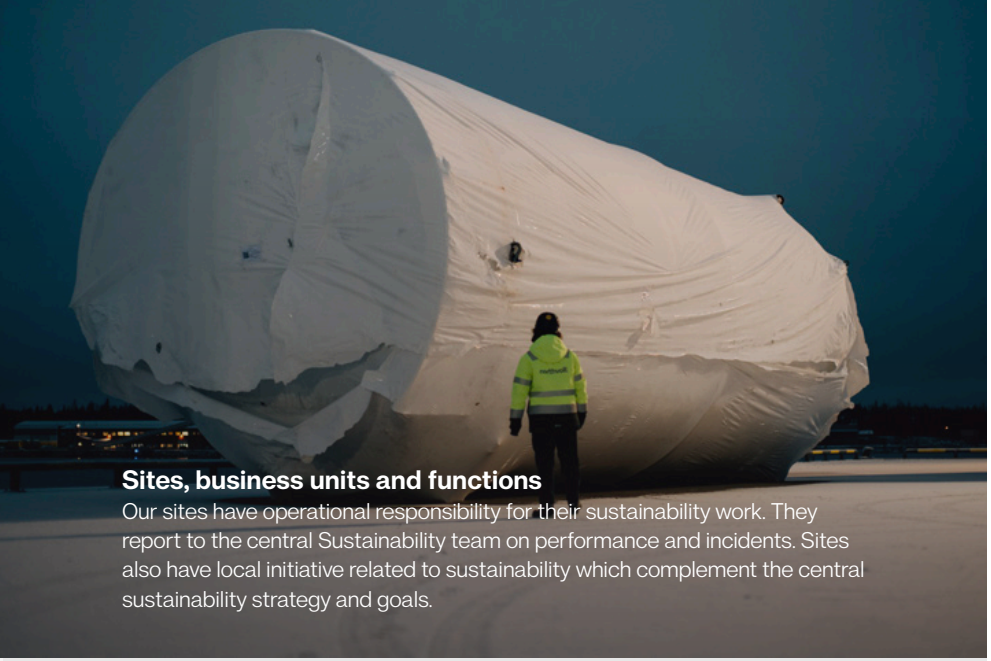
The Code of Conduct and some of Northvolt's key policies are communicated to all new hires upon joining the company, and updates to policies are communicated to all employees.

Amongst other matters, the Code of Conduct commits employees to incorporate sustainability and compliance into all aspects

Key sustainability related policies and external requirements

Policy listed with an asterix can be found on Northvolt.com

KEY INTERNAL POLICIES	KEY EXTERNAL LAWS AND REGULATIONS	KEY EXTERNAL INITIATIVES
Code of Conduct*	The Swedish Companies Act	GRI Standards
Supplier Code of Conduct*	The Swedish Annual Accounting Act	TCFD
Anti-Corruption Policy	The Swedish Environmental Code	ISO 14001 and ISO 90001
Environmental Policy*	The Swedish Work Environment Act	UN Global Compact International Bill of Human Rights
Energy Policy	EU Battery Regulation	ILO Declaration on Fundamental Principles and Rights at Work and ILO Basic Terms and Conditions of Employment
Quality policy*	EU Taxonomy Regulation	UN Guiding Principles for Business and Human Rights (UNGPs)
	REACH and CLP	OECD Guidelines for Multinational Enterprises and OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas



Sites, business units and functions
Our sites have operational responsibility for their sustainability work. They report to the central Sustainability team on performance and incidents. Sites also have local initiative related to sustainability which complement the central sustainability strategy and goals.

Supplier Code of Conduct

Northvolt's Supplier Code of Conduct covers business ethics, labor and human rights, the environment, and health and safety. It provides the framework for our daily operations and dealings with all our suppliers.

The Code of Conduct is based on the following:

- ✓ UN Global Compact
- ✓ ILO Declaration on Fundamental Principles and Rights at Work
- ✓ ILO Basic Terms and Conditions of Employment
- ✓ UN Guiding Principles for Business and Human Rights
- ✓ OECD Guidelines for Multinational Enterprises and Due Diligence Guidelines

of our operations and ensure health and safety at our workplaces. All employees are required to accept the Code of Conduct before joining. The Executive Management team is responsible for implementing and ensuring compliance with the Code of Conduct.

Our compliance program

Our compliance program has been in place since 2019 and covers business ethics areas, for example anti-corruption, competitive behavior, conflict of interest and whistleblowing. It has subsequently been externally reviewed. In 2023 we will continue to implement and strengthen the program, including continuing to extend the comprehensive training plan on the compliance program across the company.

Anti-bribery and corruption

Many of our suppliers and partners operate in parts of the world where there is a high risk of bribery and corruption. We believe it is essential to make our position on the matter clear to all of our employees, contractors, suppliers and partners: Northvolt has zero tolerance for bribery and corruption.

This message is stated explicitly in our Code of Conduct and Supplier Code of Conduct. Our Anti-Corruption Policy, Gift and Entertainment Policy and Business Partner Policy for intermediaries and agents include procedures and processes to identify red flags, understand roles and responsibilities in the organization as well as relevant laws and processes for reporting concerns. All employees are required to read through and accept our Code of Conduct and accompanying Anti-Corruption and Gift and Entertainment Policies when joining Northvolt.

We assess any exposure and risks of bribery and corruption when working with suppliers and other partners. We also conduct on-site audits of key high-risk suppliers against our Supplier Code of Conduct, including bribery and corruption.

Training

To ensure that our employees are trained on our Code of Conduct, Northvolt has put a mandatory Code of Conduct training (e-learning) in place in the end of 2022, focusing on key risk areas such as anti-corruption, trade sanctions, fraud, antitrust, conflict of interest and GDPR. The training includes practical examples of dos and don'ts for conducting business and working with integrity. The training is mandatory for existing white-collar employees and new employees need to complete the training within 30 days of joining Northvolt.

In 2022, 74% of white collar employees completed the Code of Conduct training. In addition, Code of Conduct is also included in the mandatory onboarding face-to-face training program for both blue and white collar employees.

Taxation

Our approach to tax is an important factor that requires due consideration in order for Northvolt to meet its goal of being a responsible corporate citizen. When considering our approach, we take into account both the letter and the spirit of the law, including international transparency and anti-tax avoidance initiatives. We aim to maximize shareholder value in a socially responsible way and in doing so are fully committed to meeting our tax reporting obligations and paying any taxes due in a timely manner.

Per Northvolt's Code of Conduct, Northvolt is committed to acting ethically and responsibly and in accordance with this the economic and social impacts of our approach to tax were considered when developing our Tax Strategy.

Tax Strategy

The Tax Strategy defines our approach to tax through six key Tax Principles, those being: compliance, proactivity, cooperation, prudence, transparency and support.

The Group's CFO formally reviews and approves the Group's Tax Strategy on an annual basis and is ultimately accountable for overseeing the Group's compliance with it. Operational accountability for ensuring compliance with the Tax Strategy is delegated to the Group's Director of Tax.

In accordance with the Tax Principles laid down in our Tax Strategy, Northvolt's tax planning is aligned with our commercial activities and we only operate entities in jurisdictions for which we have or shortly expect to have significant commercial operations. Northvolt does not use tax structures/schemes which involve limited commercial substance and are intended solely for tax avoidance. We do not seek to avoid tax using 'tax havens' or by undertaking transactions we would not be comfortable in fully disclosing to a tax authority.

Northvolt's Tax Strategy is available here: **Northvolt Tax Strategy**

Tax governance, control, and risk management

Northvolt is committed to establishing strong governance over the identification, management and reporting of tax risks. Northvolt implements processes and undertakes procedures to support the achievement of the Tax Principles outlined in our Tax Strategy.

Appropriate tax governance and the management of tax risk are paramount to many of the principles that guide Northvolt's approach to tax. On a day to day operational level, our tax principles are broken down into actionable goals, with tasks then set-up in order to achieve these. For example, goals in relation to the Tax Principle of compliance are that Northvolt should be compliant with applicable tax rules, regulations, and guidelines, including paying taxes promptly and in accordance with regulations in the countries in which we operate.

Initiatives to embed the Group's Tax Principles across the organization include:

All tax work is prepared by personnel with an adequate technical understanding of relevant tax legislation and reviewed by an experienced tax specialist. Where possible, Northvolt seeks to perform this work in-house. Where the required expertise is not available in-house, external tax advisors are mandated on the condition that they understand that their advice must comply with Northvolt's Tax Principles.

Northvolt's Tax team is responsible for the Group's transfer pricing model globally. In line with current OECD guidelines, we base our transfer pricing approach on the arm's length principle and support our transfer prices with economic analysis and documentation.

Significant tax and related risks, once identified, are escalated to higher governance bodies within the organization. Risks are initially escalated to senior and Executive Management via the most appropriate forum in relation to the area the risk concerns. Significant risks are then further escalated to the Board.

Northvolt adopts a low risk approach to tax affairs. Our attitude to tax risk is centrally governed by our desire to maintain a collaborative relationship with tax authorities and to comply with both the letter and the spirit of the law.

Employees are encouraged and expected to report incidents of non-compliance with the Group's Tax Strategy, a breach of which, by definition will also constitute a breach of the Group's overarching Code of Conduct. Where breaches are identified, employees face disciplinary action. All employees are expected and encouraged to report breaches which can be done either to a manager at Northvolt, to the Board of Directors, or via Northvolt's anonymous Whistleblowing system.

Stakeholder engagement and management of concerns related to tax

Northvolt seeks to engage in open and constructive dialogue with tax authorities and is committed to working positively to resolve any disputes, should they arise.

Northvolt's Public Policy team works to support regulatory and legislative change (including legislative change related to tax). When governments or governmental agencies look to develop or change tax policy, they often seek input from a wide range of interested stakeholders, including individual companies. Amongst other forms of interaction, Northvolt engages with governmental agencies by providing feedback on changes to legislation through public consultation processes.

Northvolt maintains a dialogue with a range of stakeholders, including the public, peers, other businesses, NGOs, investors and policymakers. This gives us a good view of their concerns but where specific concerns are raised we often engage in one-to-one dialogue to seek to resolve those concerns.

Board of Directors



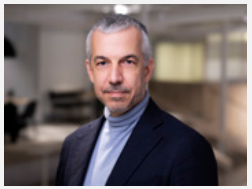

	Jim Hageman Snabe (Chair of the Board)	**Carl-Erik Lagercrantz** (Vice Chair of the Board)	**Michael Bruun** (Board member)	**Susanna Campbell** (Board member)
Born	1965	1964	1980	1973
Education	MA Operational Research and Finance, Aarhus School of Business, Denmark.	—	BA MSc Economics, University of Copenhagen, Denmark. Studies at Cornell University, USA.	MSc Stockholm School of Economics, Sweden.
Other relevant assignments	Chair of Siemens, Board member of C3.ai, Member of the Board of Trustees of the World Economic Forum and Adjunct Professor at Copenhagen Business School.	Chair of Polarium and Vice Chairman of H2 Green Steel.	Board member of Advania, LRQA, and Norgine.	Director of Kinnevik, Indutrade, H2 Green Steel and Estrid Studios. Chair of Network of Design (NOD).
Previous positions	Former CEO and Board Member of SAP. Former Chairman at A. P. Moller Maersk.	Multiple executive roles at Utfors, Telenor, and British Telecom Nordics, among others.	Multiple executive roles at Goldman Sachs.	Former CEO of Ratos.
Elected	2022	2016	2019	2018
Board meetings	2/7 (in the capacity of observer, board member from 23 December)	7/7	7/7	7/7
Audit, Risk & Liquidity Committee	-	14/17	-	17/17 (Chair of the Committee)
People Committee	-	6/7	-	7/7 (Chair of the Committee)




	Barbara Frei-Spreiter (Board member)	**Tom Johnstone** (Board member)	**Jürgen Rittersberger** (Board member)	**Peter Carlsson** (Board member)
Born	1970	1955	1972	1970
Education	Master of Mechanical Engineering, Federal Institute of Technology, Zurich, Switzerland. Dr. sc. techn. (Doctoral Degree), Federal Institute of Technology, Zurich, Switzerland. MBA, International Institute for Management Development, Lausanne, Switzerland.	MA University of Glasgow, Scotland. Honorary Doctorate, Business Administration, University of South Carolina, USA. Honorary Doctorate, Science, Cranfield University, UK.	Degree in business information systems, University of Mannheim, Germany.	BSc Business Administration, Luleå University of Technology, Sweden.
Other relevant assignments	Executive Vice President Industrial Automation and Member of the Executive Committee at Schneider Electric. Board member of Swisscom.	Chair of Collegial, Combient, Husqvarna.	Member of the Board of Management of AUDI.	Board member of Gränges, Orbital Systems and Q Group.
Previous positions	Multiple executive roles at ABB.	Multiple executive roles at SKF Group including President and CEO of AB SKF.	Multiple executive roles at the Volkswagen Group, including Executive Vice President of Porsche and Executive Vice President of Volkswagen.	Vice President Supply Chain and Chief Procurement Officer at Tesla Motors. Senior Vice President and Chief Procurement Officer at NXP Semiconductors. Head of Sourcing at Sony Ericsson.
Elected	2022	2018	2021	2016
Board meetings	0/7 (Board member from 23 December 2022)	6/7	5/7	7/7
Audit, Risk & Liquidity Committee	-	-	-	10/17 (in the capacity of CEO)
People Committee	-	-	-	4/7 (in the capacity of CEO)

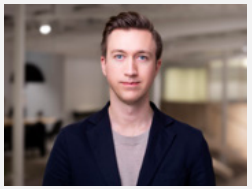
Paolo Cerruti, Co-Founder stepped down from the Board on 30 September 2022. **Sébastien Gagnon,** Director stepped down from the Board on 23 December 2022.

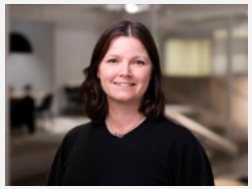
Executive Management team




	Peter Carlsson	Paolo Cerruti	Emma Nehrenheim	Sami Haikala	Alexander Hartman	Daniela Maniaci	Fredrik Hedlund
Born	1970	1970	1979	1979	1980	1981	1974
Title	Chief Executive Officer, Co-Founder	Chief Operating Officer, Co-Founder	Chief Environmental Officer Head of Business Unit Revolt	Chief Development Officer	Chief Financial Officer	Chief People Officer	Vice President Cell Operations
Education	BSc Business Administration, Luleå University of Technology, Sweden.	MSc Aerospace Engineering, Politecnico di Torino, Italy. MSc General Engineering & Science, CenraleSupélec, France.	PhD Energy and Environmental Engineering, Mälardalen University, Sweden. Licentiate of Technology in Energy and Environmental Engineering, Mälardalen University, Sweden. MSc Environmental Engineering, Mälardalen University, Sweden.	MSc Engineering, University of Turku, Finland.	MSc Corporate Finance, Stockholm School of Economics, Sweden. BBA Corporate Finance, University of Mississippi, United States.	MSc East Asian Languages and Culture, Ca Foscari, Venice, Italy.	MBA, Halmstad University, Halland, Sweden.
Background	VP Supply Chain at Tesla Motors, SVP & CPO at NXP Semiconductors, Head of Sourcing at Sony Ericsson.	VP Global Supply Chain & Operations Planning, Tesla Motors; Director of Global Purchasing (Powertrain) Renault Nissan.	ABB, Global Product Line Manager. Mälardalen University, Professor Environmental Engineering and Senior lecturer.	Senior Manager within Electronics and Batteries at BAT and Foxconn.	Investment professional at Altor Equity Partners. Goldman Sachs, Investment Banking Division.	Director of Talent Acquisition and Employer Branding at Northvolt, Exec. recruitment at Michael Page APAC, HR at manufacturing firm in China.	CEO Sigma Connectivity AB, VP Corporate Strategy Sony.
Member since	2016	2016	2017	2022	2016	2023	2017



	Christofer Haux	Patrik Andreasson	Barbara Thierart	Maria Åstrand	Anders Thor	Cecilia Swolin
Born	1974	1987	1977	1972	1989	1978
Title	Vice President Automotive & Foundry CEO of Northvolt Germany	Vice President Strategy	President Battery Systems	Vice President Active Material	Vice President Communications & Public Affairs	General Counsel
Education	MSc Engineering, Chalmers University of Technology, Gothenburg, Sweden.	BSc Economics, University of Gothenburg, Sweden.	MSc Mechanical engineering, École des Hautes Études d'Ingénieur, Lille, France. Commercial business and international marketing at Saginaw Valley State University, United States.	MSc Materials Science, KTH Royal Technical Institute, Stockholm, Sweden. PhD Material Science, Uppsala University, Sweden.	BSc Political science, Uppsala University, Sweden. Political science and International economy, University of Toronto, Canada.	Master of Laws, University of Gothenburg, Sweden.
Background	Atlas Copco Group, various management postions, Managing Director Atlas Copco Desoutter Germany, CEO NCS AB	Principal at Boston Consulting Group; Associate Product Marketing Manager at Google	Nissan and Renault, various positions, including VP Product & Programs at Nissan.	Sandvik Coromant Manager R&D, Sandvik Coromant Production manager, MD Swerea KiMAB.	Political Adviser at Swedish Prime Minister's Office. Partner at Gullers Grupp.	Elekta, various positions including Head of Legal and Deputy General Counsel.
Member since	2019	2021	2023	2021	2023	2023

Risk management

The purpose of our risk management is to find proactive and preventative measures to balance risks and opportunities in line with our company risk appetite.

Our operations are exposed to internal and external risks, or uncertainty factors, that could impact our ability to achieve our objectives for sustainable growth and develop the company. A comprehensive approach to risk management has therefore been established. We define a risk as an uncertainty factor that may affect the company's ability to achieve our objectives.

Holistic and integrated risk perspective

We apply a holistic risk management perspective, conducting both top-down and bottom-up risk management inspired by the COSO Enterprise Risk Management framework and ISO 31000 Risk Management standard. In a structured manner, we work to identify, analyze, assess, and manage relevant and significant risks that business operations encounter. The annual risk management cycle is integrated and connected to the company's objectives and budget process.

Risk Governance

Northvolt's Board is accountable for overseeing risk management and ensuring responsible and adequate risk management throughout the entire organization.

Northvolt's Audit, Risk & Liquidity (ARL) Committee reviews the company's principles of risk assessment and follows up and reports on how the Executive Management team governs risk management.

The Executive Management team is ultimately responsible for risk management and for the implementation of the enterprise risk management program. Every Business Unit and Function is responsible for managing risk in their respective business operations and area of responsibility according to the risk management framework.

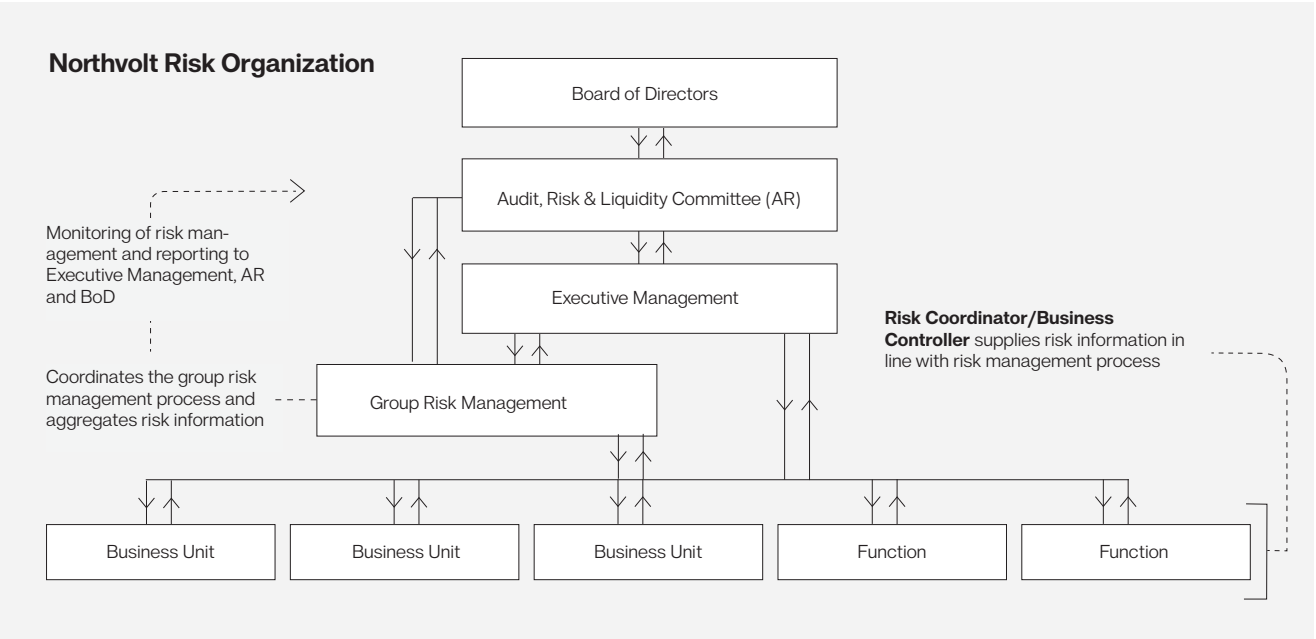
Northvolt's Group Risk Management team are responsible for maintaining a common risk management framework. The team also provides support and acts as a sounding board for risk assessments of the organization.

Top-down approach

The top-down risk management is performed yearly in collaboration and discussion with the Executive Management team. We also conduct joint workshops where the Executive Management team analyzes and assesses risks.

A key outcome of this process is the collection of a comprehensive list of the most significant risks faced by the company. In addition to this, as part of our yearly budget and forecast process the Executive

Risk management life cycle



Management team review identified risks on both a scheduled and event-driven basis and determine the need for any compensatory actions or business decisions which should be taken.

Bottom-up approach

The bottom-up risk management is performed on an ongoing basis by each Business Unit and Function in order to identify, assess, analyze, mitigate and manage risks connected to the effect of uncertainty of objectives using a risk register. Business Units and Functions retain ownership of their risks and report on a both scheduled and event-driven basis.

Risk Culture

We aim to build a company culture that is inherently resilient to risk. We believe that a key to achieving this is to empower our employees with an understanding of the role they play in risk management. To facilitate this, we are developing platforms to improve risk awareness and deliver training to our employees on risk assessments and mitigations relevant to their work areas.

Risks and uncertainties

Selected top risks and uncertainties presented in the following matrices are a summary of prioritized risks during 2022. Each risk is described and examples of risk response actions are highlighted. It is not an exhaustive list of risks nor a full description of each risk. Key risk or any other risk factors discussed elsewhere in the report could have a material adverse effect on Northvolt's business, strategy, reputation and financial metrics and performance.

The management of strategic, operational, financial and compliance risks is essential for Northvolt's operations, and an effective risk management is a necessity for a stable and profitable future.

Risks are classified into four areas: strategic, operational, financial and compliance. We use a risk universe to ensure these risks are captured in a consistent way.

- ✓ **STRATEGIC RISKS** Strategic risks are considered to be risks relating to changes in the business environment with potentially significant effects on our ability to achieve the high-level goals that are aligned with our mission and long-term objectives.
- ✓ **OPERATIONAL RISKS** Operational risks are considered to be risks directly impacting business operations, including effectiveness, efficiency and resource use, which could impact company operations.
- ✓ **FINANCIAL RISK** Financial risks are considered to be risks directly impacting the financial result and the reliability of internal and external reporting of financial information.
- ✓ **COMPLIANCE RISK** Compliance risks are considered to be risks relating to conforming with laws, regulations and our internal compliance, including non-compliance with commercial and financing agreements with customers, suppliers, lenders and other counterparties and also by license, patents and other intangible property rights.

Risk matrix

AREA	KEY RISK	DESCRIPTION OF KEY RISK	EXAMPLE OF RISK RESPONSE
Strategic	**Macroeconomic developments and geopolitical tension**	Political volatility, armed conflicts and geopolitical tensions have increased in the last year. These increased uncertainties may result in sanctions, inflation, supply chain rerouting as well as increased raw material component and freight prices. Increasing energy prices and risk of power outages is also a general concern.	• Further diversifying our supplier base with long-term contracts. • Continuously monitoring our geopolitical developments and take appropriate actions with suppliers and other stakeholders to reduce potential impacts. • Strong monitoring with indicators to steer balance sheet as well as liquidity reserves. • Close monitoring of the energy situation at our operating and prospective locations. • Maintaining and establishing long-term electricity contracts and power purchase agreements.
Strategic	**Competition and product development**	Northvolt encounters competition from existing competitors, existing competitors entering the European market and new market entrants. To achieve a certain volume of battery manufacturing capacity and become a competitive player in the industry, we must successfully execute on our current projects, scale up and expand our company according to plan. There is currently high focus in the battery industry on developing and improving existing battery cells. We strive to be at the forefront of technology and deliver the next generation of products in line with demand and regulations to competitive prices. Not doing so could have an adverse effect on the business, operating profit and market share.	• Focusing on business development and continued investment in research and development through Northvolt Labs, in Västerås. • Collaborating closely with customers, that are in several instances investors, ensuring alignment on incentives in developing the next generation of products.. • Cooperating with academic institutions on a global scale and keeping up to date with research and scientific findings. • Reinforcing the standardization of project plans and factory layout and reaching a proof of concept on current factories and blueprint.
Strategic	**Joint Ventures**	Northvolt is engaged in several joint ventures, partnerships and other forms of co-operation to secure market shares, supply and product development. These partnerships could potentially turn out to be non-successful and not deliver expected benefits. There is also a risk of missing opportunities to secure strategic alliances.	• Engaging in transparent dialog with partners and mutual understanding with focus on problem solving in a mutually beneficial way. • Ensuring that clear governance and contracting is in place with partners from the outset of our partnership. • Continuously monitoring partnership opportunities.
Operational	**Production risks and business interruption**	Executing launch and production according to our business plan and reaching overall equipment effectiveness in terms of availability, performance, expected yield and quality is important for our ability to sustainably produce battery cells and meet customer delivery timelines. Our strategy of vertical integration stipulates a certain degree of internal dependencies. This business model is reliant upon successful component and product deliveries between sites. A high level of internal dependencies could impact production and customer delivery timelines if equipment effectiveness is not reached, production and execution launch is delayed as well as any disruptions to manufacturing due to a various of internal and external reasons.	• Further standardizing equipment, operating procedures and cross-functional process improvements as well as taking an iterative approach to projects through key learnings. • Maintaining strong business control and inventory management, while nurturing internal collaboration. • Cooperating closely with equipment suppliers during commissioning and ramp-up. As well as good contracts and collaboration with customers. • Strengthening Sales Inventory and Operations Planning (SIOP) processes.

AREA	KEY RISK	DESCRIPTION OF KEY RISK	EXAMPLE OF RISK RESPONSE
Operational	**Supply chain and sourcing**	The sourcing and supply of raw materials is currently highly dependent on countries outside of the European Union. Regulatory changes, restrictions on imports, disruption due to extreme weather events, as well as increasing protectionism could lead to lack of availability of supply. Holding increased stock levels to secure business continuity will also result in increased working capital requirements. If suppliers do not adhere to environmental, health & safety laws or ESG standards, it could lead to reputational impact, claims for compensation and a potential need to discontinue commercial relationships. These aspects could potentially lead to production interruptions, lower output and delays which may result in a negative financial impact and have a negative effect for our customers.	• Further diversifying our supplier base with long-term contracts. • Working to continuously strengthen relationships with suppliers. Auditing of raw material down to mine level and requiring adherence to Northvolt supplier code of conduct. • Accelerating technical developments in Europe through joint development activities with potential local European companies. • Engaging with logistics service providers and carriers to ensure capacity and equipment availability. • Further increasing our focus on planning and forecasting as well as undertaking business continuity measures to enable agile response to potential disruptive events.
Operational	**Recruitment and Upskilling**	Our ability to maintain and grow according to our business plan and to produce high-quality products is dependent upon the contributions of qualified employees as well as our efforts in upskilling our existing workforce. To execute on our business objectives, we must prioritize upskilling and developing employees as well as attracting competent talent. Should we be unable to recruit sufficient competent staff and develop our existing internal development pathways, we may face difficulties in achieving our objectives.	• Consistently developing and improving our recruitment and retention strategy through a strong internal talent and acquisition team. • Attracting talent from a wider geographical area, with a market competitive compensation package. • Having a centralized steering and training strategy to ensure a holistic approach across sites as well as an efficient way of working and sharing resources and program elements. • Enacting specific internal training programs to enable knowledge transfer and support professional development of employees to encourage employee retention.
Operational	**People and Safety**	Our employees are our most valuable asset. We take a holistic approach to our work environment, in everything from physical, physiological and social conditions which are of importance and considered in everything we do. Some of our sites are currently under construction, which carry additional sets of risks to employees and contractors in terms of potential injuries. We evaluate and strengthen our safety work in this area on a consistent basis and have designated health and safety teams on each site.	• Having a strong Code of Conduct policy in place and ensuring stakeholder adherence. • Ensuring that we maintain a strong safety culture and working methods including safety training and our chemical handling process. • Operating safety training during onboarding and regular refresher trainings. • Maintaining good control of incident reporting and continuously work with a proactive approach towards corrective and preventive actions
Operational	**Customer uncertainties**	Customers may face changes to their battery cell needs and purchase dates which may impact our business operations and timelines. Potential delays in ramp-up of production may also result in customer uncertainty. A change in customer battery cell demand and/or timelines could impact our financial and operational business plan.	• Working closely with our customers to increase mutual understanding and prepare in case of potential delays or changes in demand. • Rebalancing volumes to accommodate for any potential delay. • Broadening customer base and product platform to be able to offer available volumes. • Maintaining strong contractual obligations in customer supply contracts.

AREA	KEY RISK	DESCRIPTION OF KEY RISK	EXAMPLE OF RISK RESPONSE
Operational	**Information management and cybersecurity related risks**	Northvolt has high value assets, both material and immaterial. Our vigilance towards cybersecurity risks are of increased importance as cyberattacks become more sophisticated. Lost or damaged assets could result in financial loss and potentially impact the company and relevant stakeholders. An inability to reach data or information in the event of a cyberattack could impact our ability to produce or deliver products on time for customers.	• Maintaining strong defensive capabilities and ability to detect and prevent cyber risks. • Enhancing the content and delivery of relevant trainings and updates on security awareness. • Retaining preventative measures and efficient continuity planning, incident management and crisis management are continuously improved. • Working with standardized frameworks and external auditors to verify security certifications, i.e., TISAX (Trusted Information Security Assessment eXchange) certified in 2022.
Compliance	**Adherence to financing commitments**	To facilitate the financing of our operations, it is of utmost importance that we manage and fulfil compliance obligations and commitments in accordance with our financing agreements. Consequences of not adhering to obligations and commitments may affect Northvolt's reputation and could also lead to renegotiations and changes in terms with lenders.	• Maintaining good governance and control to monitor performance and contractual arrangements on a regular basis, including quick feedback processes and mitigation plans when necessary. • Undertaking proactive relations with strategic partners with an active interest in the success of the business and with long-term investment strategies focused on the European energy transition.
Compliance	**Human rights**	We work with human rights risks throughout the value chain to avoid causing and contributing to adverse human rights impacts. Through strong awareness of certain geographic areas and how they constitute higher exposure for human rights violations, we conduct preventive measures for counteract liability and claims for compensation and reputational impact.	• Ensuring compliance with laws and international standards on human rights. • Conducting human rights due diligence. • Operating a supply chain management system in line with best practices. • Embedding human rights into applicable processes through Our Code of Conduct and our Supplier Code of Conduct.
Compliance	**Non-compliance**	We adhere to compliance and business ethics by working in a systematic and transparent way to prevent violations of anti-bribery, antitrust laws, trade sanctions and other laws. As part of our commitment to the highest standards for ethical conduct, social and environmental responsibility and human rights, our Code of Conduct and Supplier Code of Conduct highlight what we stand for and give a clear direction for how we operate throughout the value chain and how we expect our employees and stakeholders to act. Should we be found in non-compliance, we may experience potentially severe impacts such as fines, criminal charges, fines, brand damage, debarment and loss of trust from investors, customers and employees.	• Running mandatory Code of Conduct training. • Strengthening effective Whistleblowing and Compliance reporting. • Further enhancing strong internal controls. • Designing policies and processes to communicate and enable compliant decision making. • Monitoring, testing and assessing effectiveness of internal controls, policies and processes.

AREA	KEY RISK	DESCRIPTION OF KEY RISK	EXAMPLE OF RISK RESPONSE
Compliance	**Product compliance**	There is growing complexity of regional laws and regulations as well as an increased number of product withdrawals and litigations seen globally. Product quality and safety are cornerstones of our approach to sustainable production. In addition to potential harm to third parties, such as consumers of electric vehicles, product safety issues and non-compliant products involve a risk of compensational claims costs, withdrawal of customer products and legal expenses as well as potential damage to reputation.	• Enabling the creation of robust cells and cell production processes and mitigating the risk of deficient cells entering the market through various risk-assessments, testing and validation, quality control, and assurance. • Maintaining and further strengthening our Global Market Access (GMA) measures. • Maintaining contractual risk management with an adequate and strong negotiating position.
Financial	**Financing and refinancing**	Risk of reduced access to capital markets driven by capital market volatility which could potentially impact future fundraisings and slow down Northvolt expansion projects. Rigid capital structures risks create less flexibility to maneuver in the future.	• Securing strong operational execution, good business and project control and monitoring of execution. • Managing relationships with current stakeholders and lenders as well as further build on relationships with potential new investors. Including educating these partners to understand the business and potential risks in a proactive way. • Maintain a strong treasury & financial risk policy and work with risk mitigating tools as hedging for foreign exchange and interest rates.
Financial	**Overrun of plan given multiple expansion projects**	Not meeting timeline or budget for our expansion projects may have a negative impact on our business operations and costs. Delays could put customer commitments and contracts at risk which could result in changed conditions for finance agreements and increased costs.	• Providing frequent cash and liability oriented reporting. Plan and execute projects using reasonable toll-gates • Using adequate buffers in group level capital planning, ensuring ability to absorb set-back on individual projects • Applying sufficient forward-looking horizon in capital planning and consider down-side-scenarios, safeguarding short term maneuver.

Reference to other key financial risks

The financial risks outlined in this Risk Matrix only focus on selected financial risks of the group. The company conducts extensive risk management on an ongoing basis within several areas. Financial risks constitute a major risk area, which are highly regulated with regard to transparency of reporting. A sensitivity analysis of selected financial risks and further details can be found in Note 3 – Financial risks management.

Sustainability risks

Below represent a list of selected prioritized sustainability risks and uncertaintiesare. Each risk is described, and examples of risk response actions are highlighted. It is not an exhaustive list of sustainability risks nor a full description of each risk.

KEY RISK	DESCRIPTION OF KEY RISK	EXAMPLE OF RISK RESPONSE
Significant ESG incident at supplier	The upstream battery value chain holds high environmental and social risks for some materials (e.g. battery raw materials), components and geographies. Consequences could be reputational, legal or need to discontinue commercial relationship.	• Supply chain management system in line with best practices. • Comprehensive risk classification, due diligence and monitoring guidelines. • Requiring and monitoring adherence to Northvolt's Supplier Code of Conduct. • Active engagement with suppliers to drive positive change. • Supporting supplier establishments in lower risk geographies.
High climate impact of suppliers or of own operations	Battery manufacturing is an energy intensive industry. Some of our materials and components hold high embodied emissions and are transported over long logistics routes. This could lead to high carbon footprint of Northvolt's products and activities undermining the company's mission.	• Established product carbon reduction roadmap to achieve 2030 target. • Strategic engagement with our suppliers to reduce carbon footprint of operations. • Commitment to achieving 100% fossil-free energy in our production. • Energy management system in line with ISO 50001.
Significant environmental incident	Significant incidents at our production sites could affect our ability to protect the environment and our employees and live up to the requirements of our environmental permits. Consequences could be needs of large corrective investments, loss of permits/suspension of operations, fines and reputational impact.	• Environmental management system in line with ISO 14001. • Identification of sources of environmental impacts and definition and monitoring of clear KPIs to identify deviations of the environmental aspects. • Processes to notify for deviations and action plan for potential nonconformities. • Providing awareness and training.
Failure to comply with new sustainability related requirements	Rapidly changing market regulations and high expectations on the sustainability performance of our company. Risk of costs incurred to achieve compliance in short period of time; fines or reputational impact if non-compliant.	• Internal and external collaborations to ensure updates on latest regulatory requirements and market developments. • Strong focus on internal sustainability competency development. • Engagement in industry forums.

Materiality topics

Our most material topics are issues which substantively:

- ✓ Reflect our significant economic, environmental and social impacts
- ✓ Influence our ability to create lasting value, build trust and reduce risks
- ✓ Influence stakeholders' perception of our performance and ability to deliver value for them

Our stakeholder survey

- ✓ 20 topics covered
- ✓ 20 stakeholders contacted
- ✓ Respondents included representatives from customers, investors, NGOs, academia, authorities and labor unions
- ✓ Results scored and weighted to allow for comparability

Materiality assessment and stakeholders

Materiality is the point at which a sustainability topic becomes relevant to our ability to create value.

We performed our first structured materiality assessment in 2021 to gain a holistic view of the relative significance of our impacts and associated risks and opportunities. The results of this assessment have informed our strategy development and target setting as well as our reporting focus areas.

We maintain an up-to-date understanding of our material topics through engagement and dialogue with internal and external stakeholders, as well as by monitoring our business, industry peers and the relevant trends and drivers. Based on these insights, we compiled a list of 20 focus topics covering environmental, social and governance matters which we asked a core group of stakeholders to consider in an online survey.* Participating stakeholders included representatives from our customer and investor base, non-governmental organizations, academic institutions, authorities and unions.

Our material topics are subject to periodic review and validation by our internal experts and Executive Management team. We aim to develop future iterations of the materiality assessment to include additional stakeholders in the dialogue.

Our stakeholders

An ongoing dialogue with stakeholders helps us define and deliver on our promises and keep ahead of global developments.

Our stakeholders play many roles within and beyond the complex ecosystem of the battery industry. Listening to and acting on the views and expectations of our stakeholders is crucial to our operations and long-term commitments. Genuine collaboration requires us to listen, to challenge and be challenged, and to openly share experiences. As part of our regular operations, we gather feedback from our stakeholders in a variety of ways – from project meetings, R&D meetings, supplier dialogues and engagement with civil society.

*Some topics have been grouped together for conciseness.

Our **Performance**

Taxonomy report

The EU Taxonomy is a classification system establishing a list of environmentally sustainable economic activities with the aim of scaling up sustainable investments. The first Delegated Act of the Taxonomy – the Climate Delegated Act – came into effect in January 2022 and defines criteria related to two of the six environmental objectives: Climate Change Mitigation and Climate Change Adaptation.

This is our first EU taxonomy report, prepared and published on a voluntary basis. To align with the Taxonomy, eligible economic activities must make a substantial contribution to at least one of the objectives, as defined in the Substantial Contribution (SC) criteria. In addition, the activity must comply with the criteria for not harming any of the other environmental objectives (the Do No Significant Harm criteria, DNSH) and comply with the Minimum Safeguards (MS).

Eligibility analysis: Manufacture of batteries

The first part of a taxonomy assessment is to identify eligible activities, where eligible activities are those currently covered by the Delegated Acts. Our business is located within Chapter 3, Manufacturing in Annex I.[1] Northvolt's core business and main turnover, capital expenditure and operating expenses are located under 3.4 Manufacture of batteries in Annex I.

Principles for reporting

As a key principle, Northvolt has assumed that all of our revenue, investments, and operating expenses relate to one economic activity – the manufacturing of batteries. The accounting principles underlying the key metrics presented follow the principles that apply for the company's consolidated financial statements and can be referred to in the financial part of this report.

1 Commission Delegated Regulation (EU) 2021/2139 of 4 June 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives , L 442/1, Official Journal of the European Union, 2021 EUR-Lex - 32021R2139 - EN - EUR-Lex (europa.eu)

Scope of financials

Northvolt's assessment is that the entire group contributes to one single activity that is Taxonomy eligible – the manufacturing of batteries (3.4). All subsidiaries and overhead efforts go towards making a vertically integrated cycle of battery manufacturing possible. The three taxonomy KPIs are therefore presented based on this assessment, i.e., all costs, irrespective of how they are accounted for (expensed or capitalized) or the part of the business they relate to (e.g., manufacturing, R&D, or support functions), are accounted for as part of the same activity. This means that operations taking part at the Headquarter are also included in the aligned portion calculation. There is only one exception to this rule, that despite supporting the same activity, we have assessed as not aligned. This exception is our fully-owned subsidiary in California, USA, that was acquired in 2021. Due to the entity being located in a different regulatory landscape, as well as the recency of the acquisition, we cannot assess that Cuberg activities are fully aligned with the EU Taxonomy in the same manner as our European subsidiaries. This assessment process is ongoing.

Northvolt uses the equity method to consolidate the financials of its joint ventures. Therefore, on a line-by-line basis, the JVs are not included in key items such as Revenue, OpEx and CapEx, that are used to calculate the financial EU Taxonomy KPIs. Instead, the results of the Joint Ventures are presented on a net basis in the financial statements.

				Substantial contribution criteria						DNSH criteria (Do Not Significant Harm)									
Economic activities	Code(s)	Absolute turnover	Proportion of turnover	Climate change mitigation	Climate change adaptation	Water and marine resources	Circular economy	Pollution	Biodiversity and ecosystems	Climate change mitigation	Climate change adaptation	Water and marine resources	Circular economy	Pollution	Biodiversity and ecosystems	Minimum safeguards	Taxonomy-aligned proportion of turnover, year 2022	Taxonomy-aligned proportion of turnover, year 2021	Category (enabling activity or transitional)
		Currency (SEK)	%	%	%	%	%	%	%	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%	%	E/T
A TAXONOMY-ELIGIBLE ACTIVITIES																			
A.1. Environmentally sustainable activities (Taxonomy-aligned)																			
3.4 Manufacture of batteries	3,4	1,071,649,296	98,9%	100%	0%	0%	0%	0%	0%	Y	Y	Y	Y	Y	Y	Y	98,9%		
Turnover of environmentally sustainable activities (Taxonomy-aligned) (A.1)		**1,071,649,296**	**98,9%**	**100%**	**0%**	**0%**	**0%**	**0%**	**0%**								**98,9%**		
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																			
3.4 Manufacture of batteries	3,4	11,622,704	1,1%	100%	0%	0%	0%	0%	0%	N	N	N	N	N	N	N	1,1%		
Turnover of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		**11,622,704**	**1,1%**	**100%**	**0%**	**0%**	**0%**	**0%**	**0%**								**1,1%**		
Total (A.1 + A.2)		**1,083,272,000**	**100%**														**100%**		
B TAXONOMY-NON-ELIGIBLE ACTIVITIES																			
Turnover of Taxonomy-non-eligible activities (B)			0%																
Total (A + B)		**1,083,272,000**	**100%**																

Turnover consists of revenue from contracts with customers in the financial year 2022 which in turn consists of project sales, product sales and other revenue such as service and aftermarket products. The total turnover is consistent with the figures presented in the Group's consolidated statement of profit or loss, derived according to IFRS guidelines. A breakdown of revenue is available in Note 4 of this report. The share that is both eligible and aligned with the Taxonomy covers 98,9% of the total turnover as it is derived in totality from the manufacturing of batteries.

				Substantial contribution criteria						DNSH criteria (Do Not Significant Harm)									
Economic activities	Code(s)	Absolute CapEx	Proportion of CapEx	Climate change mitigation	Climate change adaptation	Water and marine resources	Circular economy	Pollution	Biodiversity and ecosystems	Climate change mitigation	Climate change adaptation	Water and marine resources	Circular economy	Pollution	Biodiversity and ecosystems	Minimum safeguards	Taxonomy-aligned proportion of CapEx, year 2022	Taxonomy-aligned proportion of CapEx, year 2021	Category (enabling activity or transitional)
		Currency (SEK)	%	%	%	%	%	%	%	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%	%	E/T
A TAXONOMY-ELIGIBLE ACTIVITIES																			
A.1. Environmentally sustainable activities (Taxonomy-aligned)																			
3.4 Manufacture of batteries	3,4	14,816,259,554	99,2%	100%	0%	0%	0%	0%	0%	Y	Y	Y	Y	Y	Y	Y	99,2%		
CapEx of environmentally sustainable activities (Taxonomy-aligned) (A.1)		**14,816,259,554**	**99,2%**	**100%**	**0%**	**0%**	**0%**	**0%**	**0%**								**99,2%**		
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																			
3.4 Manufacture of batteries	3,4	117,325,446	0,8%	100%	0%	0%	0%	0%	0%	N	N	N	N	N	N	N	0,8%		
CapEx of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		**117,325,446**	**0,8%**	**100%**	**0%**	**0%**	**0%**	**0%**	**0%**								**0,8%**		
Total (A.1 + A.2)		**14,933,585,000**	**100%**														**100%**		
B TAXONOMY-NON-ELIGIBLE ACTIVITIES																			
CapEx of Taxonomy-non-eligible activities (B)			0%																
Total (A + B)		**14,933,585,000**	**100%**																

Capital expenditures consist of additions to tangible and intangible assets during the financial year 2022, including the expenditures resulting from business combinations or divestments, excluding translation differences for the year. The metric is calculated before any depreciation, amortization, or other fair value changes and includes leases which lead to the recognition of a right-of-use assets. The total capital expenditure is consistent with the figures presented in the Group's consolidated balance sheet, derived according to IFRS guidelines. Tangible assets expenditures include mainly Construction in progress, intangible assets expenditures consist of capitalized R&D expenditure and right-of-use assets expenditures comprise mainly the leasing of land and buildings. Refer to notes 10, 11 and 12 for a breakdown of tangible, intangible, and right-of-use assets respectively. The share that is both eligible and aligned with the Taxonomy covers 99,2% of the total capital expenditure as it relates in totality to enabling the manufacturing of batteries.

				Substantial contribution criteria						DNSH criteria (Do Not Significant Harm)									
Economic activities	Code(s)	Absolute OpEx	Proportion of OpEx	Climate change mitigation	Climate change adaptation	Water and marine resources	Circular economy	Pollution	Biodiversity and ecosystems	Climate change mitigation	Climate change adaptation	Water and marine resources	Circular economy	Pollution	Biodiversity and ecosystems	Minimum safeguards	Taxonomy-aligned proportion of OpEx, year 2022	Taxonomy-aligned proportion of OpEx, year 2021	Category (enabling activity or transitional)
		Currency (SEK)	%	%	%	%	%	%	%	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%	%	E/T
A TAXONOMY-ELIGIBLE ACTIVITIES																			
A.1. Environmentally sustainable activities (Taxonomy-aligned)																			
3.4 Manufacture of batteries	3,4	1,366,546,333	88,3%	100%	0%	0%	0%	0%	0%	Y	Y	Y	Y	Y	Y	Y	88,3%		
OpEx of environmentally sustainable activities (Taxonomy-aligned) (A.1)		**1,366,546,333**	**88,3%**	**100%**	**0%**	**0%**	**0%**	**0%**	**0%**								**88,3%**		
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																			
3.4 Manufacture of batteries	3,4	180,624,879	11,7%	100%	0%	0%	0%	0%	0%	N	N	N	N	N	N	N	11,7%		
OpEx of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		**180,624,879**	**11.7%**	**100%**	**0%**	**0%**	**0%**	**0%**	**0%**								**11,7%**		
Total (A.1 + A.2)		**1,547,171,211**	**100%**														**100%**		
B TAXONOMY-NON-ELIGIBLE ACTIVITIES																			
OpEx of Taxonomy-non-eligible activities (B)			0%																
Total (A + B)		**1,547,171,211**	**100%**																

Operating expenses consist mainly of non-capitalized research and development expenses, maintenance, and repair costs necessary to ensure the continued and effective functioning of property, plant and equipment, as well as short-term leases and associated lease costs, such as heating and electricity that are part of the tenant contract. The expenses included in the calculation of the denominator do not include cost for raw materials or labour expenses incurred in the running of our property, plant, and equipment. As internal processes are enhanced and further guidance and advice on interpretation of the regulation is provided, the total relevant operating expenses as well as share of Taxonomy eligible operational expenses may be adjusted. The total operating expense calculated is consistent with the figures presented in the Group's consolidated statement of profit or loss, derived according to IFRS guidelines. Refer to Note 10 for details on non-capitalized R&D expenses. Expensed lease costs, maintenance and repair costs are not presented on a standalone basis in this report; however, the metrics have been derived in a manner consistent with the consolidated financial statements. The share that is both eligible and aligned with the Taxonomy covers 88,3 % of the total operating expenses as it excludes R&D expenses incurred in Cuberg.

Alignment with the technical screening criteria and compliance with minimum safeguards

Northvolt has assessed its eligible business activities in accordance with the technical screening criteria in the EU taxonomy including compliance with the Minimum Safeguards.

The assessment determines that Northvolt Ett, Northvolt Labs, Northvolt Poland, and Northvolt Stockholm fulfil the substantial contribution criteria of aligned activity 3.4 Manufacture of batteries and completely fulfil the criteria for the environmental objectives (DNSH): Climate change adaptation, Sustainable use and protection of water and marine resources; Transition to a circular economy; Pollution prevention and control; and Protection and restoration of biodiversity and ecosystems. Northvolt assessment determines compliance with minimum safeguards.

Table of alignment of the technical screening criteria for the environmental objectives and minimum safeguards

		Northvolt Ett	Northvolt Labs	Northvolt Poland*	Northvolt Stockholm**
Significant contribution	Climate change mitigation	✓	✓	✓	✓
Do no significant harm	Climate change adaptation	✓	✓	✓	✓
	Water and marine resources	✓	✓	✓	N/A
	Circular economy	✓	✓	✓	✓
	Pollution prevention and control	✓	✓	✓	✓
	Biodiversity and ecosystems	✓	✓	✓	N/A
Minimum safeguards		Compliance with minimum safeguards			

Substantial Contribution alignment

TAXONOMY OBJECTIVES	ELIGIBILITY CRITERIA	STATEMENT OF ALIGNMENT WITH THE TAXONOMY'S CRITERIA FOR SUBSTANTIAL CONTRIBUTION TO CLIMATE CHANGE MITIGATION	EXAMPLE OF EVIDENCE FOR ALIGNMENT
Climate change mitigation	The economic activity manufactures rechargeable batteries, battery packs, and accumulators (and their respective components), including from secondary raw materials that result in substantial GHG emission reductions in transport, stationary and off-grid energy storage, and other industrial applications. The economic activity recycles end-of-life batteries.	Northvolt manufactures battery cells and battery systems that aim to both have the lowest possible carbon footprint and serve as an enabling technology for GHG emission reductions in other sectors. The majority of our batteries are delivered to the automotive industry for integration into electric vehicles (EVs), but we also deliver to clients in the energy and industrial sectors. Northvolt also recycles end-of-life batteries through Revolt. Revolt started as an in-house program for recycling and developed into a pilot recycling plant at Northvolt Labs dedicated for developing and refining the recycling process. We are now establishing industrial-scale recycling capacities in parallel to our battery manufacturing capacity – Hydrovolt in Norway and Revolt Ett recycling plant alongside Northvolt Ett gigafactory in Sweden. Fully built, Revolt Ett will recycle some 125,000 tonnes of battery materials per year, including production scrap from its neighboring facility. The facility is by far the largest recycling plant of its type in Europe, recovering metals such as nickel, cobalt, manganese and lithium, and will ultimately be able to provide Northvolt Ett with 50% of its raw materials for cathode production.	LCA analyzis and results Revolt

*Includes Northolt Dwa Industrial and Northvolt Dwa ESS
**Includes Northvolt headoffice and R&D in Tomteboda

Do No Significant Harm alignment

DNSH	ELIGIBILITY CRITERIA	HOW NORTHVOLT ALIGNS WITH THE CRITERIA	EXAMPLE OF EVIDENCE OF ALIGNMENT
Climate change adaptation	The physical climate risks that are material to the activity have been identified by performing a robust climate risk and vulnerability assessment, following the steps described in Appendix A of the EU Taxonomy Annex 1 of the Delegated Act for Climate Change Mitigation. Robust climate risk and vulnerability assessment according to Appendix A: • Screening of the activity to identify relevant physical climate risks • Risk and vulnerability assessment for identified relevant climate risks • Assessment of adaptation solutions to reduce the risks and a plan for implementing them	The purpose of Northvolt's risk management is to find proactive and preventive measures to balance risks and opportunities in line with our company risk appetite. Understanding both our impact on climate and how a changing climate can affect our operations is an integrated part of our risk management. To support our processes and align with the technical screening criteria's set out in the Appendix A of the EU Taxonomy Delegated Act for climate change mitigation, we have created and implemented procedures, work instructions and risk assessment tools to identify, assess and mitigate climate-related risks. All our existing sites under the taxonomy report have been screened for climate-related risks and opportunities and future sites will be screened according to the procedures. Under 2022 we have performed a robust climate risk and vulnerability assessment and developed plans in line with Appendix A of the EU Taxonomy Annex 1 of the Delegated Act for climate change mitigation. The assessment has followed the steps outlined in Appendix A: • Step a) consists of a screening of potential climate risks, defined as "hazards" in Section II of Appendix A, an asset could face for all sites. This step has been conducted for each existing asset according to the implemented procedure and work instruction. • Step b) is a risk and vulnerability assessment. The outcome of it was scoring of potential climate risk(s) with high impact. This assessment has been conducted in line with the most recent Intergovernmental Panel on Climate Change reports, scientific peer-reviewed publications, and open source or paying models. • Step c) Northvolt have identified and implemented adaptations solutions to prevent the impact of the physical risks identified in the previous step. The permits and EIA have supported our approach and act as evidence of the consideration of those climate risks.	Procedure for an Environmental Social Impact Assessment (ESIA) Work instruction for climate impact risk assessment Environmental impact assessment (EIA) (site-specific) Climate impact risk assessment (company and site-specific)
Sustainable use and protection of water and marine resources	Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed. Risk assessment can be conducted through an EIA or through a separate assessment.	The discharge of water is one of the environmental aspects covered in the EIA when applying for a new or updated environmental permit to the authorities. In cases where EIAs are not required, Northvolt always conducts a separate water impact assessment except in cases where it is not relevant (e.g. for office buildings). None of Northvolts site are located in water stressed areas or are at risk of harming water quality.	Environmental impact assessment (EIA)

DNSH	ELIGIBILITY CRITERIA	HOW NORTHVOLT ALIGNS WITH THE CRITERIA	EXAMPLE OF EVIDENCE OF ALIGNMENT
Transition to circular economy	For the manufacturing of new batteries, components and materials, the acitivity assesses the availability of and, where feasible, adopts techniques that support: a) reuse and use of secondary raw materials and reused components in products manufactured; b) design for high durability, recyclability, easy disassembly and adaptability of products manufactured; c) information on and traceability of substances of concern throughout the life cycle of the manufactured products Recycling processes meet the conditions in the EU Battery Directive and, where applicable, recycling facilities meet the requirements in the Industrial Emissions Directive.	Scaling battery recycling in parallel to the ramp-up of our battery manufacturing capacity is at the core of Northvolt's strategy and we apply the following approach to align with the criteria to the left: a) Northvolt runs an in-house program focused on developing and refining our battery recycling process based around hydrometallurgy and we are in the process of establishing industrial-scale recycling capacities. These initiatives are key in order for us to reach the target to source 50% of the metals for battery cell production from recycling by 2030; b) Northvolt's product development and design process ensures that our products have a high durability, recyclability, and are easy to disassemble and adapt. Furthermore, Northvolt works cross-functionally with our recycling team and external suppliers to continuously improve the recyclability of our products; c) Northvolt is required to declare chemical substances, materials and components used in our products in international data systems for our customers to meet its obligations. In addition, our target is 100% traceability of the raw materials we use and all suppliers are screened for sustainability risks. As for compliance with the referenced EU directives, these are integrated into the national laws and regulations that Northvolt's production and operations need to comply with.	Northvolt list of declarable and restricted substances Internal data system for chemical management
Pollution prevention and control	Batteries comply with the applicable sustainability rules on the placing on the market of batteries in the Union, including restrictions on the use of hazardous substances in batteries and other regulations.	Northvolt complies with the European directives and regulations relevant to pollution, prevention, and control criteria, including national laws applicable for manufacture and placing batteries on the European market. We continuously monitor the regulatory list of chemicals that are part of the relevant EU regulations and have guidelines in place outlining chemicals that are restricted, prohibited or to be avoided where possible within our operations. Relevant stakeholders are expected to comply with these as well, together with all relevant national/international legislations, and compliance is monitored through our supplier portal. Lastly, all introductions of new chemicals in the production require approval from the local Chemical Committee, and we continuously monitor our emissions and report our environmental performance to the national authorities.	Internal data system for chemical management Supplier material declaration Legal monitoring and compliance tool
Protection and restoration of biodiversity and ecosystems	An EIA or screening has been completed and the required mitigation and compensation measures for protecting the environment are implemented. For sites/operations located in or near biodiversity-sensitive areas, an appropriate assessment has been conducted and based on its conclusions, the necessary mitigation measures are implemented.	Northvolt conducts EIAs for the sites where this is required by the EU or local regulation. EIAs cover the assessment of direct and indirect environmental impacts of a planned activity, including on biodiversity and ecosystems, and set out compensation measures to be implemented if needed. None of the EIAs conducted for our activities in Sweden concluded that compensation measures were required. For Northvolt Dwa ESS System, Northvolt needed to replant trees that were cut down, and move animals to natural habitats.	Environmental impact assessment (EIA)

Minimum Safeguards

MINIMUM SAFEGUARDS	CRITERIA	HOW NORTHVOLT ALIGNS WITH THE CRITERIA
Minimum Safeguards	Compliance with the Minimum Safeguards is determined by assessing performance criteria against four core topics: • Human rights, including workers' rights • Bribery/corruption • Taxation • Fair competition Due diligence should align with: • The OECD Guidelines for Multinational Enterprises (OECD MNE Guidelines) • The UN Guiding Principles on Business and Human Rights (UNGPs) • The Declaration of the International Labour Organisation on Fundamental Principles and Rights at Work • The International Bill of Human Rights	Northvolt's policies and due diligence procedures are aligned with best practice from international standards and follow the steps outlined in the OECD Guidelines and the UNGPs: **1. Embed responsible business conduct into policies and management systems** Northvolt's policies and procedures have embedded the commitments outlined in the OECD Guidelines, UN Guiding Principles, UN Global Compact, ILO Declaration of Fundamental Princples and Rights at Work, ILO Basic Terms and Conditions of Employment, and the International Bill of Human Rights. These commitments are applied across our operations and value chain. Our Supplier Code of Conduct also includes an added requirement on adherence to the OECD Due Diligence Guidance for Responsible Supply Chains on Minerals from Conflict-Affected and High-Risk Areas for Northvolt's suppliers of conflict minerals and cobalt. Northvolt has a zero tolerance approach to corruption and bribery, set out in our Anti-Corruption policy which is applicable across our operations and beyond. Taxation and Fair competition are covered in separate policies. **2. Identify and assess adverse impacts in operations, supply chains and business relationships** Suppliers are assessed against our Supplier Code of Conduct and Anti-Corruption policy during a tender as required, and we conduct Know Your Counterpart assessments where the Ultimate Beneficial Owners and other key individuals are screened against OFAC and EU Sanctions Databases. For high-risk materials, such as raw material suppliers and certain cell material suppliers, a deep assessment against our policies is conducted in the form of an audit. For raw material suppliers, the audit scope also incorporates the requirements under the IFC Performance Standards. The full process for assessing third parties and requirements during the contracting and monitoring of them are set out in Northvolt's internal procedures for assessing risk and conducting due diligence on third parties. **3. Cease, prevent or mitigate adverse impacts** Any adverse potential or actual impacts identified during the initial due diligence of third parties and projects are assessed in terms of severity and likelihood. For third parties, potential or actual impacts are raised to the Sustainability & Compliance Committee who will approve or deny the third party based on the results. Third parties are expected to implement any improvement plan created by Northvolt as a result of the due diligence in order to prevent or mitigate adverse impacts. A similar approach is taken for projects. **4. Track implementation and results** Northvolt closely monitors high-risk third parties to ensure they are closing any improvement measures identified during the due diligence phase as well as having ongoing dialogues with key suppliers to understand changes in risks and impacts. Northvolt is required to monitor performance of any project related to addressing and minimizing identified risks and impacts. We frequently report to authorities on environmental performance and are required to notify in case of deviations with the requirements of the permit, or any accidents, within 24 hours of the event occurring. **5. Communicate how impacts are addressed** Northvolt reports annually on our due diligence efforts and wider impacts in our Sustainability and Annual report. **6. Provide for or cooperate in remediation when appropriate** Northvolt will provide for or cooperate in remediation where required. Northvolt has a grievance mechanism via the whistleblowing hotline established to allow for all stakeholders (internal and external) to raise complaints, including in projects. Consultation and collaboration with relevant authorities, unions, or other relevant bodies supports the process for remediation. **7. Taxation and fair competition** A key tax principle for Northvolt is to be compliant with applicable tax rules, regulations and guidelines, including paying taxes promptly and in accordance with regulations in the countries in which we operate. When considering our approach, we take into account both the letter and the spirit of the law, including international transparency and anti-tax avoidance initiatives. Tax governance and tax compliance are considered important elements of Northvolt's broader risk management system and align with Northvolt's principle of being a responsible corporate citizen. In regards to fair competition, Northvolt complies with applicable laws and is implementing a competition policy that will include e-learning for employees.

Financial statements

The Board of Directors and the CEO of Northvolt AB hereby submits the following parent company annual report and consolidated financial statements for the financial year 2022.

The annual report and the consolidated financial statements are prepared in Swedish Kronor (SEK). Unless otherwise specified, all amounts are reported in thousands of SEK. Amounts in brackets refer to the previous year.

Directors' report

Information about the operations

Northvolt is a supplier of sustainable, high-quality batteries. The parent company was founded in 2016 to enable the European transition to electrification and has since taken major steps towards achieving the goal of producing the world's greenest battery cells with a minimal carbon footprint.

The Northvolt Group produces and sells lithium-ion cells and battery systems for use in various customer segments, including transport, storage and industry. The Group's industrial partners and customers include ABB, BMW Group, Epiroc, Scania, Siemens, Vattenfall, Vestas, Fluence Energy, Volvo Cars and Volkswagen Group. Northvolt passed 4000 employees during 2022, originating from over 100 countries.

Northvolt AB is the parent company of the group and is responsible for coordinating research and development activities related to all products. The parent company's revenue mainly comes from the sale of lithium-ion cells to customers within the automotive sector. The parent company is based in Stockholm, Sweden.

Significant events during the financial year

- Northvolt made its first commercial cell deliveries from Northvolt Ett in Skellefteå.
- Northvolt closed financing of Convertible debt totaling USD 1.65 bn.
- Northvolt Dwa in Poland continued to deliver battery systems to Epiroc, securing a 96 percent increase in number of systems delivered year-on-year.
- Construction of the shell of our full-scale recycling plant, Revolt Ett, concluded and installation began on schedule.
- Northvolt Labs further diversified its cell portfolio with new platforms, including a second-generation chemistry large format prismatic cell.
- The Northvolt and Volvo Cars joint venture was formally established and Gothenburg, Sweden, was confirmed as the locations for its gigafactory, alongside a new battery R&D center.
- Northvolt Cuberg validated a lithium-metal cell with energy capacity of 380 Wh/kg.
- In Norway, our battery recycling joint venture Hydrovolt commenced operations.
- Northvolt Fem transaction closed in December 2022 to acquire Stora Enso site in Borlänge.
- The Board of Directors appointed two new board members in December 2022, Jim Hageman Snabe and Barbara Frei-Spreiter. Jim Hageman Snabe was appointed Chairman of the Board of Directors.

Expected future developments

In 2023, Northvolt Groups focus is to further expand its large-scale production of the gigafactory in Skellefteå. Subject to future financing and fundraising, the Group aims to reach a market share in Europe of around 25 per cent by 2030, which means an estimated 150 GWh in production capacity.

Significant risks and uncertainties

The management of strategic, operational, financial and compliance risks is essential for Northvolt's operations, and an effective risk management is a necessity for a stable and profitable future.

Strategic Risks

Strategic risks are considered as those risks relating to changes in the business environment with potentially significant effects on Northvolt's ability to achieve the high-level goals that are aligned with our mission and long-term objectives. Northvolt is affected by international, national and regional economic conditions. Strategic risks further include market uncertainties and geopolitical tensions; most recently the war in Ukraine have impacted our decision-making and operations. This includes disruptions to the financial markets, supply chain, transportation and logistics.

Increased protectionism and global trade disputes are expected challenges that Northvolt will have to manage. Other strategic risks are changes to the new energy landscape and competitor actions, customer behavior and reputational risk. The management team monitors developments across risk areas and proactively assesses macroeconomic and political risks as well as opportunities that may influence Northvolt's strategies.

Operational Risks
Operational risks are considered as those risks directly impacting business operations, including effectiveness, efficiency and resource use, which could impact the company's financial performance. These are risks mainly associated with Northvolt's business operations such as internal Cathode Active Material production, recruitment and upskilling of employees and the execution and launch of production activities.

Acknowledging the current global situation, in particular the aftermath of the Covid-19 pandemic, shortages of material and freight challenges resulting from increasing costs and longer delivery times have been added as operational risks relating to business interruption.

Operational risks also include certain sustainability risks, for example, health and safety, environmental risks, dependence on human resources, business ethics and human rights risks. Northvolt's sustainability activities are further described in the Sustainability Report.

Compliance Risks
Compliance risks are considered as those risks relating to not conforming with laws, regulations and Northvolt's internal compliance. Compliance risks entail a risk of financial and legal penalties as a result of non-compliance with laws and regulations, including non-compliance with commercial and financing agreements with customers, suppliers, lenders and other counterparties and also by license, patents and other intangible property rights.

Financial Risks and use of financial instruments
Through its comprehensive operations and complex financing structure, Northvolt is exposed to financial risks. The Board of Directors is responsible for the Treasury and Financial Risk Policy, which comprises guidelines, objectives and limits for financial management and the management of financial risks within Northvolt. Financial risks comprise cash management and liquidity risks, interest rate risks, currency risks, commodity risks, credit risks (including counterparty risk) and financial reporting and financing risks. The Northvolt Finance department is the functional organization where most of the Northvolt's financial risks are handled.

Financial instruments are used to hedge currency exposures into their anticipated future underlying currency where there is an anticipated forecast that this expenditure will occur in the underlying currency. Movements on the fair value of the currency derivatives are taken to the Profit and loss account. When Northvolt enters into a floating rate loan, the interest rate is hedged to fixed rate in order to mitigate variations in the underlying cash flows. Northvolt uses hedge accounting to account for the movements in the fair value of the interest rate derivatives when the hedge can be designated as effective under IFRS 9. The effective portion of the gain or loss on the hedging instrument is recognized in other comprehensive income in the cash flow hedge reserve, while any ineffective portion is recognized immediately in the statement of profit or loss.

The use of financial instruments and financial risks are further described in note 3.

Research and development
Northvolt's technology platform spans the entire battery value chain and is made possible by leading battery technology expertise. Northvolt conducts development activities in three core areas: Advanced Materials, Cell Design and System Design and it continues to be an important focus for Northvolt.

Covid-19
During 2022, the Northvolt Group worked with strict procedures and rules to minimize the risks associated with Covid-19. These procedures worked well in all of Northvolt's operations during the year. There have been impact in terms of certain delays in the supply chain as a result of the pandemic and Northvolt continues to work in the best possible way to mitigate these risks. Although some uncertainties remain, Northvolt is focusing on the risks it has identified as a direct consequence of the pandemic including risks to the supply chain, unexpected price increases and shortages of materials and large-scale employee disruption.

Environmental impact
Northvolt has a fundamental commitment to being a responsible company with a clear focus on sustainability and the environment and works continuously to ensure minimal environmental impact with the ambition to produce the world's greenest battery. This commitment is further reflected in the integrated Sustainability Report with reference to international reporting guidelines. In 2019, Northvolt received the full environmental permit for the first half of the gigafactory in Skellefteå. In August 2022, Northvolt received a new permit for the Northvolt Etts expansion project. Environmental permits for the remaining part were obtained in 2021 and all our businesses have permits regulating the environmental impact of their operations.

Sustainability
The Sustainability Report has been prepared by the parent company Northvolt AB to meet the statutory requirements in accordance with the Swedish Annual Accounts Act, chapter 6, section 11. This report is an integrated part of Northvolt's Sustainability and Annual report 2022 as defined on page 3.

Ownership
Owners at the end of the year 2022 with more than 10% of the shares in the company are Volkswagen Finance Luxembourg S.A. (B166745) and Goldman Sachs Asset Management LP through various investment funds.

Multi-year overview (kr'000)

GROUP	2022	2021	2020	2019	2018
Net Sales	1,083,272	678,092	204,055	93,450	54,763
Profit (loss) before tax	-3,224,296	-1,096,259	-1,214,771	-533,865	-196,104
Total Assets	76,231,811	51,702,030	20,089,618	5,908,909	1,399,031
Equity Ratio (%)	44.5%	68.8%	55.3%	32.7%	34.5%

PARENT COMPANY	2022	2021	2020	2019	2018
Net Sales	1,116,257	348,183	191,049	91,084	54,763
Profit (loss) before tax	-928,715	744,995	-600,407	-448,431	-147,037
Total Assets	60,868,707	41,601,642	15,446,291	4,533,170	771,455
Equity Ratio (%)	60.8%	90.3%	76.8%	45.5%	69.0%

The multi-year overview for the consolidated group has been prepared in accordance with IFRS for the period 2022 through 2019. The same period has been prepared in accordance with RFR 2 for the Parent Company. The historical period 2018 are reported in accordance with previously applied accounting principles, BFNAR 2012: 1 Annual Report and Consolidated Financial Statements (K3).

Proposal for profit/loss allocation

In the Parent Company the unrestricted shareholders equity amounts to (SEK):

Share Premium Reserve	38,456,434,790
Profit (loss) brought forward	-711,146,552
Profit (loss) for the year	-928,715,000
Total unrestricted equity	**36,816,572,405**

The Board of Directors and the Chief Executive Officer propose that the Parent Company's unrestricted equity is carried forward and that no dividend be paid for the financial year.

Carried forward	**36,816,572,405**

Consolidated statement of profit or loss

	NOTE	2022	2021
Revenue	4	1,083,272	678,092
Cost of goods sold		-3,455,024	-1,177,459
Gross profit (loss)		**-2,371,752**	**-499,367**
Research and development expenses		-1,356,049	-723,897
Selling, general and administrative expenses		-1,467,758	-1,401,313
Other operating income and expenses	5	150,917	409,830
Result from participation in joint ventures	15	-68,156	-21,223
Result from sale of subsidiaries	15	1,850,831	—
Operating profit (loss)	6, 7	**-3,261,967**	**-2,235,970**
Finance income	8	3,299,927	2,075,833
Finance expense	8	-3,257,267	-936,122
Profit (loss) before tax		**-3,219,307**	**-1,096,259**
Income tax benefit	9	335,189	436,276
Profit (loss) for the period		**-2,884,118**	**-659,983**
Profit (loss) for the period attributable to:			
Owners of the Parent Company		**-2,884,118**	**-659,983**

Consolidated statement of comprehensive income

	NOTE	2022	2021
Profit (loss) for the year		**-2,884,118**	**-659,983**
Other comprehensive income			
Items that can be reclassified to profit (loss) for the year (net of tax):			
Exchange differences on translation of foreign operations	18	123,092	28,139
Fair-value changes in cash flow hedges (net)	18	695,465	137,231
Net gain (loss) on equity instruments designated at fair value	18	21,630	—
Total other comprehensive income for the year (net of tax)		**840,187**	**165,370**
Total comprehensive income (net of tax)		**-2,043,931**	**-494,613**
Attributable to the owners of the Parent Company		**-2,043,931**	**-494,613**

Consolidated statement of financial position

	NOTE	DEC 31, 2022	DEC 31, 2021
Assets			
Non-current assets			
Intangible assets and goodwill	10	1,259,886	758,185
Property, plant and equipment	11	34,028,091	20,080,750
Right-of-use assets	12	548,692	421,511
Participation in joint ventures	15	1,861,696	1,478
Derivative financial instruments	21	1,048,735	172,835
Deferred tax asset	9	827,857	447,218
Other non-current assets		91,211	33,749
Total non-current assets		**39,666,168**	**21,915,726**
Current assets			
Inventories	16	4,004,043	544,045
Trade receivables	4	395,683	187,626
Other current receivables		832,456	573,955
Prepaid expenses and accrued income		279,680	82,295
Derivative financial instruments	21	167,982	23,911
Other current financial assets	17	4,337,228	11,313,776
Cash and cash equivalents	17	26,610,565	17,060,696
Total current assets		**36,627,637**	**29,786,304**
Total assets		**76,293,805**	**51,702,030**

	NOTE	DEC 31, 2022	DEC 31, 2021
Equity and liabilities			
Equity			
Share capital		314	307
Other paid-in capital		38,456,435	38,072,186
Reserves		1,007,660	167,473
Retained earnings incl. profit (loss) for the period		-5,533,489	-2,649,371
Equity attributable to owners of the Parent Company		**33,930,920**	**35,590,595**
Total equity	18	**33,930,920**	**35,590,595**
Non-current liabilities			
Interest-bearing loans and borrowings	21	14,807,286	9,897,781
Convertible loan	21	21,318,483	2,741,308
Lease liability	12	384,311	322,290
Provisions		71,009	41,148
Government grants	19	355,896	358,433
Derivative financial instruments	21	—	103,153
Other non-current liabilities		1,069	21,884
Deferred tax liability	9	310,794	79,297
Total non-current liabilities		**37,248,848**	**13,565,294**
Current liabilities			
Trade payables		3,373,805	1,279,443
Lease liability	12	161,769	114,308
Government grants	19	78,335	42,903
Derivative financial instruments	21	104,133	75,037
Income tax liabilities		27,469	30,444
Other current liabilities		121,355	271,240
Accrued expenses and deferred income	20	1,247,171	732,766
Total current liabilities		**5,114,037**	**2,546,141**
Total liabilities		**42,362,885**	**16,111,435**
Total equity and liabilities		**76,293,805**	**51,702,030**

Consolidated statement of changes in equity

		EQUITY ATTRIBUTABLE TO OWNERS OF THE PARENT COMPANY						
	NOTE	SHARE CAPITAL	OTHER PAID-IN CAPITAL	RESERVE FOR HEDGES	TRANSLATION RESERVE	NET GAIN (LOSS) ON EQUITY INSTRUMENTS DESIGNATED AT FAIR VALUE	RETAINED EARNINGS INCL. PROFIT (LOSS) FOR THE YEAR	TOTAL
Equity at Jan 1, 2021	18	**220**	**13,101,816**	**—**	**2,103**	**—**	**-1,989,388**	**11,114,751**
Profit (loss) for the year		—	—	—	—	—	-659,983	-659,983
Other comprehensive income (loss) for the year		—	—	137,231	28,139	—	—	165,370
Total comprehensive income (loss) for the year		**—**	**—**	**137,231**	**28,139**	**—**	**-659,983**	**-494,613**
Issuance of shares	18	87	24,847,259	—	—	—	—	24,847,346
Warrants issue		—	41,483	—	—	—	—	41,483
Transaction cost related to obtaining equity financing		—	-125,787	—	—	—	—	-125,787
Shares issued contingent upon continuing employment	14	—	177,932	—	—	—	—	177,932
Contingent consideration to be settled in shares	14	—	29,483	—	—	—	—	29,483
Equity at Dec 31, 2021	**18**	**307**	**38,072,186**	**137,231**	**30,242**	**—**	**-2,649,371**	**35,590,595**
Equity at Jan 1, 2022	**18**	**307**	**38,072,186**	**137,231**	**30,242**	**—**	**-2,649,371**	**35,590,595**
Profit (loss) for the year		—	—	—	—	—	-2,884,118	-2,884,118
Other comprehensive income (loss) for the year		—	—	695,465	123,092	21,630	—	840,187
Total comprehensive income (loss) for the year		**—**	**—**	**695,465**	**123,092**	**21,630**	**-2,884,118**	**-2,043,931**
Issuance of shares	18	7	279,295	—	—	—	—	279,302
Warrants issue		—	104,954	—	—	—	—	104,954
Equity at Dec 31, 2022	**18**	**314**	**38,456,435**	**832,696**	**153,334**	**21,630**	**-5,533,489**	**33,930,920**

Consolidated statement of cash flow

	NOTE	2022	2021
Cash flow from operating activities			
Profit (loss) before tax		-3,219,307	-1,096,259
Adjustment for non-cash items	23	-1,391,152	1,366,524
Interest received		368,487	16,599
Interest paid		—	-183,290
Income tax (paid) / refunds received		—	60,214
Cash flow from operating activities before changes in working capital		**-4,241,972**	**163,788**
Changes in working capital			
Change in inventories		-3,459,998	-374,124
Change in trade receivables, other current receivables, prepaid expenses		-663,943	-485,713
Change in trade payables, other current liabilities, accrued expenses		2,335,164	775,560
Cash flow from operating activities, net		**-6,030,749**	**79,511**
Cash flow from investing activities			
Purchase of intangible assets		-459,384	-666,810
Purchase of property, plant and equipment		-14,227,975	-10,174,382
Investment in financial assets		-2,421,217	-10,981,977
Proceeds from sale of property, plant and equipment		5,564	—
Proceeds from sale of joint ventures		—	357,950
Disposal in financial assets		10,718,750	—
Receipt of government grants		152,153	264,940
Cash flow from investing activities, net		**-6,232,109**	**-21,200,279**
Cash flow from financing activities			
New share issue		279,302	24,674,166
Warrants issue		104,954	41,483
Proceeds from liabilities to credit institutions		20,403,212	6,383,337
Repayment of liabilities to credit institutions		-19,330	-759,448
Payment of principal portion of lease liability		-175,362	-107,847
Cash flow from financing activities, net		**20,592,776**	**30,231,691**
Cash flow for the year		8,329,918	9,110,923
Cash and cash equivalents at beginning of year		17,060,696	7,921,633
Foreign exchange differences on cash and cash equivalents		1,219,951	28,140
Cash and cash equivalents at the end of year	**17**	**26,610,565**	**17,060,696**

Notes to the consolidated financial statement

Note 1

Corporate information

The consolidated financial statements of Northvolt AB and its subsidiaries (collectively, the Group) for the year ended December 31, 2022, were authorized for issue in accordance with a resolution of the directors on April 25, 2023, and will be subject to adoption by the Annual General Meeting. Northvolt AB (Swedish corporate identity number 559015-8894) is a limited liability company incorporated and domiciled in Sweden. The registered office is located at Alströmergatan 20, Stockholm, Sweden.

Northvolt is a supplier of sustainable, high-quality batteries. The Parent Company was founded in 2016 to enable the European transition to electrification and has since taken major steps towards achieving the goal of producing the world's greenest battery cells with a minimal carbon footprint. The Northvolt Group produces lithium-ion batteries and battery systems for use in various customer segments, including transport, storage and industry. Information on the Group's structure is provided in Note 13 Group Information. Information on other related party relationships of the Group is provided in Note 26 Related party.

Note 2

Significant accounting principles, judgments, estimates and assumptions

Significant accounting principles used in the preparation of the consolidated financial statements are described within each individual note. These accounting principles have been applied consistently unless otherwise stated.

The preparation of the Group's consolidated financial statements in accordance with IFRS requires the Company's management and the Board to make judgments, estimates and assumptions that affect the value of the reported amounts of revenues, expenses, assets and liabilities, and the accompanying disclosures, and the disclosure of contingent liabilities. Uncertainty about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of assets or liabilities affected in future periods. Therefore, the estimates and judgements are reviewed on a regular basis. Changes are recognized in the period of the change and in future periods if the change affects both.

Estimates and assumptions

The key assumptions concerning the future and other key sources of estimation uncertainty at the reporting date, which have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year, are described within each individual note. The Group based its assumptions and estimates on parameters available when the consolidated financial statements were prepared. Existing circumstances and assumptions about future developments, however, may change due to market changes or circumstances arising that are beyond the control of the Group. Such changes are reflected in the assumptions when they occur.

2.1 Basis of preparation

The consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB), as well as the interpretations issued by the IFRS Interpretations Committee (IFRS IC) as endorsed by the European Commission for application within the European Union. As a result, the consolidated financial statements comply with IFRS as issued by the IASB and with IFRS as adopted by the EU. The Group also applies the Swedish Annual Accounts Act (1995:1554) and RFR 1, Supplementary Accounting Rules for Groups, issued by the Swedish Financial Reporting Board. The Parent Company's financial statements are prepared in accordance with the Swedish Financial Reporting Board's recommendation RFR 2, Reporting by Legal Entities and the Swedish Annual Accounts Act.

The consolidated financial statements have been prepared on a historical cost basis, except for derivative financial instruments which have been measured at fair value.

The consolidated financial statements are presented in Swedish Kronor (SEK) and all values are rounded to the nearest thousand (000), except when otherwise indicated. Income is reported in positive figures and expenses are reported as negative figures. Both assets and liabilities are reported in positive figures.

The Group has prepared the financial statements on the basis that it will continue to operate as a going concern.

2.2 Basis of consolidation

The consolidated financial statements comprise the financial statements of the Parent Company and its subsidiaries as at December 31, 2022. The Group's financial statements are prepared in accordance with the Group's accounting principles and include the accounts of the Parent Company and all Group companies in accordance with the definitions below.

Subsidiaries are all entities over which Northvolt Group has control. Northvolt Group controls an entity when it has rights to, or is exposed to, variable returns from its involvement with the entity and Northvolt has the ability to affect those returns through its power over the entity.

Consolidation of a subsidiary begins at the date when the Group obtains control over the subsidiary and ceases when the Group loses control of the subsidiary. Assets, liabilities, income and expenses of a subsidiary acquired or disposed of during the year are included in the consolidated financial statements from the date the Group gains control until the date the Group ceases to control the subsidiary.

The Group re-assesses whether or not it controls an entity if facts and circumstances indicate that there are changes to one or more of the elements of control.

Profit or loss and each component of OCI are attributed to the equity holders of the Parent Company of the Group. All intra-group assets and liabilities, equity, income, expenses and cash flows relating to transactions between members of the Group are eliminated in full on consolidation.

If the Group loses control over a subsidiary, it derecognizes the related assets (including goodwill), liabilities, non-controlling interest and other components of equity, while any resultant gain or loss is recognized in profit or loss. Any investment retained is recognized at fair value.

2.3 Foreign currencies

The Group's consolidated financial statements are presented in SEK, which is also the Parent Company's functional currency. For each entity, the Group determines the functional currency and items included in the financial statements of each entity are measured using that functional currency.

Transactions and balances

Foreign currency transactions are initially recorded by the Group's entities at their respective functional currency at the exchange rate at the transaction date. Monetary assets and liabilities denominated in foreign currencies are translated at the functional currency spot rates of exchange at the closing date.

Differences arising on settlement or translation of monetary items are recognized in profit or loss.

Non-monetary items recognized at historical cost in a foreign currency are translated using the exchange rates at the initial transaction date. Exchange gains/loss on operating receivables and liabilities are recognized in operating profit, while exchange gains/losses on financial assets and liabilities are recognized as financial items.

Financial statements of foreign operations

On consolidation, the assets and liabilities of foreign operations are translated into SEK at the rate of exchange prevailing at the reporting date and their statements of profit or loss are translated at the average exchange rate for the period.

Any goodwill arising on the acquisition of a foreign operation and any fair value adjustments to the carrying amounts of assets and liabilities arising on the acquisition are treated as assets and liabilities of the foreign operation and translated at the spot rate of exchange at the reporting date.

2.4 Classification of asset and liabilities

An asset is classified as current when it is held primarily for the purpose of trading, is expected to be realized within twelve months after the reporting period or consists of cash or cash equivalents, provided it is not subject to any restrictions. All other assets are classified as non-current.

A liability is classified as current when it is held primarily for the purpose of trading or is expected to be settled within twelve months after the reporting period and the Group does not have the right to defer settlement of the liability for at least twelve months after the balance date. All other liabilities are classified as non-current. Deferred tax assets and liabilities are classified as non-current assets and liabilities.

2.5 Changes in accounting policies and disclosures

Change in accounting principle

From January 1, 2022, the Group has switched to presenting costs in the consolidated statement of profit or loss based on function instead of cost by nature. The purpose of the change is to provide more relevant information about the Group's financial results, as a function-divided presentation better reflects the practice in the industry in which the Group operates. The change constitutes a voluntary change of accounting principle and has been applied retrospectively. Accordingly, the Group has conformed to current year presentation the consolidated statement of profit or loss for the year ended December 31, 2021 to reflect the changes adopted for the year ended December 31, 2022. The change in accounting principle had no effect on the Group's consolidated statement of financial position, results of operations or liquidity. Below are the effects of the previously issued consolidated statement of profit or loss that were reclassified for the year ended December 31, 2021 in the Group:

	Dec 31, 2021		
	Before adjustments	Adjustments	After adjustments
Revenue	678,092	—	678,092
Cost of goods sold	—	-1,177,459	-1,177,459
Work performed by the entity and capitalized	339,992	-339,992	—
Raw materials and consumables	-502,510	502,510	—
Research and development expenses	—	-723,897	-723,897
Selling, general and administrative expenses	—	-1,401,313	-1,401,313
Other external expenses	-924,464	924,464	—
Employee benefit expense	-1,623,148	1,623,148	—
Depreciation, amortization and impairment	-592,539	592,539	—
Other operating income	666,278	-666,278	—
Other operating expenses	-256,448	256,448	—
Other operating income and expenses	—	409,830	409,830
Result from participation in joint ventures	-21,223	—	-21,223
Operating profit (loss)	**-2,235,970**	**—**	**-2,235,970**
Finance income	2,075,833	—	2,075,833
Finance expense	-936,122	—	-936,122
Profit (loss) before tax	**-1,096,259**	**—**	**-1,096,259**
Income tax benefit	436,276		436,276
Profit (loss) for the year	**-659,983**	**—**	**-659,983**

New and amended IFRS Accounting Standards that are effective for the current year

In the current year, the Group has applied a number of amendments to IFRS Accounting Standards issued by the IASB and adopted by the EU that are mandatory effective for an accounting period that begins on or after 1 January 2022. Their adoption has not had any material impact on the disclosures or on the amounts reported in these consolidated financial statements:

Amendments to IFRS 3 *Reference to the Conceptual Framework*

Effective date: IASB - 1 January 2022, EU - 1 January 2022

The Group has adopted the amendments to IFRS 3 *Business Combinations* for the first time in the current year. The amendments update IFRS 3 so that it refers to the 2018 *Conceptual Framework* instead of the 1989 *Framework*. They also add to IFRS 3 a requirement that, for obligations within the scope of IAS 37 *Provisions, Contingent Liabilities and Contingent Assets*, an acquirer applies IAS 37 to determine whether at the acquisition date a present obligation exists as a result of past events. For a levy that would be within the scope of IFRIC 21 *Levies*, the acquirer applies IFRIC 21 to determine whether the obligating event that gives rise to a liability to pay the levy has occurred by the acquisition date.

Amendments to IAS 16 *Property, Plant and Equipment - Proceeds before Intended Use*

Effective date: IASB - 1 January 2022, EU - 1 January 2022

The Group has adopted the amendments to IAS 16 *Property, Plant and Equipment* for the first time in the current year. The amendments prohibit deducting from the cost of an item of property, plant and equipment any proceeds from selling items produced before that asset is available for use, i.e. proceeds while bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Consequently, an entity recognizes such sales proceeds and related costs in profit or loss. The entity measures the cost of those items in accordance with IAS 2 *Inventories*.

The amendments also clarify the meaning of 'testing whether an asset is functioning properly'. IAS 16 now specifies this as assessing whether the technical and physical performance of the asset is such that it is capable of being used in the production or supply of goods or services, for rental to others, or for administrative purposes.

Amendments to IAS 37 *Onerous Contracts - Cost of Fulfilling a Contract*
Effective date: IASB - 1 January 2022, EU - 1 January 2022

The Group has adopted the amendments to IAS 37 for the first time in the current year. The amendments specify that the costs of fulfilling a contract comprise the costs that relate directly to the contract. Costs that relate directly to a contract consist of both the incremental costs of fulfilling that contract (examples would be direct labor or materials) and an allocation of other costs that relate directly to fulfilling the contracts (an example would be the allocation of the depreciation charge for an item of property, plant and equipment used in fulfilling the contract).

Annual Improvements to IFRS Accounting Standards 2018-2020 Cycle
Effective date: IASB - 1 January 2022, EU - 1 January 2022

The Group has adopted the amendments included in the *Annual Improvements to IFRS Accounting Standards 2018-2020 Cycle* for the first time in the current year.

New and revised IFRS Accounting Standards in issue but not yet effective
At the date of authorization of these consolidated financial statements, the Group has not applied the following new and revised IFRS Accounting Standards that have been issued but are not yet effective.

IFRS 17	*Insurance Contracts*
Amendments to IFRS 10 and IAS 28	*Sale or Contribution of Assets between an Investor and its Associate or Joint Venture*
Amendments to IAS 1	*Classification of Liabilities as Current or Non-current*
Amendments to IAS 1 and IFRS Practice Statement 2	*Disclosure of Accounting Policies*
Amendments to IAS 8	*Definition of Accounting Estimates*
Amendments to IAS 12	*Deferred Tax related to Assets and Liabilities arising from a Single Transaction*

The directors do not expect that the adoption of the Standards listed above will have a material impact on the consolidated financial statements of the Group in future periods, except if indicated below.

Amendments to IFRS 10 *Consolidated Financial Statements* and IAS 28 *Investments in Associates and Joint Ventures - Sale or Contribution of Assets between an Investor and its Associate or Joint Venture*
Effective date: IASB - Deferred indefinitely, EU - Postponed

The amendments to IFRS 10 and IAS 28 deal with situations where there is a sale or contribution of assets between an investor and its associate or joint venture. Specifically, the amendments state that gains or losses resulting from the loss of control of a subsidiary that does not contain a business in a transaction with an associate or a joint venture that is accounted for using the equity method, are recognized in the parent's profit or loss only to the extent of the unrelated investors' interests in that associate or joint venture. Similarly, gains and losses resulting from the remeasurement of investments retained in any former subsidiary (that has become an associate or joint venture that is accounted for using the equity method) to fair value are recognized in the former parent's profit or loss only to the extent of the unrelated investors' interests in the new associate or joint venture.

The effective date of the amendments has yet to be set by the IASB; however, earlier application of the amendments is permitted. The directors of the Group anticipate that the application of these amendments may have an impact on the Group's consolidated financial statements in future periods should such transactions arise.

Amendments to IAS 1 *Presentation of Financial Statements - Classification of Liabilities as Current or Non-current*
Effective date: IASB - 1 January 2024, EU - Open

The amendments to IAS 1 published in January 2020 affect only the presentation of liabilities as current or non-current in the statement of financial position and not the amount or timing of recognition of any asset, liability, income or expenses, or the information disclosed about those items.

The amendments clarify that the classification of liabilities as current or non-current is based on rights that are in existence at the end of the reporting period, specify that classification is unaffected by expectations about whether an entity will exercise its right to defer settlement of a liability, explain that rights are in existence if covenants are complied with at the end of the reporting period, and introduce a definition of 'settlement' to make clear that settlement refers to the transfer to the counterparty of cash, equity instruments, other assets or services.

The amendments are applied retrospectively for annual periods beginning on or after 1 January 2024, with early application permitted. The IASB is currently considering further amendments to the require-

ments in IAS 1 on classification as current or non-current, including deferring the application of the January 2020 amendments.

The directors anticipate that the application of these amendments may have an impact on the Group's consolidated financial statements in future periods.

Amendments to IAS 1 *Presentation of Financial Statements* and IFRS Practice Statement 2 *Making Materiality Judgments - Disclosure of Accounting Policies*
Effective date: IASB - 1 January 2023, EU - 1 January 2023

The amendments change the requirements in IAS 1 with regard to disclosure of accounting policies. The amendments replace all instances of the term 'significant accounting policies' with 'material accounting policy information'. Accounting policy information is material if, when considered together with other information included in an entity's financial statements, it can reasonably be expected to influence decisions that the primary uses of general purpose financial statements make on the basis of those financial statements.

The supporting paragraphs in IAS 1 are also amended to clarify that accounting policy information that relates to immaterial transactions, other events or conditions is immaterial and need not be disclosed. Accounting policy information may be material because of the nature of the related transactions, other events or conditions, even if the amounts are immaterial. However, not all accounting policy information relating to material transactions, other events or conditions is itself material.

The IASB has also developed guidance and examples to explain and demonstrate the application of the 'four-step materiality process' described in IFRS Practice Statement 2.

The amendments to IAS 1 are effective for annual periods beginning on or after 1 January 2023, with earlier application permitted and are applied prospectively. The amendments to IFRS Practice Statement 2 do not contain an effective date or transition requirements.

Amendments to IAS 8 *Accounting Policies, Changes in Accounting Estimates and Errors - Definition of Accounting Estimates*
Effective date: IASB - 1 January 2024, EU - 1 January 2024

The amendments replace the definition of a change in accounting estimates with a definition of accounting estimates. Under the new definition, accounting estimates are "monetary amounts in financial statements that are subject to measurement uncertainty".

The definition of a change in accounting estimates was deleted. However, the IASB retained the concept of changes in accounting estimates in the Standard with the following clarification:

- A change in accounting estimate that results from new information or new developments is not the correction of an error
- The effects of a change in an input or a measurement technique used to develop an accounting estimate are changes in accounting estimates if they do not result from the correction of prior period errors

The amendments are effective for annual periods beginning on or after 1 January 2024 to changes in accounting policies and changes in accounting estimates that occur on or after the beginning of that period, with earlier application permitted.

Amendments to IAS 12 *Income Taxes - Deferred Tax related to Assets and Liabilities arising from a Single Transaction*
Effective date: IASB - 1 January 2023, EU - 1 January 2023

The amendments introduce a further exception from the initial recognition exemption. Under the amendments, an entity does not apply the initial recognition exemption for transactions that give rise to equal taxable and deductible temporary differences.

Depending on the applicable tax law, equal taxable and deductible temporary differences may arise on initial recognition of an asset and liability in a transaction that is not a business combination and affects neither accounting nor taxable profit.

Following the amendments to IAS 12, an entity is required to recognize the related deferred tax asset and liability, with the recognition of any deferred tax asset being subject to the recoverability criteria in IAS 12.

The amendments apply to transactions that occur on or after the beginning of the earliest comparative period presented. In addition, at the beginning of the earliest comparative period an entity recognizes:

- A deferred tax asset (to the extent that it is probable that taxable profit will be available against which the deductible temporary differences can be utilized) and a deferred tax liability for all deductible and taxable temporary differences associated with:
- Right-of-use assets and lease liabilities

- Decommissioning, restoration and similar liabilities and the corresponding amounts recognized as part of the cost of the related asset
- The cumulative effect of initially applying the amendments as an adjustment to the opening balance of retained earnings (or other component of equity, as appropriate) at that date

The amendments are effective for annual reporting periods beginning on or after 1 January 2023, with earlier application permitted.

The directors anticipate that the application of these amendments may have an impact on the Group's consolidated financial statements in future periods should such transactions arise.

Note 3

Financial risk management

3.1 Financial risk management objectives and policies

Through its operations, aside from business risk, Northvolt is exposed to various financial risks such as market risk, credit risk, liquidity risk, financing and refinancing risk . The majority of the Group's financial liabilities comprise of loans and borrowings, derivative financial instruments and trade and other payables. The main purpose of these financial liabilities is to finance the Group's operations. The Group's principal financial assets include trade receivables, other receivables, derivative financial instruments and cash and short-term deposits that derive from its operations and cash from equity investments.

The Group's risk management is handled by a central finance department according to policies established by the board. The finance function has the operational responsibility for managing liquidity, financial assets and financial liabilities and the Group's financing. A centralized function ensures that Northvolt can benefit from economies of scale and synergies within the entire Group.

The Group defines capital as equity attributable to the equity holders of the Parent Company, which on December 31 totaled SEK 33,931 m (2021: SEK 35,591 m). The Group's policy is to have capital structure to support future development of the business and the Group's capital management is intended to maximize shareholder value. The Group manages its capital structure and adjusts it subject to changes in economic conditions. To adjust the capital structure, the Group may adjust the dividend payment of shareholders or issue new shares.

There are no external capital requirements imposed on the Group.

3.1.1 Market risk

Market risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risk comprises three types of risk: interest rate risk, currency risk and other price risk, such as commodity risk. Financial instruments affected by market risk include loans and borrowings, deposits, debt and equity investments and derivative financial instruments.

Foreign currency risk

Foreign exchange risk is defined as the risk of a negative impact on the Group's consolidated statement of profit or loss and consolidated statement of financial position due to changes in exchange rates. These risks can be divided into transaction exposure resulting from net operating and financial cash flows, and translation exposure related to net investments in foreign subsidiaries and debt denominated in currencies other than SEK.

Northvolt is predominantly funded in USD and the vast majority of both the forecast revenues towards its customer base and the raw material inputs to the product will be in USD which limits Northvolt's USD exposure to a large extent. However, as a consequence of its capital expenditure for projects and operational expenditure, Northvolt is exposed to fluctuations in foreign exchange rates. The Finance function is responsible for the active management of foreign exchange risk.

Transaction exposure

Transaction exposure arises when inflows and outflows of foreign currencies are not matched. Northvolt hedges foreign currency outflows predominantly by holding funds in the underlying currencies to match the expected outflows. Northvolt may also enter into forward currency contracts where nominal amounts, timing and currency can be evaluated. Hedge accounting has not been applied to currency hedging instruments that have been entered into as changes in timings of the transactions and also changes in the nominal amounts can lead to ineffectiveness in the hedges.

Northvolt uses a layered hedging approach with a continuous 12 month horizon. In general, over this 12 month horizon forecasted cash flow are hedged to a minimum of 50% and a maximum of 85%. In relation to capex in projects Northvolt will hedge 90-110% of placed purchase orders and 50%-100% of future or planned purchase orders.

The fair value changes of hedging instruments affect profit or loss statement, as hedge accounting is not applied. Effect from the hedging instruments on equity and profit or loss of an appreciation or depreciation of +10% on USD/SEK, USD/EUR and USD/JPY was SEK 715 m in 2022 (2021: SEK 320 m).

Translation exposure
Northvolt is exposed to translational foreign exchange rate risk when non-SEK denominated assets and liabilities are translated back to SEK. Northvolt is primarily funded in USD and to a lesser extent EUR. See table below for the Groups exposure to SEK/USD and SEK/EUR.

Translation exposure in profit or loss summary

	Dec 31, 2022		Dec 31, 2021	
	SEK/USD	SEK/EUR	SEK/USD	SEK/EUR
Cash	19,851,364	1,535,705	19,905,184	1,019,622
Liabilities to credit institutions	11,259,621	3,547,665	7,289,921	2,607,860
Convertible loan	18,024,556	3,293,927	—	2,741,308

Northvolt is also exposed to translation exposure due to net investment in foreign entities which affects other comprehensive income.

Foreign exchange sensitivity effecting profit or loss, on cash, liabilities to credit institutions and convertible loan

	Dec 31, 2022	Dec 31, 2021
Effect on Equity and P&L of USD/SEK exchange rate + 10%	-910,912	1,260,055
Effect on Equity and P&L of EUR/SEK exchange rate + 10%	-498,822	-441,063

Hedges with financial instruments are not considered in the above analysis. The hedging instrument regards transaction exposure, see section above. Translation exposure net investment in foreign entities is not included in the effect on equity in table above.

Interest rate risk
Interest rate risk is the risk that changes in market interest rates will have an adverse effect upon the Groups financial items and cash flows (cash flow risk) or the fair value of financial assets and liabilities (fair value interest rate risk).

To limit the risk, interest rate maturities for financial assets and liabilities are matched to the maximum extent possible in the respective borrowing currencies.

Interest rate risk in relation to projects or Business Units with high debt structures (>50% debt to equity) are hedged from floating rate to fixed rate using interest rate derivatives.

It should be noted that in the table below the fixed rate of interest on Convertible Loan 2 steps up by 1% every 6 months from February 2024.

Summary of interest-bearing debt

				Recognized amount	
Interest-bearing debt	Currency	Maturity	Interest terms	Dec 31, 2022	Dec 31, 2021
Term loan 1	USD	2029-12-31	LIBOR 30 days +3.00%	4,034,196	2,653,117
Term loan 2	USD	2029-12-31	LIBOR 30 days +3.50%	451,589	300,865
Term loan 3	USD	2029-12-31	LIBOR 30 days +1.30%	6,773,836	4,489,896
Term loan 4	EUR	2030-06-30	Fixed 12%	3,547,665	2,453,903
Convertible Loan 1	EUR	Exit or 2025-12-31	Fixed 5.50%	3,293,927	2,741,308
Convertible Loan 2	USD	Exit or 2nd half -2027	Fixed 8.00%	18,024,556	—

Interest rate sensitivity
Total interest-bearing loans and borrowings outlined in the table above are exposed to interest rate fluctuations in the LIBOR rate. Northvolt has entered into interest rate hedges covering 100% of the planned drawdown profile.

Hedge accounting is applied for interest rate derivatives, see separate section 3.1.5 Derivatives and hedge accounting.

Effect of IBOR reform
Following the global financial crisis, the reform and replacement inter-bank offered rates ("IBOR") has become a priority for global regulators. The Group's risk exposure that is directly affected by the IBOR reform predominantly comprises its variable rate borrowings that are linked to the London Interbank Offered Rate ("LIBOR"). These floating rate borrowings are hedged using interest rate swaps, which have been designated as cash flow hedges for which hedge accounting under reference rate reform

applies. All LIBOR linked loans and swaps are expected to be refinanced during 2023 and as a result will transition to SOFR references.

Commodity price risk

Commodity risk is the risk that an adverse movement in commodity prices will increase the cost of process inputs or diminish the value thereof. Through the natural course of business Northvolt group will be exposed to fluctuations in the prices of commodities it uses in the battery production process. Northvolt will mainly be exposed to cobalt, lithium and nickel. During 2022, Northvolt has not hedged commodity price risk, but may do so in the future when business will increase.

As per year end 2022 a + 10% change in the main commodity prices would affect equity and profit or loss with approximately SEK -170 m for 2022. For 2021 the price exposure had no material effects.

3.1.2 Credit risk

Credit risk is defined as the risk that a counterparty is not able to fulfil its financial obligations and consequently does not pay its financial obligations (or liabilities) to Northvolt. The group is exposed to credit risk from its operating activities, primarily trade receivables, and from its financing activities, including deposits with banks and financial institutions, and counterparty risk in foreign exchange transactions, foreign exchange derivatives and interest rate derivatives.

Trade receivables

Northvolt works with well-established and creditworthy counterparties who are able to fulfil their commitments towards the company.

It is the responsibility of the Head of the BU to continuously evaluate counterparties to ensure compliance and creditworthiness via credit reports e.g., Dun & Bradstreet, Bisnode. Where credit quality is not adequate and there is a strong justification to work with the supplier, Northvolt will ensure that suitable credit guarantees, or other such support mechanisms, are in place.

Northvolt applies a rating-based measurement of expected credit losses, based on public rating if available with consideration to any additional relevant information, e.g. days past due and economic environment. The loss reserve calculated under this model, as well as the amounts that are more than 90 days past due in the table below, was deemed to be non-material for the years ending December 31, 2021 and December 31, 2022 and not recognized.

Age analysis of trade receivables

	Dec 31, 2022	Dec 31, 2021
Trade receivables	395,683	187,626
Whereof:		
Current	123,825	122,970
1–30 days past due	208,267	34,428
31-90 days past due	47,047	15,044
More than 90 days past due	16,544	15,184

Impairment

The Group recognizes an allowance for expected credit losses (ECLs) for all debt instruments not held at fair value through profit or loss. ECLs are based on the difference between the contractual cash flows due in accordance with the contract and all the cash flows that the Group expects to receive, discounted at an approximation of the original effective interest rate.

For trade receivables and contract assets, the Group applies a simplified approach in calculating ECLs. Therefore, the Group does not track changes in credit risk, but instead recognizes a loss allowance based on lifetime ECLs at each reporting date.

For other items subject to ECL, the general impairment model with a three-stage approach is applied. Initially, and at each reporting date, a loss allowance is recognized for the following 12 months, or a shorter time period depending on the time to maturity (stage 1). If there has been a significant increase in credit risk since origination a loss allowance will be recognized for the remaining lifetime of the asset (stage 2). For assets that are considered as credit impaired, allowance for credit losses will continue to capture the lifetime expected credit losses (stage 3).

The Group has established a rating-based model for measurement of ECL. The probability of default is based on external credit rating and default studies, and loss given default is assessed based on Basel-framework input. The product of these measures applied on the exposure gives the ECL before discounting. The measurement based on rating is adjusted for forward-looking factors specific to the debtors and the economic environment.

The Group considers a financial asset in default when contractual payments are 90 days past due. However, in certain cases, the Group may also consider a financial asset to be in default when inter-

nal or external information indicates that the Group is unlikely to receive the outstanding contractual amounts in full. An asset is written off when there is no reasonable expectation of recovering the contractual cash flows.

Cash and cash equivalent, and other assets

Northvolt works with a number of well-established and creditworthy counterparties who are able to fulfil their commitments towards the company. Cash and cash equivalents and investments in deposits have counterparties that have a credit rating of at least A- or equivalent.

Cash and cash equivalent and other financial assets classified at amortized cost are subject to impairment for expected credit losses. Northvolt applies a rating based measurement of expected credit losses, based on public rating if available, with consideration to any additional relevant information, e.g. economic environment. The loss reserve calculated under this model was deemed to be non-material for the years ending December 31, 2021 and December 31, 2022.

Credit risk exposure and impairment for expected credit losses

Northvolt is exposed to credit risk concentration in trade receivables, and in short-term bank deposits and cash and cash equivalents. The majority of Northvolt customers are a few large companies in the automotive sector, which is also representative in the trade receivables.

Northvolt's credit risk exposure is presented in the table below. Assessment is made that the assets and receivables are in stage 1, i.e. there has not been any material increase of the credit risk since initial recognition.

Year ended Dec 31, 2022	Trade receivables	Other receivables and deposits	Cash and cash equivalents	Total
Without /not specified credit rating	122,711	—	—	122,711
Credit risk rating (S&P):				
AAA to AA-	—	1,565,565	2,631,772	4,197,337
A+ to A-	187,330	2,771,663	23,978,793	26,937,786
BBB+ to BBB-	83,643	—	—	83,643
BB+ to BB-	1,999	—	—	1,999
Total	**395,683**	**4,337,228**	**26,610,565**	**31,343,476**

Year ended Dec 31, 2021	Trade receivables	Other receivables and deposits	Cash and cash equivalents	Total
Without /not specified credit rating	32,705	385,763	—	418,468
Credit risk rating (S&P):				
AAA to AA-	—	11,313,776	8,865,741	20,179,517
A+ to A-	—	—	8,194,955	8,194,955
BBB+ to BBB-	154,921	—	—	154,921
BB+ to BB-	—	—	—	—
Total	**187,626**	**11,699,539**	**17,060,696**	**28,947,861**

3.1.3 Liquidity risk

Liquidity risk is defined as the risk of Northvolt not being able to meet its payment obligations due to lack of liquidity due to difficulties obtaining external financing either through debt or equity instruments.

Northvolt's objective is to ensure suitable liquidity reserve available to achieve the company's business objectives for a minimum of the next 12 months held in cash, cash equivalents or available via committed credit facilities. All funds deposited will have a maximum tenor of 12 months.

3.1.4 Financing and refinancing risk

The financing risk and re-financing risk refers to the risk of not being able to meet the Group's financing needs in the medium- and long-term, not at all, partially or at higher costs. The risk may depend on the Group's creditworthiness and/or the market situation at the time of financing or re-financing.

Northvolt's policy is to ensure it has adequate funding to meet its business objectives of the Group and this is achieved through an appropriate mix of financing in the form of internally generated funds, equity financing and external debt instruments. Refinancing risk is mitigated by starting the process well ahead of any financing need.

Northvolt utilizes project finance based lending within the Group BU companies to finance new production facilities where these projects will generate stand-alone cash flows that support any underlying debt service and repayment without the support required from the Parent Company. Project finance loans by nature carry low refinancing risk as they are repaid by the cash flows of the projects that they are financing. This 'modular' approach on a project by project basis also reduces risk (see funding plan for more details).

Northvolt formally manages and reviews its compliance with all requirements under its financing and lending documentation on an ongoing basis. As per year end 2022 Northvolt was compliant with all covenants under this documentation. There are no financial covenants linking interest rates to credit rating or financial covenants apart from those noted under Convertible Loan 2.

The use of a Capital allocation model within the Group allocates sufficient funding towards the business units to enable them to achieve their business objectives and to enable any capital expenditures towards new production facilities that are planned as part of Northvolt's business model as approved by the Board of Directors.

The table below summarizes the maturity profile of the Group's financial liabilities based on contractual undiscounted payments.

Maturity profile of financial liabilities based on contractual undiscounted payments

Year ended Dec 31, 2022	Less than 3 months	Between 4 and 12 months	Between 1 and 2 years	Between 2 and 5 years	After 5 years	Total
Interest-bearing loans and borrowings	—	979,571	2,715,930	7,579,971	12,171,194	23,446,666
Convertible loan	—	—	—	29,270,326	—	29,270,326
Lease liability	47,044	138,266	122,930	192,670	123,401	624,311
Derivative financial instruments	73,058	31,075	—	—	—	104,133
Trade payables	3,373,805	—	—	—	—	3,373,805
Total	**3,493,907**	**1,148,912**	**2,838,860**	**37,042,967**	**12,294,595**	**56,819,241**

Year ended Dec 31, 2021	Less than 3 months	Between 4 and 12 months	Between 1 and 2 years	Between 2 and 5 years	After 5 years	Total
Interest-bearing loans and borrowings	—	—	140,487	5,238,751	4,518,543	9,897,781
Convertible loan	—	—	—	2,741,308	—	2,741,308
Lease liability	26,042	88,267	104,715	133,494	84,080	436,598
Derivative financial instruments	42,429	32,608	7,410	95,743	—	178,190
Trade payables	1,279,443	—	—	—	—	1,279,443
Total	**1,347,914**	**120,875**	**252,612**	**8,209,296**	**4,602,623**	**14,533,320**

The convertible loans are generally subject to mandatory conversion to shares. Only if Northvolt becomes insolvent or initiates insolvency proceedings the convertible loans are to be repaid.

3.1.5 Derivatives and hedge accounting

Northvolt enters into derivatives to hedge market risks. As per year end 2022 Northvolt had foreign currency derivatives and interest rate derivatives. Derivatives are entered into under ISDA agreements with counterparties that have at least an investment grade credit rating, with the vast majority having a credit rating of A- or higher.

Cash flow hedge accounting is applied for interest rate derivatives with terms that match the hedged liability, with respect to the nominal amounts, currency, reference interest rate, date of maturity and the payment and interest adjustment date. The effectiveness of the hedging relationship is evaluated when the transactions are entered into and on an ongoing basis. The hedge ratio is 1:1. Ineffectiveness may arise if creditworthiness of counterparties affects the fair value of the hedge and the hedged loan differently.

Hedging instruments designated in hedge accounting

Hedging instruments - hedge accounting is applied, 2022	in 3 months	3 months - 1 year	1 - 3 year	> 3 years	Total
Interest rate swaps in USD - cash flow hedge (USD)	—	156,162	908,600	60,238	1,125,000
Average USD fixed rate	0.7027%	0.7027%	0.7027%	0.7027%	

Hedging instruments - hedge accounting is applied, 2021	in 3 months	3 months - 1 year	1 - 3 year	> 3 years	Total
Interest rate swaps in USD - cash flow hedge (USD)	142,383	461,720	490,438	30,460	1,125,000
Average USD fixed rate	0.7027%	0.7027%	0.7027%	0.7027%	

The hedging instruments include forward starting forwards. The peak nominal amount of USD 1,125 m in year 2023 and 2024 and is thereafter amortizing down to 0 in 2027, matching the contractual nominal amount of the hedged USD liability.

Effects of hedge accounting on financial position and performance - Actual hedge accounting relationships

	Hedging instruments designated in hedge accounting as per Dec 31, 2022			Hedged item as per Dec 31, 2022	Period - change of fair value, measurement of ineffectiveness	
Year 2022	Nominal amount	Carrying amount	Item in the statement of financial position	Carrying amount	Hedging instrument	Hedged item
Cash flow hedge of interest rate risk						
Interest rate swaps in USD - cash flow hedge, hedging liabilities in USD	1,125,000	832,696	Derivative financial instrument	-14,807,286	695,465	-695,465

No ineffectiveness was recognized in profit or loss during the year.

	Hedging instruments designated in hedge accounting as per Dec 31, 2021			Hedged item as per Dec 31, 2021	Period - change of fair value, measurement of ineffectiveness	
Year 2021	Nominal amount	Carrying amount	Item in the statement of financial position	Carrying amount	Hedging instrument	Hedged item
Cash flow hedge of interest rate risk						
Interest rate swaps in USD - cash flow hedge, hedging liabilities in USD	1,125,000	137,231	Derivative financial instrument	-9,897,781	137,231	-137,231

No ineffectiveness was recognized in profit or loss during the year.

Effects of hedge accounting on financial position and performance - Reconciliation of cash flow hedge reserve (interest rate risk)

	2022	2021
Opening balance, carrying amount	—	—
Additional items during the period		
Fair value changes on interest rate swaps	1,071,029	202,835
Reclassified amounts to profit or loss statement (as hedged item affect profit or loss statement)	-22,294	-30,000
Sum additional items, recognized in other comprehensive income during the period	**1,048,735**	**172,835**
Taxes, recognized in other comprehensive income during the period	-216,039	-35,604
Closing balance, carrying amount	**832,696**	**137,231**
whereof ongoing hedging relationships	832,696	137,231
whereof discontinued hedging relationships	—	—

Note 4

Revenue from contracts with customers

Accounting policies

Revenue from contracts with customers consists of project sales, product sales and other revenue such as service and aftermarket products. Revenue is recognized at the point when the customer gains control of the goods or services and have the ability to direct the use and obtain the benefits from the goods and services according to the agreed terms of the contract.

Product sales

Product sales is sales of standardized battery system modules and cells, often derived as a result of historical development projects. Revenue from product sales is recognized at a specific point in time, when a customer obtains control of a good, which normally coincides with the delivery to the customer and when there are no unfulfilled obligations that could affect the customer's acceptance of the goods. The transfer of control is based on the delivery terms agreed with the customer in the sales contract. The delivery of products in each customer order comprises of a single performance obligation. The transaction price for product sales is fixed and revenue is measured at the amount that reflects the considerations to which the Group expects to be entitled to for those goods. Delivered goods are normally invoiced in connection with delivery, but in some cases, control is transferred prior to the customer paying consideration or before payment is due, which results in the recognition of a contract asset, excluding any amounts presented as a receivable. Contract assets are recognized under 'Prepaid expenses and accrued income' in the consolidated statement of financial position.

Project sales

Project sales is generated through developing customized battery systems and cells to long-term partners. Development projects attributable to the battery system and cell business are often long-term and may consist of several performance obligations related to separate components in the development phase. Revenue from project sales is recognized at a specific point in time, when control of a distinct development component has been transferred and accepted by the customer. The transaction price for development contracts are fixed and do not include any variable components. Invoicing for development contracts is normally determined based on the delivery of distinct development components. The Group may receive advance payments before the performance obligation have been met and those advance payments are recorded as a contract liability until the performance obligation is met. Contract liabilities are recognized under 'Accrued expenses and deferred income' in the consolidated statement of financial position. Advance payments from customers are normally recognized as revenue in the subsequent fiscal year.

Warranty obligations

The Group typically provides warranties for general repairs of defects that existed at the time of sale, as required by law. These assurance-type warranties are accounted for as warranty provisions. The Group makes provisions for future expenses relating to warranty obligations for general repairs of defects that existed at the time of sale or as required by law. Initial recognition is based on historical experience. The estimate of warranty-related costs is revised annually.

Trade receivables

A receivable is recognized if an amount of consideration that is unconditional is due from the customer (i.e., only the passage of time is required before payment of the consideration is due). Refer to Note 3 for further information on expected credit loss related to trade receivables.

4.1 Revenue from contracts with customers

Set out below is the disaggregation of the Group's revenue from contracts with customers:

Year-ended 31 December	2022	2021
Revenue from contracts with customers		
Product sales	967,491	445,796
Project sales	74,187	169,016
Other	41,594	63,280
Total revenue from contracts with customers	**1,083,272**	**678,092**
Geographic markets*		
Sweden	649,803	402,354
Germany	118,197	81,515
Norway	109,947	124,318
Other countries within Europe	162,396	27,670
US	42,929	42,235
Total revenue from contracts with customers	**1,083,272**	**678,092**

*Net sales are broken down by country based on where the customer is located.

The Groups contracted revenues as of December 31, 2022, amounted to USD 55 bn and are expected to be recognized from 2023 as commercial deliveries begin through 2032. Revenue from contracts with customers is recognized when control has transferred to the customer and the performance obligation is satisfied. The payment received may not match the revenue earned for the period. This results in the recognition of trade receivables, contract assets and contract liabilities.

As at year-end	Dec 31, 2022	Dec 31, 2021
Trade receivables	395,683	187,626
Contract assets	68,892	50,920
Contract liabilities	88,060	55,805

The Group has elected to apply the practical expedient not to adjust the transaction price for the existence of significant financing component when the period between the transfer of control of good or service to a customer and the payment date is one year or less.

Note 5

Other operating income and expenses

	2022	2021
Operating income		
Government grants	127,270	67,095
Exchange rate gains	55,535	592,559
Other operating income	77,132	6,624
Total	**259,937**	**666,278**
Operating expenses		
Exchange rate losses	-91,796	-256,448
Other operating expenses	-17,224	—
Total	**-109,020**	**-256,448**
Net operating income and expenses	**150,917**	**409,830**

See Note 19 for further information on government grants.

Note 6

Fees and remuneration to the Group's auditors

	2022	2021
EY		
Audit fees	4,659	3,564
Audit activities other than the audit assignment	400	316
Tax consultancy services	208	—
Other services	2,187	375
Total	**7,454**	**4,255**

Audit fees refer to the statutory audit of the annual accounts and accounting documents as well as the Board of Directors and the CEO, and audit and other review work conducted according to agreements or contracts. This includes other tasks that are incumbent upon the company's auditors as well as advisory services or other assistance required as a result of observations made during such review work or the completion of such other tasks. Other services performed refer to other ongoing advisory fees.

Note 7

Employee benefit expense

Accounting policies

Employee benefits refer to all forms of remuneration that the Group provides to employees. Short-term benefits include salaries, paid leave, paid absences and bonuses. Long-term benefits include post-employment benefits (pension). Employee benefits are recognized as an expense as employees' services are performed. A liability is recognized where there is a legal or informal obligation to pay compensation as a result of a previous event and a reliable estimate of the amount can be made.

Post-employment benefits

The Group only has defined contribution pension plans. Defined contribution plans are classified as plans where fixed fees are paid and there is no obligation to pay anything further, in addition to these fees.

Expenditure on defined contribution plans is reported at an expense during the period during which the employees perform the services on which the obligation is based.

Severance pay is reported when the Group has a legal or informal obligation to terminate employment before its termination or to provide termination compensation by offering to encourage voluntary redun-

dancy. Provision is made for part of the termination salary that the employee receives without a duty with a social security supplement, which represents the best estimate of the remuneration expected to be required to settle the obligation.

Share-based compensation

Employees within the Cuberg subsidiary of the Group receive remuneration in the form of share-based payments, whereby employees render services as consideration for equity instruments (equity-settled transactions).

The cost of equity-settled transactions is determined by the fair value at the date when the grant is made using the Black Scholes valuation model, further details of which are given in Note 7.4 Share-based compensation and warrants.

That cost is recognized in the consolidated statement of profit or loss, together with a corresponding increase in equity (other paid-in capital), over the period in which the service and, where applicable, the performance conditions are fulfilled (the vesting period). The cumulative expense recognized for equity-settled transactions at each reporting date until the vesting date reflects the extent to which the vesting period has expired and the Group's best estimate of the number of equity instruments that will ultimately vest. The expense or credit in the consolidated statement of profit or loss for a period represents the movement in cumulative expense recognized as at the beginning and end of that period.

Northvolt also gives the opportunity for employees to purchase warrants in Northvolt AB upon joining. Employees pay market value for these warrants and therefore these programs are not measured in accordance with IFRS 2. Further details can be found in Note 7.4 Share-based compensation and warrants.

7.1 Salaries, other remuneration and social security contributions

	2022	2021
Salaries	2,002,781	1,060,784
Social costs	629,048	328,778
Pension costs	212,344	102,264
Share-based compensation	65,063	87,320
Other personnel cost	168,280	44,002
Total	**3,077,516**	**1,623,148**
of which to Boards of Directors, Chief Executive Officer and Other Officers		
Salaries	32,929	35,265
Social costs	11,923	15,148
Pension costs	6,319	9,474
Share-based compensation	—	—
Total	**51,171**	**59,887**

Total salary, other remuneration and social security contributions included in:	**2022**	**2021**
Cost of goods sold	943,886	340,328
Research and development expenses	803,796	481,907
Selling, general and administrative expenses	1,329,834	800,913
Total	**3,077,516**	**1,623,148**

7.2 Average number of employees

	2022		2021	
	Average employees	of which women %	Average employees	of which women %
Sweden	3,092	30%	1,683	32%
Poland	283	25%	154	23%
Germany	10	15%	3	—
Total Europe	**3,385**	**30%**	**1,840**	**31%**
USA	126	28%	72	35%
Japan	1	—	—	—
Total Other	**127**	**28%**	**72**	**35%**
Total Northvolt Group	**3,512**	**30%**	**1,912**	**31%**

7.3 Gender distribution in senior management

	Dec 31, 2022		Dec 31, 2021	
	Total	of which women %	Total	of which women %
Board of directors	8	25%	8	13%
CEO and senior executives	13	31%	14	21%

7.4 Share-based compensation and warrants

Warrant program

The Group offers all new employees to purchase warrants to subscribe for new shares in Northvolt AB. Each warrant grants a right to purchase (convert to) an ordinary Northvolt series A share at a certain time in the future. The employee is given the right to acquire a warrant for a market price determined by a third-party valuation. At the strike date, the employee has the right to buy one share at the strike price from the valuation and as set out in the terms for the warrants. The warrants vest over a four-year period with 25% vesting each year. Vesting for a new employee starts with the first working day at Northvolt. The employee must remain in services during the vesting period.

The following table illustrates the outstanding warrants for each year.

Warrants outstanding	2022	2021
Balance at January 1	1,493,196,464	1,410,917,164
Issued	560,928,532	272,676,166
Forfeited*	-33,028,500	-111,896,861
Exercised	-707,052,125	-78,500,005
Balance at December 31	**1,314,044,371**	**1,493,196,464**
Exercisable at December 31	—	—

*Unvested warrants that have been bought back from employees who have left the company.

The weighted average remaining contractual life for the warrants outstanding as at December 31, 2022 was 2.38 years (2021: 1.54 years).

The weighted average share price of warrants exercised during the year was SEK 0.1501 (2021: SEK 0.1644).

The weighted average exercise price during the year was SEK 2.1715 (2021: SEK 0.7736).

The range of exercise prices for warrants outstanding for the two years 2021- 2022 was SEK 1.31 to SEK 4.01.

Employee Stock Option Plan (2021)

Under the Employee Stock Option Plan (ESOP), share options of the Parent Company are granted to employees of Cuberg, Inc - "Cuberg". Each stock option granted gives the holder the right to buy one ordinary share of series A in Northvolt at a certain time in the future. The exercise price of the share options is equal to the market price of the underlying shares on the date of the grant. The share options vest over a four-year period, with 25% vesting after the first year and monthly vesting thereafter. The employee must remain in services during the vesting period.

The fair value of the share options granted is estimated at the grant date using a Black Scholes pricing model, taking into account the terms and conditions on which the share options were granted.

The share options can be exercised up to one year after the four-year vesting period and therefore, the

contractual term of each option granted is five years. There are no cash settlement alternatives. The Group accounts for the ESOP as an equity-settled plan.

The expense recognized for employee services received during the year is shown in the following table:

	2022	2021
Expense arising from equity-settled share-based payments	1,251	279
Total expense	**1,251**	**279**

There were no modifications to the options in 2022.

Movements during the year

The following table illustrates the number and weighted average exercise price (WAEP) of, and movement in share options during the year.

	2022 number	2022 WAEP
Outstanding at January 1	**20,101,334**	**3.07**
Granted	84,932,500	3.73
Forfeited	-3,903,055	3.10
Exercised	-964,440	3.05
Expired	—	—
Outstanding at December 31	**100,166,339**	**3.63**
Exercisable at December 31	12,731,712	3.29

	2021 number	2021 WAEP
Outstanding at January 1	**—**	**—**
Granted	20,768,001	3.07
Forfeited	-666,667	—
Exercised	—	—
Expired	—	—
Outstanding at December 31	**20,101,334**	**3.07**
Exercisable at December 31	—	—

The weighted average remaining contractual life for the share options outstanding as at December 31, 2022 was 4.00 years (2021: 4.84 years).

The weighted average fair value of options granted during the year was SEK 0.06 (2021: SEK 0.08

The range of exercise prices for options outstanding at the end of the year was SEK 3.05 to SEK 4.01.

The following table illustrates the input to the valuation model used to calculate the fair value of the equity-instrument per the grant date.

	2022	2021
Dividend yield (%)	0	0%
Expected volatility (%)	36.0%	40.0%
Risk–free interest rate (%)	—	0%
Forfeiture rate (%)	9.0%	9.2%
Weighted average share price	SEK 1.369	SEK 1.014

The expected life of the share options is based on historical data and current expectations and is not necessarily indicative of exercise patterns that may occur. The expected volatility reflects the assumption that the historical volatility over a period similar to the life of the options is indicative of future trends, which may not necessarily be the actual outcome.

Cuberg contingent employment (2021)

On March 5, 2021, the Group acquired 100% of the shares of Cuberg, Inc. A buy-back option was agreed as part of the transaction which required certain employees of Cuberg to continue their employment over a four-year term. Per IFRS 3, consideration related to continuing employment is treated as remuneration for future services and not part of the consideration transferred in the business combination. The contingent payment is affected by employment termination and is therefore accounted for as share-based compensation. The shares vest over a four-year period, with 25% vesting after the first year and monthly vesting thereafter. The remuneration for future services amounted to SEK 177 m, of which the expense recorded in the period ending December 31, 2022 was SEK 56.8 m (2021: SEK 87.3 m). The remaining SEK 33.6 m to be released as share-based compensation over the vesting period are recorded under non-current assets and current assets in the consolidated statement of financial position. For the period ending December 31, 2022 SEK 8.9 m was recorded as non-current asset and 24.7 m recorded as current asset.

Shares issued to founders as part of acquisition of	2022	2021
Number of shares issued at acquisition date	—	6,132,292
Number of shares vested during the year	1,651,001	1,149,805
Number of shares subject to buy-back option	3,331,486	4,982,487

Note 8

Net financial items

	2022	2021
Finance income		
Foreign-exchange gains	2,753,713	2,050,078
Interest income measured at amortized cost	402,143	25,755
Gain on currency derivatives measured at fair value through profit or loss	144,071	—
Total	**3,299,927**	**2,075,833**
Finance expense		
Interest on debts and borrowings measured at amortized cost	-1,119,725	-224,773
Interest on lease liability	-30,020	-18,955
Loss on currency derivatives measured at fair value through profit or loss	-454,137	—
Foreign-exchange losses	-1,648,925	-682,284
Other financial expenses	-4,460	-10,110
Total	**-3,257,267**	**-936,122**
Net financial items	**42,660**	**1,139,711**

Note 9

Income tax

Current income tax

Current income tax is recognized as an expense and included in profit or loss for the period when incurred, except when the underlying transaction is reported directly against equity or other comprehensive income, in which case the accompanying tax is also reported in equity or other comprehensive income. Current income taxes are based on each entity's taxable income for the period.

Current income tax assets and liabilities are measured at the amount expected to be recovered from or paid to the taxation authorities. The tax rates and tax laws used to compute the amount are those that are enacted or substantively enacted at the reporting date in the countries where the Group operates and generates taxable income.

Deferred tax

Deferred tax is reported according to the balance sheet method for all temporary differences between an asset's or a liability's tax base and its carrying amount in the balance sheet for financial reporting purposes at the reporting date.

Deferred tax assets relating to loss carry-forwards are recognized to the extent it is probable that they will be utilized in the future.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the year when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted at the reporting date.

The carrying amount of deferred tax assets is reviewed at each reporting date and reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be utilized. Unrecognized deferred tax assets are re-assessed at each reporting date and are recognized to the extent that it has become probable that future taxable profits will allow the deferred tax asset to be recovered.

In assessing the recoverability of deferred tax assets, the Group relies on the same forecast assumptions used elsewhere in the financial statements and in other management reports, which, among other things, reflect the potential impact of climate-related development on the business, such as increased cost of production as a result of measures to reduce carbon emission.

Deferred tax relating to items recognized outside profit or loss is recognized outside profit or loss.

Deferred tax items are recognized in correlation to the underlying transaction either in OCI or directly in equity.

Accounting judgments, estimates and assumptions

Taxes

Deferred tax assets are recognized for unused tax losses to the extent that it is probable that taxable profit will be available against which the losses can be utilized. Significant management judgment is required to determine the amount of deferred tax assets that can be recognized, based upon the likely timing and the level of future taxable profits, together with future tax planning strategies.

The Group has SEK 6.6 bn of tax losses carried forward as of December 31, 2022 (2021-12-31: SEK 2.5 bn). The group assesses on an ongoing basis as well as at the end of the year the possibility of recognizing deferred tax assets related to loss carry-forwards. Deferred tax assets attributable to loss carry-forwards are reported only if it is probable that they will be used towards taxable profits in the foreseeable future. Deferred tax assets are only recognized in countries and by amounts where the Group expects to be able to generate, in the foreseeable future, sufficient taxable income to benefit from tax reductions. The deferred tax assets attributable to the loss carry-forwards, primarily consist of losses carried forward existing in Sweden. In Sweden, subject to observing rules in regard to change of control, these losses can be carried forward indefinitely.

9.1 Consolidated profit or loss

Current income tax	2022	2021
Current tax	—	—
Deferred tax income (losses carried forward)	392,456	443,803
Deferred tax expense (temporary differences)	-57,267	-7,527
Income tax benefit (expense) reported in the statement of profit or loss	**335,189**	**436,276**

9.2 Consolidated other comprehensive income

Income tax expense	2022	2021
Deferred tax related to items recognized in OCI during the year:		
Net gain (loss) on cash flow hedges	-180,435	-35,604
Net gain (loss) on investment in equity instrument	-5,612	—
Deferred tax charge to OCI	**-186,047**	**-35,604**

9.3 Reconciliation of effective tax

Reconciliation of effective tax	2022	2021
Profit (loss) before income tax	-3,219,307	-1,096,259
Income tax calculated in accordance with national tax rates applicable in each country	-682,542	232,407
Non tax deductible expenses	233,755	-172,280
Tax deductible items not booked in profit or loss	-106,964	—
Unrecognized taxable losses	555,751	-67,654
Recognition of tax losses carried forwards	359,311	443,803
Other deferred tax effects	-24,122	—
Reported tax income (expense)	**335,189**	**436,276**

9.4 Deferred tax assets and liabilities recognized in the balance sheet

The table below specify the tax effect of temporary differences:

Deferred tax assets	Tax losses carried forward	Buildings	Lease Liability	Warranty	Total
Opening balance Jan 1, 2021	—	—	63,872	—	63,872
Recognized:					
In profit or loss	443,803	7	26,607	—	470,417
Closing balance Dec 31, 2021	**443,803**	**7**	**90,479**	**—**	**534,289**
Recognized:					
In profit or loss	359,312	23	27,462	5,660	392,457
Closing balance Dec 31, 2022	**803,115**	**30**	**117,941**	**5,660**	**926,746**

Deferred tax liabilities	Buildings	Intangible assets	Right-of-use assets	Fair value of financial instruments	Total
Opening balance Jan 1, 2021	—	—	61,733	—	61,733
Arising through business combinations	—	34,890	—	—	34,890
Recognized:					
In profit or loss	8,570	233	25,338	—	34,141
Through other comprehensive income	—	—	—	35,604	35,604
Closing balance Dec 31, 2021	**8,570**	**35,123**	**87,071**	**35,604**	**166,368**
Recognized:					
In profit or loss	8,512	2,334	11,818	40,216	62,880
Through other comprehensive income	—	—	—	180,435	180,435
Closing balance Dec 31, 2022	**17,082**	**37,457**	**98,889**	**256,255**	**409,683**

Deferred tax liabilities attributable to right-of-use assets amounting to SEK 98.9 m in 2022 (2021: SEK 87.1 m) have been offset against deferred tax assets attributable to lease liabilities amounting to SEK 117.9 m in 2022 (2021: SEK 90.5 m) in accordance with the requirements for offsetting. Thus, the consolidated statement of financial position presents the following net deferred tax assets and tax liabilities, respectively:

Net deferred tax in the balance sheet	Dec 31, 2022	Dec 31, 2021
Net deferred tax asset	827,857	447,218
Net deferred tax liability	310,794	79,297

9.5 Distribution of expiry dates of tax losses carried forward

Year	2022	2021
Expires 2025	14,107	14,107
Expires 2026	16,685	16,685
Expires 2027	8,938	8,938
Expires 2028	14,234	—
No expiry date	6,526,332	2,435,334
Total	**6,580,296**	**2,475,064**

The losses displayed are total loss carry-forwards, including both losses for which a deferred tax asset has been recognized and those for which a deferred tax asset has not been recognized.

Deferred tax assets relating to loss carry-forwards are recognized to the extent that there is a high probability that they will be utilized in the future. Loss carry-forwards are not recognized as deferred tax assets where there is uncertainty relating to their future utilization.

Note 10

Intangible assets and goodwill

Accounting policies

An intangible asset is an identifiable non-monetary asset without physical substance that is used for producing or supplying goods or services. Intangible assets acquired separately are measured on initial recognition at cost. The cost of intangible assets acquired in a business combination is their fair value at the date of acquisition. Following initial recognition, intangible assets are carried at cost less any accumulated amortization and accumulated impairment losses. Internally generated intangibles, excluding capitalized development costs, are not capitalized and the related expenditure is reflected in profit or loss in the period in which the expenditure is incurred. To be recognized as an asset, it is necessary that future economic benefits attributable flow to the entity and that the cost can be reliably estimated.

Intangible assets with finite lives are amortized over the useful economic life and assessed for impairment whenever there is an indication that the intangible asset may be impaired. The amortization period and the amortization method for an intangible asset with a finite useful life are reviewed at least at the end of each reporting period. Amortization is recognized in the income statement on a straight line over the useful life of the intangible asset.

Intangible assets with indefinite useful lives are not amortized, but are tested for impairment annually, either individually or at the cash-generating unit level. The assessment of indefinite life is reviewed annually to determine whether the indefinite life continues to be supportable. If not, the change in useful life from indefinite to finite is made on a prospective basis.

Goodwill
Goodwill is recognized as an intangible asset with indefinite useful life. Goodwill is allocated and tested at the level of cash-generating units. Goodwill acquired through business combinations are allocated to their respective cash generating units ("CGUs"). Impairment test of goodwill is conducted annually or as needed if there is an indication of impairment. Where an indicator of impairment exists or when impairment testing for an asset is required, the Group makes a formal assessment of the recoverable amount.

Research and development costs
Research costs are expensed in the income statement as incurred.

Development expenditures, which are expenses for designing new or improved products, materials, systems or processes are recognized as an intangible asset when the Group can demonstrate that the activities meet the criteria for capitalization.

Following initial recognition of the development expenditure as an asset, the asset is carried at cost less any accumulated amortization and accumulated impairment losses.

Amortization of the asset begins when development is complete, and the asset is available for use. It is amortized over the period of expected future benefit. During the period of development, the asset is tested for impairment annually. Expenses for regular maintenance and modifications of existing products, materials, systems or processes are not recognized as development expenses. Further expenditures for capitalized intangible assets are recognized as an asset only when they increase the future economic benefits of the asset, they are attributable to.

Other intangible assets
Other intangible assets include patents and developed technology acquired as part of the acquisition of Cuberg, Inc in 2021. Acquired patents and technology are recognized at costs less accumulated depreciation and any impairment.

Accounting judgments, estimates and assumptions
Impairment of non-financial assets
Impairment exists when the carrying value of an asset or cash generating unit exceeds its recoverable amount, which is the higher of its fair value less costs of disposal and its value in use. The value in use calculation is based on cash flows derived from the budget or business plan for the coming years. The recoverable amount is sensitive to the discount rate used as well as the expected future cash-inflows and the growth rate used for extrapolation purposes. The key assumptions used to determine the recoverable amount for the different cash generating units, are disclosed and further explained below.

Development costs
The Group capitalizes costs for product development projects. Initial capitalization of costs is based on management's judgment that technological and economic feasibility is confirmed, usually when a product development project has reached a defined milestone according to the defined internal model. Capitalization occurs when the project enters this development phase and the product is able to be completed, sold and generate future economic benefits. In determining the amounts to be capitalized, management makes assumptions regarding the expected future cash generation of the project, discount rates to be applied and the duration of the economic benefits. At December 31, 2022, the carrying amount of capitalized development costs was SEK 752 m (2021-12-31: SEK 299 m).

Estimated useful life

	Developed Technology	Development Costs
Useful lives	**Finite (15 years)**	**Finite (5 years)**
Amortization method used	Straight line over the useful of the technology	Straight line over period of expected future sales from related project
Internally generated or acquired	Acquired	Internally generated

	Capitalized R&D expend-iture	Patents, and licenses	Developed Technology	Goodwill	Total
Cost					
At Jan 1, 2021	91,937	97	—	—	92,034
Additions - Internally generated	227,280	—	—	—	227,280
Business combinations		—	116,924	323,020	439,944
Translation differences for the year	—	—	6,975	18,488	25,463
At Dec 31, 2021	**319,217**	**97**	**123,899**	**341,508**	**784,721**
Amortization and impairment					
At Jan 1, 2021	-3,526	—	—	—	-3,526
Amortizations for the year	-6,384	—	-5,878	—	-12,262
Impairment	-10,334	-97	—	—	-10,431
Translation differences for the year	—	—	-317	—	-317
At Dec 31, 2021	**-20,244**	**-97**	**-6,195**	**—**	**-26,536**
Net carrying amounts					
At Dec 31, 2021	**298,973**	**—**	**117,704**	**341,508**	**758,185**
Cost					
At Jan 1, 2022	319,217	97	123,899	341,508	784,721
Additions - Internally generated	459,284	100	—	—	459,384
Business combinations	—	—	—	—	—
Translation differences for the year	—	—	19,090	40,204	59,294
At Dec 31, 2022	**778,501**	**197**	**142,989**	**381,712**	**1,303,399**

	Capitalized R&D expend-iture	Patents, and licenses	Developed Technology	Goodwill	Total
Amortization and impairment					
At Jan 1, 2022	-20,244	-97	-6,195	—	-26,536
Amortizations for the year	-6,422	—	-9,477	—	-15,899
Impairment	-90	—	—	—	-90
Translation differences for the year	22	—	-1,010	—	-988
At Dec 31, 2022	**-26,734**	**-97**	**-16,682**	**—**	**-43,513**
Net carrying amount					
At Dec 31, 2022	**751,767**	**100**	**126,307**	**381,712**	**1,259,886**

Total depreciation, amortization and impairment included in:	**2022**	**2021**
Cost of goods sold	—	—
Research and development expenses	9,477	5,974
Selling, general and administrative expenses	6,512	16,719
Total	**15,989**	**22,693**

During the year ended December 31, 2022, the Group incurred SEK 1,815 m of research and development expenditures, of which SEK 459 m were capitalized and SEK 1,356 m were recognized in the consolidated statement of profit or loss. The Group incurred SEK 951 m of research and development expenditures in 2021, of which SEK 227 m were capitalized and SEK 724 m were recognized in the consolidated statement of profit or loss.

The Group capitalized personnel cost related to research and development projects of SEK 193.1 m in 2022 (2021: SEK 163.5 m).

Impairment of non-financial assets

The Group assesses at each reporting date whether there are indications of impairment. If any indication exists, or when annual impairment testing for an asset is required, the Group estimates the asset's recov-

erable amount. Impairment is recognized at the amount by which the carrying amount of the asset exceeds its recoverable amount.

When determining value in use, future cash flows are discounted to their present value using a discount rate that takes into account a risk-free interest rate and the risks specific to the asset. The Group bases its impairment calculation on the most recent budgets and business plans, which are prepared separately for each of the Group's cash generating units. A cash-generating unit is the smallest level where cash inflows that are largely independent of the cash inflows from other assets exist, typically a business unit or subsidiary.

For assets excluding goodwill, an assessment is made at each reporting date to determine whether there is an indication that previously recognized impairment losses no longer exist or have decreased. If such indication exists, the Group estimates the assets or cash generating units recoverable amount. A previously recognized impairment loss is reversed only if there has been a change in the assumptions used to determine the asset's recoverable amount since the last impairment loss was recognized. The reversal is limited so that the carrying amount of the asset does not exceed its recoverable amount, nor exceed the carrying amount that would have been determined, net of depreciation, had no impairment loss been recognized for the asset in prior years. Such a reversal is recognized in the consolidated statement of profit or loss.

Goodwill, intangible assets with an indefinite useful life and intangible assets under development not ready for use are tested for impairment annually as at the reporting date and when circumstances indicate that the carrying value may be impaired. Impairment losses relating to goodwill cannot be reversed in future periods.

Impairment test

The table below specifies goodwill allocated to each CGU:

Goodwill allocated to each CGU	2022	2021
Systems	146,839	137,992
Cuberg	234,873	203,516
Total goodwill	**381,712**	**341,508**

The Group considers the relationship between carrying value and the recoverable amount when reviewing indicators of impairment. If the carrying value of a CGU exceeds its recoverable amount the CGU is considered impaired and is written down to its recoverable amount. The recoverable amount has been determined based on value-in-use calculations using cash-flow projections from long term forecasts approved by management covering an 8-year period. In determining the appropriate length of projections consideration has been given to i) the intrinsic long-term nature of development and production cycles within cell and system manufacturing and ii) the significant attention the Group has allocated to developing and reviewing the same long-term financial projections. The Cash flows beyond year 8 are extrapolated using the estimated growth rate.

For both Systems and Cuberg, assumptions on long-term revenue growth and margins strongly influence the value in use. These assumptions have been developed based on the Group's current assessment of the sectors in question, being energy storage solutions for Systems, and electrification of the aviation sector for Cuberg. As these are developing markets, historical data offers limited guidance. Given higher performance requirements the aviation segment is assumed to allow for above average margins. In addition, the calculation is sensitive to the following key assumptions:

	2022	2021
Discount rate:		
Weighted average cost of capital (pre-tax), Systems	13.0%	11.3%
Weighted average cost of capital (pre-tax), Cuberg	12.8%	11.2%
Terminal growth rate, both Systems and Cuberg	2.0%	2.0%

As at December 31, 2022, the calculation of value in use did not demonstrate any requirement for impairment and did not indicate that any reasonably possible changes in key assumptions would result in an impairment requirement. In sensitivity tests of the carrying amount in relation to value in use, assumptions about the discount rate were changed with +/- 5 percentage points.

In addition to the annual impairment testing of the cash-generating units and goodwill, the Group also performed an annual impairment testing of internally generated intangible assets and patents. Other assets are also tested for impairment when there is an indication of an impairment need. No impairment was recorded for the period ending December 31, 2022.

Note 11

Property, plant and equipment

Accounting policies

Property, plant and equipment are recognized as assets if it is probable that future economic benefits from them will flow to the Group and the costs of the assets can be reliably measured. Property, plant and equipment are recognized at cost less accumulated depreciation and any impairment losses, if any.

Cost includes the purchase price plus all expenses directly attributable to the asset in order to bring it to the location and condition to be used in the manner intended. Directly attributable costs include delivery and handling costs including tariffs, installation, assembly, consultancy fees, legal and advisory fees. Where financing is undertaken for long term construction projects, the costs of borrowing are included in the asset. Where it is considered directly attributable, the cost of employees and materials are also included in the asset. When significant parts of plant and equipment are required to be replaced at intervals, the Group depreciates them separately based on their specific useful lives. Likewise, when a major inspection is performed, its cost is recognized in the carrying amount of the plant and equipment as a replacement if the recognition criteria are satisfied. All other repair and maintenance costs are recognized in profit or loss as incurred.

Depreciation is carried out on a straight-line basis over the expected useful life for all classes of property, plant and equipment, taking into account material residual value. Each component of an item of the property, plant and equipment that has a cost that is significant in relation to the total cost of the item is depreciated separately if the component is consumed in a different manner or over a different time period to the rest of the asset. In general, industrial buildings and factories include building components and building equipment/installations that have different useful lives. Certain parts of the building, such as frame and foundations are depreciated over 75 years, all other building components have a useful life between 10 and 40 years. Division into different components occurs only if major components with different useful economic lives can be identified. Plant and Machinery used in production and R&D activities has depreciation time between 3 and 15 years. Equipment and tools have a useful life between 3 and 5 years.

The Group reviews the estimated residual values and expected useful lives of assets at least annually. The residual values, useful lives and methods of depreciation of property, plant and equipment are reviewed at each financial year end and adjusted prospectively, if appropriate.

Borrowing costs

Borrowing costs directly attributable to the acquisition, construction or production of an asset that necessarily takes a substantial period of time to get ready for its intended use or sale are capitalized as part of the cost of the asset. All other borrowing costs are expensed in the period in which they occur. Borrowing costs consist of interest and other costs that an entity incurs in connection with the borrowing of funds.

	Land and buildings	Plant and machinery	Equipment and tools	Construction in progress	Total
Cost					
At Jan 1, 2021	302,675	108,493	13,913	10,252,774	10,677,855
Additions	17,777	27,442	62,581	9,750,600	9,858,400
Business combinations	984	6,448	19,292	6,602	33,326
Divestment and disposals	-740	—	—	—	-740
Reclassifications	919,200	1,676,720	2,112	-2,598,032	—
At Dec 31, 2021	**1,239,896**	**1,819,103**	**97,898**	**17,411,944**	**20,568,841**
Accumulated depreciation and impairment losses					
At Jan 1, 2021	—	-15,444	-1,848	-776	-18,068
Impairment losses	—	—	—	-226,596	-226,596
Depreciation for the year	-46,783	-187,019	-9,625	—	-243,427
At Dec 31, 2021	**-46,783**	**-202,463**	**-11,473**	**-227,372**	**-488,091**
Net carrying amounts					
At Dec 31, 2021	**1,193,113**	**1,616,640**	**86,425**	**17,184,572**	**20,080,750**

	Land and buildings	Plant and machinery	Equipment and tools	Construction in progress	Total
Cost					
At Jan 1, 2022	1,239,896	1,819,103	97,898	17,411,944	20,568,841
Additions	106,280	—	69,412	14,052,283	14,227,975
Divestment and disposals	—	-5,066	-2,254	—	-7,320
Reclassifications	70,371	304,478	45,605	-420,454	—
Translation differences for the year	4,155	1,329	13,005	31,341	49,830
At Dec 31, 2022	**1,420,702**	**2,119,844**	**223,666**	**31,075,114**	**34,839,326**
Accumulated depreciation and impairment losses					
At Jan 1, 2022	-46,783	-202,463	-11,473	-227,372	-488,091
Divestment and disposals	1	905	850	—	1,756
Depreciation for the year	-47,034	-249,764	-26,880	—	-323,678
Translation differences for the year	-5	-420	-797	—	-1,222
At Dec 31, 2022	**-93,821**	**-451,742**	**-38,300**	**-227,372**	**-811,235**
Net carrying amount					
At Dec 31, 2022	**1,326,881**	**1,668,102**	**185,366**	**30,847,742**	**34,028,091**

Total depreciation, amortization and impairment included in:	**2022**	**2021**
Cost of goods sold	300,416	232,015
Research and development expenses	15,286	2,470
Selling, general and administrative expenses	7,976	235,538
Total	**323,678**	**470,023**

Impairment losses on property, plant and equipment

In 2022 impairment losses in the net amount of SEK 0 were recognized (2021: SEK 226.6 m). The impairment loss recorded in 2021 was related to equipment that did not fulfil the process requirements needed for production. The equipment did not meet Northvolt's product specification and was determined to have no alternative use and was removed from the productions line in 2021.

Capitalized borrowing cost

Northvolt Group has received external funding for the development of large-scale battery factories. Borrowing costs that are directly attributable to the construction of these assets which require a substantial period for completion are capitalized during the period of time that is required to complete and prepare the asset for its intended use. Borrowing cost capitalized amounted to SEK 797.8 m in 2022, (2021: SEK 617.9 m). Borrowing costs were capitalized at an interest rate of around 5.4% in 2022 (2021: 5.8%)

Capitalized cost

The Group capitalized personnel cost of SEK 428.1 m in 2022 (2021: SEK 176.5 m). The Group also capitalized cost related to commissioning of SEK 545 m in 2022.

Purchase commitments

Contractual commitments for the acquisition of property, plant and equipment amounted to SEK 11.11 bn (2021: SEK 7.2 bn) as at December 31, 2022.

Note 12

Leases with Northvolt as lessee

Accounting policies

A contract is a lease, if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

The Group applies a single recognition and measurement approach for all leases, except for short-term leases of 12 months or less and leases of low-value assets. The Group recognizes lease liabilities to represent the obligation to make lease payments and right-of-use assets representing the right to use the underlying assets. Lease payments on short-term leases and leases of low-value assets are recognized as expense on a straight-line basis over the lease term.

Right-of-use assets are recognized at the commencement date of the lease and measured at cost, less any accumulated depreciation and impairment losses, and adjusted for any remeasurement of lease liabilities. The cost of right-of-use assets includes the amount of lease liabilities recognized, initial direct costs incurred, and lease payments made at or before the commencement date less any lease incentives received. Right-of-use assets are depreciated on a straight-line basis over the shorter of the lease term and the estimated useful lives of the assets in line with the Property, plant and equipment category to which they relate.

The Group recognizes lease liabilities measured at the present value of lease payments to be made over the lease term. The lease term is the non-cancellable period of the lease, taking into account any extension or termination options and whether it is reasonably certain that this option will be exercised. The lease payments are divided between interest expense and reduction of the outstanding liability. The lease payments include fixed payments (including in-substance fixed payments) less any lease incentives receivable, variable lease payments that depend on an index or a rate, and amounts expected to be paid under residual value guarantees. The lease payments also include the exercise price of a purchase option reasonably certain to be exercised by the Group and payments of penalties for terminating the lease, if the lease term reflects the Group exercising the option to terminate.

Variable lease payments that do not depend on an index or a rate are recognized as expenses in the period in which the event or condition that triggers the payment occurs.

When calculating the present value of lease payments, the Group uses the incremental borrowing rate at the lease commencement date if the interest rate implicit in the lease is not readily determinable. After the commencement date, the amount of the lease liability is increased to reflect the accretion of interest and reduced for the lease payments made. In addition, the carrying amount of lease liabilities is remeasured if there is a modification, a change in the lease term, a change in the lease payments or a change in the assessment of an option to purchase the underlying asset.

12.1 Right-of-use assets

Right-of-use assets	Land and buildings	Plant and machinery	Total
Accumulated acquisition cost			
At Jan 1, 2021	280,537	—	280,537
Additions	107,108	10,687	117,795
Remeasurements	160,887	—	160,887
Business combinations	5,301	—	5,301
At Dec 31, 2021	**553,833**	**10,687**	**564,520**
Depreciation and impairment losses			
At Jan 1, 2021	-47,091	—	-47,091
Depreciation for the year	-95,431	-487	-95,918
At Dec 31, 2021	**-142,522**	**-487**	**-143,009**
Net carrying amount			
At Dec 31, 2021	**411,311**	**10,200**	**421,511**

Right-of-use assets	Land and buildings	Plant and machinery	Total
Accumulated acquisition cost			
At Jan 1, 2022	553,833	10,687	564,520
Additions	86,803	79,418	166,221
Remeasurements	62,498	24,827	87,325
Translation differences for the year	2,785	6,018	8,803
At Dec 31, 2022	**705,919**	**120,950**	**826,869**
Depreciation and impairment losses			
At Jan 1, 2022	-142,522	-487	-143,009
Depreciation for the year	-114,356	-13,275	-127,631
Translation differences for the year	-6,177	-1,360	-7,537
At Dec 31, 2022	**-263,055**	**-15,122**	**-278,177**
Net carrying amount			
At Dec 31, 2022	**442,864**	**105,828**	**548,692**

12.2 Lease liability

As at year-end	Dec 31, 2022	Dec 31, 2021
Non-current	384,311	322,290
Current	161,769	114,308
Total	**546,080**	**436,598**

See Note 3 Financial risk management for the maturity profile of the lease liability.

12.3 Amounts recognized in the statement of profit or loss

	2022	2021
Depreciation for the year	127,631	95,918
Interest expenses related to lease liabilities	30,020	18,955
Expenses for low value assets	12,505	10,698
Expenses for short-term leases	1,695	3,778
Expenses related to variable lease expenses not included in the lease liability	5,672	8,320
Total amounts recognized in the income statement	**177,523**	**137,669**
The total cash outflow for leases during the year	**175,362**	**107,847**

Note 13

Group Information

The consolidated financial statement of the Group as per the balance sheet date include:

Company Name	Corp.Reg.No	Registered Office	Country of incorporation	% Voting and equity interest Dec 31, 2022	% Voting and equity interest Dec 31, 2021
Northvolt Japan K.K	1209-01-0386	Osaka	Japan	100	100
Northvolt Labs AB	559144-2891	Stockholm	Sweden	100	100
- Västerås Effekten 12 AB	559150-0391	Västerås	Sweden	100	100
Northvolt Ett AB	559154-7715	Stockholm	Sweden	100	100
- Northvolt Ett Fastighetsförvaltning AB	559118-2935	Stockholm	Sweden	100	100
Aurora Lithium AB	559163-0610	Stockholm	Sweden	100	100
Northvolt Systems AB	559244-0282	Stockholm	Sweden	100	100
- Northvolt Poland SP. Z O.O	KRS 000075226	Gdansk	Poland	100	100
Northvolt Revolt AB	559237-8060	Stockholm	Sweden	100	100
Northvolt Germany GmbH	HRB 25 3048	Hamburg	Germany	100	100
Northvolt Ett Expansion AB	559237-8078	Stockholm	Sweden	100	100
- Northvolt Ett Expansion Fastighetsförvaltning AB	559280-7415	Stockholm	Sweden	100	100
Cuberg, Inc.	5769258	Delaware	USA	100	100
NVC Energy V AB	559344-2642	Stockholm	Sweden	100	100
- NVC Energy VI AB	559344-2402	Stockholm	Sweden	100	100
NVC Energy VII AB	559344-2410	Stockholm	Sweden	—	100
- NVC Energy VIII AB	559344-2428	Stockholm	Sweden	—	100
Northvolt Fem AB	559381-5391	Stockholm	Sweden	100	—
- Northvolt Fem Fastighetsförvaltning AB	559281-4767	Stockholm	Sweden	100	—
Northvolt America, Inc.	6863285	Delaware	USA	100	—

Note 14

Business combinations

Accounting policies

Business combinations are accounted for under IFRS 3 using the acquisition method. The cost of an acquisition is measured as the aggregate of the consideration transferred, which is measured at acquisition date fair value, and the amount of any non-controlling interests in the acquiree.

The Group determines that it has acquired a business when the acquired set of activities and assets include an input and a substantive process that together significantly contribute to the ability to create outputs.

If the acquisition does not relate to business operations, as is normally the case when acquiring land for construction purposes, IFRS 3 is not applied. In such cases the acquisition cost is allocated among the individual assets and liabilities based upon their fair value on the acquisition date, without recognizing goodwill and any deferred tax assets/tax liability resulting from the acquisition.

Any contingent consideration to be transferred by the acquirer will be recognized at fair value at the acquisition date. The inherent risk of such contingent considerations is the probability of a reversal in future periods. Therefore, when assessing the contingent consideration, Northvolt uses either the most likely amount or the expected value method. Contingent consideration classified as equity is not remeasured and its subsequent settlement is accounted for within equity.

Goodwill is initially measured at cost (being the excess of the aggregate of the consideration transferred and the amount recognized for non-controlling interests and any previous interest held over the net identifiable assets acquired and liabilities assumed). After initial recognition, goodwill is measured at cost less any accumulated impairment losses.

For the purpose of impairment testing, goodwill acquired in a business combination is, from the acquisition date, allocated to each of the Group's cash-generating units that are expected to benefit from the combination, irrespective of whether other assets or liabilities of the acquiree are assigned to those units.

Where goodwill has been allocated to a cash-generating unit (CGU) and part of the operation within that unit is disposed of, the goodwill associated with the disposed operation is included in the carrying amount of the operation when determining the gain or loss on disposal. Goodwill disposed in these circumstances is measured based on the relative values of the disposed operation and the portion of the cash-generating unit retained and are further explained below.

If a business combination is carried out in several stages and control over an entity is obtained by acquiring an additional interest, the acquirer's previously held equity interest is remeasured to fair value at the date the controlling interest is acquired. The gain or loss resulting from the remeasurement of the previously held equity interest is recognized in the consolidated statement of profit or loss.

14.1 Acquisition of Cuberg, Inc.

On March 5, 2021, the Group acquired 100% of the voting shares of Cuberg, Inc. ("Cuberg"), a non-listed, U.S. based battery technology company delivering high-performance lithium metal cells produced on existing lithium-ion manufacturing lines for electromobility solutions. The Group acquired Cuberg because its exceptional ability to develop world-class technology and its proven results that combined with the capabilities and technology of Northvolt allows the Group to make significant improvements in both performance and safety when developing the next-generation battery cells.

Assets acquired and liabilities assumed

The fair values of the identifiable assets and liabilities of Cuberg as the date of acquisition were:

	Fair value recognized on acquisition
Assets	
Intangible assets	116,924
Property, plant and equipment	4,786
Right-of-use assets	9,434
Other Receivables	3,287
Cash and Cash equivalent	19,240
	153,671
Liabilities	
Deferred Tax Liability	-34,890
Other Payables	-3,248
Lease Liabilities	-9,434
	-47,572
Total identifiable net assets at fair value	**106,099**
Goodwill arising on acquisition	186,807
Purchase considerations transferred	**292,906**

The goodwill of SEK 186.8 m comprises the value of expected synergies arising from the acquisition. None of the goodwill recognized is expected to be deductible for income tax purposes.

From the date of the acquisition, Cuberg contributed SEK 12.6 m to net sales and SEK -52.2 m to profit (loss) for the year. If Cuberg had been consolidated from January 1, 2021, they would have contributed with SEK 15.1 m to net sales and SEK -58.1 m to profit (loss) for the year.

Purchase considerations	
Shares issued, at fair value	137,814
Cash consideration paid	95,276
Earn-out payment	29,483
Forgiven notes	30,333
Total Consideration	**292,906**
Analysis of cash flows on acquisition	
Transaction costs of the acquisition	-2,700
Cash payment	-95,276
Net cash acquired with the subsidiary	19,240
Net cash flow on acquisition	**-78,736**

The fair value of the shares is calculated with reference to the fair value of the shares of Northvolt AB at the date of acquisition, which was March 5, 2021. The fair value of the considerations given was therefore SEK 292.9 m. The value of the shares was established in the financing round completed during 2021.

Transaction costs incurred as a result of the acquisition of Cuberg of SEK 1.7 m and SEK 1 m were recorded in other external expenses in the consolidated statement of profit or loss for the year ended 2020 and 2021, respectively.

Earn-out payment

As part of the purchase agreement with the previous owners of Cuberg, Inc. a contingent consideration has been agreed in the event that Cuberg reaches a pre-defined milestone. An earn-out will be paid in Series A shares upon achievement of the earn-out milestone. As at the acquisition date, the fair value of the contingent consideration was estimated at SEK 30.3 m and was classified as equity under the line other paid-in capital. As at December 31, 2022, the key performance indicators of Cuberg show that it is highly probable that the target will be achieved due to a significant expansion of the business and the synergies realized.

Contingent consideration requiring continued employment

As part of the purchase agreement with the previous owners of Cuberg, it was agreed that part of the purchase consideration would require continued employment for certain employees of Cuberg. The contingent payment is affected by employment termination and is therefore accounted for as remuneration for future services. The remuneration will be equity settled wherefore it is accounted for as share-based payments in accordance with IFRS 2.

Contingent consideration requiring continued employment	
Shares issued, at fair value	177,932
Total consideration	**177,932**

14.2 Acquisition of Northvolt Poland z.o.o

Acquisition of additional interest in Northvolt Poland z.o.o

On March 19, 2021, Northvolt AB acquired the remaining 50% of the shares and voting rights in Northvolt Poland z.o.o ("Northvolt Poland") from Southbay Solutions Poland z.o.o reg.no. 3604051575, making the company a wholly owned subsidiary. The purchase considerations paid for the remaining 50% amounted to SEK 84.9 m. Northvolt Poland was previously classified as a joint venture and accounted for using the equity method. Northvolt AB's previously hold interest in Northvolt Poland of 50% was remeasured on March 19, 2021, which resulted in a remeasurement gain of SEK 68.6 m. The remeasurement gain was recognized on the line result from participation in joint ventures in the consolidated statement of profit or loss.

Assets acquired and liabilities assumed

The fair values of the identifiable assets and liabilities of Northvolt Poland as the date of acquisition were:

	Fair value recognized on acquisition
Assets	
Property, plant and equipment	24,322
Right-of-use assets	6,963
Inventories	21,131
Other Receivables	4,914
Cash and Cash equivalents	6,029
	63,359
Liabilities	
Other current liabilities	-22,870
Lease Liabilities	-6,963
	-29,833
Total identifiable net assets at fair value	**33,526**
Goodwill arising on acquisition	136,212
Purchase considerations transferred	**169,738**

The goodwill of SEK 136.2 m comprises the value of expected synergies arising from the acquisition. None of the goodwill recognized is expected to be deductible for income tax purposes.
From the date of the acquisition, Northvolt Poland contributed SEK 0 m of net sales and SEK -19.3 m to profit (loss) for the year. If Northvolt Poland had been consolidated from January 1, 2021, they would have contributed with SEK 0 m to net sales and SEK -19.1 m to profit (loss) for the year.

Purchase considerations	
Shares issued, at fair value	30,227
Cash payment	54,642
Fair value of previously owned shares at acquisition date	84,869
Total consideration	**169,738**

The fair value of the shares was calculated with reference to the fair value of the shares of Northvolt AB Company at the date of acquisition, which was March 19, 2021. The fair value of the considerations given was therefore SEK 84.7 m. The value of the shares was established in the financing round completed during 2021.

Note 15

Interest in joint ventures

Accounting policies

Joint ventures are a type of joint arrangement whereby Northvolt together with one or more other parties have joint control and rights to the net assets of the joint venture. Judgment is made whether joint control really exists when other facts and circumstances are taken into account.

The Group's investments in its joint ventures are accounted for using the equity method.

Under the equity method, the investment in a joint venture is initially recognized at cost and when Northvolt's share of losses in the joint venture exceeds its interest in the joint venture, further losses are not recognized unless there is a legal or contractual obligation to do so. The carrying amount of the investment is adjusted to recognize changes in the Group's share of net assets of the joint venture since the acquisition date. At each reporting date, the Group determines whether there is objective evidence that the investment in the joint venture is impaired and if there is such evidence, the loss is recognized within 'Results from participation in joint ventures' in the consolidated statement of profit or loss.

For unrealized gains and losses resulting from transactions between the Group and the joint venture, the portion equivalent to the Groups share of ownership is eliminated.

The Group has committed to future funding for all joint ventures.

Company name	Corp.Reg.No	Registered Office	Country of incorporation	% Voting and equity interest Dec 31, 2022	% Voting and equity interest Dec 31, 2021
HydroVolt AS	925,266,817.00	Fredrikstad	Norway	50	50
NOVO Energy AB	559344-2600	Gothenburg	Sweden	50	100
Aurora Lithium SA	516610422	Lisbon	Portugal	50	100

HydroVolt AS

In June 2020, this joint venture was established between Northvolt Revolt AB and Norsk Hydro ASA with the aim to develop a crushing and sorting facility to enable recycling of battery materials and aluminum from electric vehicles. The battery recycling facility is situated in Norway and the plant has the capacity to handle 12,000 ton of battery modules annually. HydroVolt AS is classified as a joint venture and accounted for using the equity method.

NOVO Energy AB

In January 2022, Northvolt Group sold 50% of its holdings in the previously wholly owned subsidiary, NOVO Energy AB, to Volvo Cars and entered into a joint venture for the development and sustainable production of batteries for the next generation of pure electric Volvo and Polestar cars. Subsequent to the closing date, Northvolt and Volvo Cars announced the plan to establish a research and development center and battery manufacturing facility in Gothenburg which will commence operations in 2025. NOVO Energy AB is classified as a joint venture and accounted for using the equity method.

Northvolt derecognized the assets and liabilities of the former subsidiary on January 14, 2022, and recognized the investment in NOVO Energy AB at its fair value, which resulted in a remeasurement gain of SEK 1,886 m. The remeasurement gain follows the recognition of the fair value of the assets transferred to NOVO Energy as per the initial agreement between the founding partners reduced by SEK 0.04 m cash received in cash for the sale of the shares. The remeasurement gain was recognized in the first quarter of 2022, under the line 'Result from sale of subsidiaries' in the consolidated statement of profit or loss.

Aurora Lithium S.A.

In February, 2022, Northvolt Group sold 50% of its holdings in the previously wholly owned subsidiary, Aurora Lithium S.A. to Galp and entered into a joint venture to develop a lithium conversion facility in Portugal and to establish a European lithium supply chain. The joint venture is engaged in the development of Europe's largest and most sustainable lithium conversion plant, with an annual production capacity of up to 35,000 tons of lithium hydroxide and the start of commercial operations in 2026. Aurora Lithium S.A. is classified as a joint venture and accounted for using the equity method. Northvolt derecognized the assets and liabilities of the former subsidiary on February 18, 2022, and recognized the investment in Aurora Lithium S.A. at its fair value. There was no gain or loss recognized as part of the sale of the shares.

The Group's investments in its joint ventures are accounted for using the equity method.

As at year ended Dec 31, 2022	HydroVolt AS	NOVO Energy Holding AB	Aurora Lithium SA	Total
Net Sales	3,806	—	—	3,806
Operating profit	-81,251	-62,363	-10,250	-153,864
Depreciation and amortization	—	—	—	—
Interest income	468	660	—	1,128
Other finance income	156	—	—	156
Interest cost	-3,433	—	—	-3,433
Other finance cost	-982	-2,328	-12	-3,322
Profit before tax	-85,042	-64,031	-10,262	-159,335
Income tax expenses	—	—	2,172	2,172
Profit (loss) for the year	**-85,042**	**-64,031**	**-8,090**	**-157,163**
Groups share of profit (loss)	**-42,521**	**-32,016**	**-4,045**	**-78,582**
Cash and cash equivalents	2,947	56,653	3,637	63,237
Other current assets	27,273	4,941	21,604	53,818
Non-current assets	103,406	3,805,773	32,649	3,941,828
Current financial liabilities	—	—	—	—
Other current liabilities	-51,307	-42,988	-26,431	-120,726
Non-current financial liabilities	-63,432	—	—	-63,432
Other non-current liabilities	—	—	—	—
Equity	-18,887	-3,824,379	-31,459	-3,874,725
Group's share in equity 50%	**-9,443**	**-1,912,190**	**-15,730**	**-1,937,363**

As at year ended Dec 31, 2022	HydroVolt AS	NOVO Energy Holding AB	Aurora Lithium SA	Total
Reconciliation to carrying amount				
Balance at Jan 1, 2022	1,478	—	—	1,478
Remeasurement	—	1,850,831	—	1,850,831
Acquisitions during the year	30,617	28,303	18,623	77,543
Share of profit (loss) for the year	-42,521	-32,016	-4,045	-78,582
Unrecognized share of losses	10,426	—	—	10,426
Balance at Dec 31, 2022	**—**	**1,847,118**	**14,578**	**1,861,696**

As at year ended Dec 31, 2021	HydroVolt AS	Total
Net Sales	309	309
Operating profit	-10,937	-10,937
Finance income	884	884
Finance Cost	-2,370	-2,370
Profit before tax	-12,423	-12,423
Income tax expenses	—	—
Profit (loss) for the year	**-12,423**	**-12,423**
Groups share of profit (loss)	**-6,212**	**-6,212**
Current assets	48,322	48,322
Non-current assets	45,461	45,461
Current liabilities	-27,110	-27,110
Non-current liabilities	-61,524	-61,524
Equity	-5,149	-5,149
Group's share in equity 50%	**-2,575**	**-2,575**

Note 16

Inventories

Accounting policy

Inventories are valued at the lower of cost and net realizable value. Net realizable value is the estimated selling price in the ordinary course of business, less estimated costs of completion and the estimated costs necessary to make the sale.

Raw materials and purchased goods are measured on a first-in, first-out (FIFO) or average cost basis and include costs incurred in bringing each product to its present location and condition. Manufactured finished goods and work in progress, includes the cost of direct materials and labor and a reasonable proportion of manufacturing overheads based on the normal operating capacity and utilization, but excluding borrowing costs.

As at year-end	Dec 31, 2022	Dec 31, 2021
Raw materials and consumables	3,287,811	324,031
Finished goods	67,928	100,918
Work in progress	41,215	25,235
Goods in transit	607,089	93,861
Total	**4,004,043**	**544,045**

The carrying amount of inventories includes an impairment loss of SEK 239.0 m in 2022 (2021: SEK 11.7 m). Impairment losses were recognized in Sweden and Poland.

Note 17

Cash and cash equivalents

Accounting policy

Cash and short-term deposits in the consolidated statement of financial position comprise cash at banks and on hand and short-term highly liquid deposits with a maturity of three months or less, that are readily convertible to a known amount of cash and subject to an insignificant risk of changes in value.

Short-term deposits with a maturity greater than three months are classified under other current financial assets. For the purpose of the consolidated statement of cash flows, cash and cash equivalents consist of cash and short-term deposits, as defined above, net of outstanding bank overdrafts as they are considered an integral part of the Group's cash management.

Cash and cash equivalents

As at year-end	Dec 31, 2022	Dec 31, 2021
Cash at banks	18,806,368	17,060,696
Short-term deposits	7,804,197	—
Total	**26,610,565**	**17,060,696**

Short-term deposits of SEK 4.3 bn as of December 31, 2022, are not included under cash and cash equivalents due to a maturity greater than three months but less than 12 months and are included in other current financial assets in the consolidated statement of financial position (2021: SEK 11.3 bn).

Note 18

Equity and number of shares

Accounting policy

The Group's equity consists of the following items:

Share capital
Represents the nominal value of issued and registered shares.

Other paid- in capital
Premiums received in the event of a new share issue. Transaction costs associated with the new issue of shares also reduce contributed equity, taking into account any income taxes. The item is called Share premium reserve in the Parent Company.

Reserves for hedges
The hedging reserve comprises the effective portion of the cumulative net change in the fair value of a cash flow hedging instrument attributable to hedging transactions that have not yet occurred.

Translation reserve
The translation reserve includes exchange differences that arise in translating financial reports of foreign operations prepared in a currency other than the Group's presentation currency for financial reports.

Other reserve
Other reserves include gains and losses arising from changes in fair value of equity instruments designated as fair value through OCI.

Retained earnings incl. profit (loss) for the year
Profit (loss) brought forward, all balanced gains (losses) and profit (loss) for the year.

	Number of A-shares	Number of D-shares	Number of E-shares	Total
Balance at Jan 1, 2021	**5,926,808,009**	**12,138,587,775**	**3,905,931,259**	**21,971,327,043**
New share issue	255,971,201	855,525,090	7,605,270,176	8,716,766,467
Balance at Dec 31, 2021	**6,182,779,210**	**12,994,112,865**	**11,511,201,435**	**30,688,093,510**
New share issue	707,916,454	—	53,911,624	761,828,078
Balance at Dec 31, 2022	**6,890,695,664**	**12,994,112,865**	**11,565,113,059**	**31,449,921,588**

The share capital of the Parent Company consists of 6,891 m common A-shares and 24,559 m preference D- and E- shares. All outstanding shares were registered as of December 31, 2022. All shares have the same voting rights. As of the year ended December 31, 2022, the par value per share was SEK 0.00001.

Preference D-shares carry an 8% interest per year and is capitalized annually where not paid.

Preference E-shares carry a 6% interest per year and is capitalized annually where not paid.

Dividends payable are allocated between the preference D-shares and E-shares until each outstanding class has received an amount equal to the preference amount for the relevant class of shares at the relevant time of distribution. Remaining proceeds should be allocated to the A-shares until each outstanding A share has received an amount equal to their nominal amount. Remaining proceeds should on a pro rata basis be allocated between the A-shares, D-shares and E-shares. Upon liquidation of the company the above allocation shall be applied on the proceeds available.

All D-shares and E-shares are automatically converted into ordinary shares on or around the first day of trading of the Company's ordinary shares on any major stock exchange.

During 2022, 708 m A-shares were issued through warrants exercise that was converted into A-shares.

During 2022, 54 m E- shares were issued (as a set-off share issue) to employees, consultants and advisors of the Parent Company.

Specification of the equity items reserves	Dec 31, 2022	Dec 31, 2021
Translation reserve		
At the beginning of the year	30,242	2,103
Translation differences during the year	123,092	28,139
At the end of the year	**153,334**	**30,242**
Hedging reserve		
At the beginning of the year	137,231	—
Change in value during the year	695,465	137,231
At the end of the year	**832,696**	**137,231**
Other reserves		
At the beginning of the year	—	—
Change in value during the year	21,630	—
At the end of the year	**21,630**	**—**
Total reserves		
At the beginning of the year	167,473	2,103
Change in reserves during the year:		
Translation reserve	123,092	28,139
Hedging reserve	695,465	137,231
Other reserve	21,630	—
At the end of the year	**1,007,660**	**167,473**

Note 19

Government grants

Accounting policy

Government grants are recognized in the financial statements when there is reasonable assurance that the grant will be received, and all the attached conditions will be complied with. Government grants that the Group have received and that are subject to requirements for future performance are received in advance are recognized as deferred income. As the conditions are met, the liability is reduced, and other operating income is recognized.

Government grants relating to costs that are not subject to requirements for future performance are deferred and recognized in other income over the period necessary to match them with the costs that they are intended to compensate. Government grants relating to the construction or purchase of property, plant and equipment are recorded under 'Government grants' in the consolidated statement of financial position and are credited to profit or loss on a straight-line basis over the expected lives of the related assets.

Accounting judgments, estimates and assumptions

Management uses judgment in assessing whether Northvolt is in compliance with the conditions in the contract or not and if there is a potential risk of repayment during the contract period of the grant. As of the reporting date, Northvolt assessment is that there are no grants where there is a risk of material repayments.

Government grants

	Dec 31, 2022	Dec 31, 2021
At January 1	**401,336**	**197,412**
Received during the year	152,153	264,940
Release to the statement of profit or loss	-119,258	-61,016
At December 31	**434,231**	**401,336**
Current	78,335	42,903
Non-current	355,896	358,433

Government grants have been received for research and development projects and for construction in progress. There are no unfulfilled conditions or contingencies attached to these grants.

With regards to the deferred revenue total amount of SEK 434.2 million, the relevant signed grant contracts amounted to the total of SEK 1,134 million as of Dec 31, 2022.

Note 20

Accrued expenses and deferred income

	Dec 31, 2022	Dec 31, 2021
Contract liability	88,060	55,805
Accrued personnel expenses	350,742	170,381
Accrued expenses for construction	423,960	265,674
Other accrued expenses	384,409	240,906
Total	**1,247,171**	**732,766**

Note 21

Financial assets & liabilities

Accounting policies

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

21.1 Financial assets

Initial recognition and measurement

Financial assets are classified, at initial recognition, as subsequently measured at amortized cost, fair value through other comprehensive income (OCI), and fair value through profit or loss.

The classification of financial assets at initial recognition depends on the financial asset's contractual cash flow characteristics and the Group's business model for managing them. With the exception of trade receivables that do not contain a significant financing component or for which the Group has applied.

the practical expedient, the Group initially measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs. Trade receivables that do not contain a significant financing component or for which the Group has applied the practical expedient are measured at the transaction price as disclosed in Note 4 Revenue from contracts with customers.

In order for a financial asset to be classified and measured at amortized cost or fair value through OCI, it needs to give rise to cash flows that are 'solely payments of principal and interest (SPPI)' on the principal amount outstanding. This assessment is referred to as the SPPI test and is performed at an instrument level. Financial assets with cash flows that are not SPPI are classified and measured at fair value through profit or loss, irrespective of the business model.

The Group's business model for managing financial assets refers to how it manages its financial assets in order to generate cash flows. The business model determines whether cash flows will result from collecting contractual cash flows, selling the financial assets, or both. Financial assets classified and measured at amortized cost are held within a business model with the objective to hold financial assets in order to collect contractual cash flows while financial assets classified and measured at fair value through OCI are held within a business model with the objective of both holding to collect contractual cash flows and selling. Financial assets classified by business model at fair value in profit or loss are not managed under the two past business models or held for trading.

Purchases or sales of financial assets that require delivery of assets within a time frame established by regulation or convention in the marketplace (regular way trades) are recognized on the trade date, i.e., the date that the Group commits to purchase or sell the asset.

Financial assets at amortized cost (debt instruments)

Financial assets at amortized cost are subsequently measured using the effective interest (EIR) method and are subject to impairment. Gains and losses are recognized in profit or loss when the asset is recognized, modified or impaired.

The Group's financial assets at amortized cost include trade receivables, cash and cash equivalent and other current financial assets.

Financial assets at fair value through profit or loss

Financial assets at fair value through profit or loss are carried in the consolidated statement of financial position at fair value with net changes in fair value recognized in the consolidated statement of profit or loss. This category includes derivative foreign currency forward instruments that are not subject to hedge accounting.

Derecognition
A financial asset (or, where applicable, a part of a financial asset or part of a group of similar financial assets) is primarily derecognized (i.e., removed from the Group's consolidated statement of financial position) when the rights to receive cash flows from the asset have expired or the Group has transferred its rights to receive cash flows from the asset and the Group has transferred substantially all the risks and rewards or the control of the asset.

Financial assets at fair value through OCI
On initial recognition, the Group may make an irrevocable election (on an instrument-by-instrument basis) to designate investments in equity instruments as at fair value through OCI. Designation at fair value through OCI is not permitted if the equity investment is held for trading or if it is contingent consideration recognized by an acquirer in a business combination.

Investments in equity instruments at fair value through OCI are initially measured at fair value plus transaction costs. Subsequently, they are measured at fair value with gains and losses arising from changes in fair value recognized in other comprehensive income and accumulated in the investments revaluation reserve. The cumulative gain or loss is not reclassified to profit or loss on disposal of the equity instrument, instead, it is transferred to retained earnings.

Impairment
Refer to Note 3 for further information on expected credit loss related to trade receivables.

21.2 Financial liabilities
Financial liabilities are classified, at initial recognition, as financial liabilities at fair value through profit or loss, at amortized cost, or as derivatives designated as hedging instruments in an effective hedge, as appropriate.

All financial liabilities are recognized initially at fair value and, in the case of liabilities classified at amortized cost, net of directly attributable transaction costs.

The Group's financial liabilities include trade and other payables, loans and borrowings including bank overdrafts, and derivative financial instruments.

For subsequent measurement, financial liabilities are classified as either financial liabilities at fair value through profit or loss or financial liabilities at amortized cost (loans and borrowings).

Financial liabilities at fair value through profit or loss
Financial liabilities at fair value through profit or loss include financial liabilities held for trading and financial liabilities designated upon initial recognition as at fair value through profit or loss, both of which are derivative financial instruments entered into by the Group that are not designated as hedging instruments in hedge relationships as defined by IFRS 9.

Financial liabilities are classified as held for trading if they are incurred for the purpose of repurchasing in the near term. Separated embedded derivatives are also classified as held for trading unless they are designated as effective hedging instruments.

Gains or losses on these liabilities are recognized in the consolidated statement of profit or loss.

Financial liabilities at amortized cost
Financial liabilities at amortized cost are the category most relevant to the Group. The category generally applies to interest-bearing loans and borrowings, as well as trade payables and other liabilities.

After initial recognition, interest-bearing loans and borrowings are subsequently measured at amortized cost using the Effective Interest Rate (EIR) method. Gains and losses are recognized in profit or loss when the liabilities are derecognized or modified, as well as through the EIR amortization process.

Amortized cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the EIR. The EIR amortization is included as finance costs in the consolidated statement of profit or loss.

The Group capitalizes borrowing costs that are directly attributable to product development projects. The borrowing costs, measured at effective interest rate method are included in the cost of the product development and are not recognized in the consolidated statement of profit or loss as interest rate cost.

Derecognition
A financial liability is derecognized when the obligation under the liability is discharged or cancelled or expires. When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as the derecognition of the original liability and the recognition of a new liability. The difference in the respective carrying amounts is recognized in the consolidated statement of profit or loss.

21.3 Derivative financial instruments and hedge accounting

Initial recognition and subsequent measurement

The Group may use derivative financial instruments, such as forward currency contracts, interest rate swaps and forward commodity contracts, to hedge its foreign currency risks, interest rate risks and commodity price risks, respectively. The Group at present is only applying hedge accounting to its interest rate derivatives. Such derivative financial instruments are initially recognized at fair value on the date on which a derivative contract is entered into and are subsequently remeasured at fair value. Derivatives are carried as financial assets when the fair value is positive and as financial liabilities when the fair value is negative.

For the purpose of hedge accounting, hedges are classified as cash flow hedges when hedging the exposure to variability in cash flows that is either attributable to a particular risk associated with a recognized asset or liability or a highly probable forecast transaction.

At the inception of a hedge relationship, the Group formally designates and documents the hedge relationship to which it wishes to apply hedge accounting and the risk management objective and strategy for undertaking the hedge.

Cash flow hedge accounting

The effective portion of the gain or loss on the hedging instrument is recognized in OCI in the cash flow hedge reserve, while any ineffective portion is recognized immediately in the consolidated statement of profit or loss. The cash flow hedge reserve is adjusted to the lower of the cumulative gain or loss on the hedging instrument and the cumulative change in fair value of the hedged item.

For hedging of non-financial assets or liabilities, amounts in the cash flow hedge reserve are reclassified via other comprehensive income to profit or loss in the same period or periods during which the hedged expected future cash flows affect profit or loss (for example, in the periods that interest income or interest expense is recognized).

Hedge accounting may not be voluntarily discontinued. Hedge accounting is discontinued:

- when the hedging instrument expires or is sold, terminated, or exercised,
- when there is no longer an economic relationship between the hedged item and the hedging instrument or the effect of credit risk dominates the value changes that result from the economic relationship, or
- when the hedge accounting no longer meets the risk management objectives.

If cash flow hedge accounting is discontinued, the amount that has been accumulated in OCI must remain in accumulated OCI if the hedged future cash flows are still expected to occur. Otherwise, the amount will be immediately reclassified to profit or loss as a reclassification adjustment.

21.4 Convertible loans

Convertible loans may be separated into liability and equity components based on the terms of the contract.

On issuance of the convertible loan, the fair value of the liability component is determined using a market rate for an equivalent non-convertible instrument. This amount is classified as a financial liability measured at amortized cost (net of transaction costs) until it is extinguished on conversion or redemption.

The remainder of the proceeds is allocated to the conversion option that is recognized and included in equity when the terms are a fixed amount in the functional currency of the entity to be converted to a fixed number of shares.

The convertible loan issued by Northvolt is classified as liability in its entirety.

21.5 Financial assets & liabilities

The fair value for assets and liabilities at amortized cost are approximately the same as the carrying amount due to their short maturities or variable interest. The fair value for liabilities at amortized cost with fixed interest, such as some of the interest bearing loans to credit institutions and convertible loans, is SEK 2.7 bn and SEK 20.2 bn, respectively, as at December 31, 2022.

Financial assets and liabilities by category

As at December 31, 2022	Amortized costs	Fair value through profit or loss	Derivatives designated as hedging instruments	Fair value through OCI	Total carrying amount
Financial assets					
Trade receivables	395,683	—	—	—	395,683
Other receivables	832,456	—	—	—	832,456
Derivative financial instruments	—	167,982	1,048,735	—	1,216,717
Financial investments	—	—	—	82,240	82,240
Short-term bank deposits	4,337,228	—	—	—	4,337,228
Cash and cash equivalents	26,610,565	—	—	—	26,610,565
Total financial assets	**32,175,932**	**167,982**	**1,048,735**	**82,240**	**33,474,889**
Financial liabilities					
Interest bearing loans to credit institutions	14,807,286	—	—	—	14,807,286
Convertible loan	21,318,483	—	—	—	21,318,483
Derivative financial instruments	—	104,133	—	—	104,133
Trade payables	3,373,805	—	—	—	3,373,805
Other liabilities	121,355	—	—	—	121,355
Total financial liabilities	**39,620,929**	**104,133**	**—**	**—**	**39,725,062**

As at December 31, 2021	Amortized costs	Fair value through profit or loss	Derivatives designated as hedging instruments	Total carrying amount
Financial assets				
Trade receivables	187,626	—	—	187,626
Other receivables	573,955	—	—	573,955
Derivative financial instruments	—	23,911	172,835	196,746
Short-term bank deposits	11,313,776	—	—	11,313,776
Cash and cash equivalents	17,060,696	—	—	17,060,696
Total financial assets	**29,136,053**	**23,911**	**172,835**	**29,332,799**
Financial liabilities				
Interest bearing loans to credit institutions	9,897,781	—	—	9,897,781
Convertible loan	2,741,308	—	—	2,741,308
Derivative financial instruments	—	178,190	—	178,190
Trade payables	1,279,442	—	—	1,279,442
Other liabilities	293,124	—	—	293,124
Total financial liabilities	**14,211,655**	**178,190**	**—**	**14,389,845**

Northvolt has no financial assets or liabilities that are presented net in the financial statements. Northvolt's derivatives are subject to agreements about possible netting (ISDA agreements).

Fair value measurement

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The table below presents financial instruments classified at fair value, regarding the fair value hierarchy within which the fair value measurements are categorized in. The different fair value hierarchy levels are the following:

Level 1 - Quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at the measurement date

Level 2 - Other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly

Level 3 - Unobservable inputs for the asset or liability

Financial instruments measured at fair value as per Dec 31, 2022	Level 1	Level 2	Level 3	Total
Financial investments	—	—	82,240	82,240
Derivative financial instruments (assets)	—	1,216,717	—	1,216,717
Derivative financial instruments (liabilities)	—	104,133	—	104,133

Financial instruments measured at fair value as per Dec 31, 2021	Level 1	Level 2	Level 3	Total
Derivative financial instruments (assets)	—	196,476	—	196,476
Derivative financial instruments (liabilities)	—	82,447	95,743	178,190

The fair value of financial instruments that are not traded in an active market is determined by using valuation techniques. The Group uses a variety of methods and makes assumptions that are based on market conditions existing at each balance sheet date. Quoted market prices or dealer quotes for similar instruments are used to estimate fair value for long-term debt disclosure purposes. Other techniques, such as estimated discounted cash flows, are used to determine fair value for the remaining financial instruments. The fair value of interest rate swaps is calculated as the present value of the estimated future cash flows based on observable yield curves. The fair value of foreign currency forwards is determined using quoted forward currency rates at the balance sheet date. These investments are classified as Level 2 and comprise derivative financial instruments.

In circumstances where a valuation technique for these instruments is based on significant unobservable inputs, such instruments are classified as Level 3. The unobservable inputs are developed using the information available to the Group, such as the Group's own data adjusted for reasonably available information about other market participants assumptions.

There were no transfers between Level 2 and Level 3 during the years ending December 31, 2021 and December 31, 2022.

Reconciliation of Level 3 fair value measurements of financial instruments

	Financial investments	Derivative financial instruments (liabilities)
Opening balance at Jan 1, 2021	—	95,743
Fair value changes recognized in profit or loss	—	—
Fair value changes recognized in OCI	—	—
Closing balance at Dec 31, 2021	**—**	**95,743**
Fair value changes recognized in profit or loss	—	—
Fair value changes recognized in OCI	27,242	—
Purchases	54,998	—
Issues	—	—
Reclassifications	—	-95,743
Closing balance at Dec 31, 2022	**82,240**	**—**

Note 22

Changes in liabilities arising from financing activities

	Convertible loan	Interest-bearing loans and borrowings	Lease liability
Opening balance Jan 1, 2021	**2,581,589**	**4,083,625**	**241,491**
Cash flow from financing activities	—	4,673,272	107,847
New and amended leases	—	—	87,260
Translation differences for the year	52,450	526,816	—
Other	107,269	614,068	—
Closing balance Dec 31, 2021	**2,741,308**	**9,897,781**	**436,598**
Cash flow from financing activities	17,452,995	2,950,217	-175,362
New and amended leases	—	—	154,745
Translation differences for the year	29,421	1,502,633	14,894
Other	1,094,759	456,655	115,205
Closing balance Dec 31, 2022	**21,318,483**	**14,807,286**	**546,080**

Note 23

Supplementary information to the cash flow statement - Adjustment for non-cash items

	2022	2021
Depreciation, amortization and impairment	467,298	599,651
Change in other provisions	29,861	21,177
Unrealized exchange differences	-701,770	215,404
Profit share of joint venture	68,156	55,460
Share-based payment expense	24,778	87,320
Change in fair value derivatives	-2,022,382	327,186
Other non-cash adjustments	742,907	60,326
Total in the cash flow statement	**-1,391,152**	**1,366,524**

Note 24

Contingent liabilities

The Board of Directors has not identified any contingent liabilities for the years 2021 - 2022.

Note 25

Pledged assets

	2022	2021
Shares in subsidiaries	15,984,869	7,203,728
Pledged bank balances	5,976,672	4,476,640
Total	**21,961,541**	**11,680,368**

Note 26

Related party

Group structure

Note 13 Group Information provides information about the Group's structure, including details of the subsidiaries and Note 15 Interest in joint ventures provides information on joint ventures related to Northvolt Group.

Entities with significant influence over the Group

Volkswagen Finance Luxembourg S.A. (B166745) owns 22.1 % of the shares outstanding in Northvolt AB. Volkswagen Finance Luxembourg S.A and all its subsidiaries are considered related parties.

Goldman Sachs Asset Management owns 20.3 % of the shares outstanding in Northvolt AB through various controlled funds. Goldman Sachs Asset Management and all its controlled funds are considered related parties.

Related party transactions

The sales to and purchases from related parties are made on terms equivalent to those that prevail in arm's length transactions. Outstanding balances at year-end are unsecured and interest free and settlement occurs in cash. There have been no guarantees provided or received for any related party receivables or payables.

During 2022, Northvolt sold SEK 0.01 million, with receivables of SEK 0.013 million as at year end, to Polarium Energy Solutions AB, of which there is a common shareholder.

During 2019, Volkswagen Finance Luxembourg S.A. provided Northvolt AB with convertible loan facilities of EUR 240 m which were fully drawn in 2020. The interest rate of this loan is 5.5%.

Volkswagen Group and Goldman Sachs Asset Management through various funds participated in the convertible loan issued during 2022. Terms and conditions are described in Note 3.

Related party transactions also include board remuneration to certain members of the Board of Directors. Information on remuneration to the Board of Directors, CEO and senior executives is found in Note 7.1

The following table provides the total amount of transactions that have been entered into with related parties for the relevant financial year:

		Sales to related parties	Purchases from related parties	Receivables from related parties*	Liabilities to related parties*	Long term liabilities to related parties
Entity with significant influence over the Group:						
Volkswagen Group**	2022	263,441	101,567	96,853	20,669	3,815,782
	2021	70,239	—	42,969	—	2,741,308
Goldman Sachs Asset Management	2022	—	—	—	—	4,186,644
Joint ventures in which the parent is a venturer:						
Novo Energy AB	2022	2,591	894	819	—	—
Novo Energy Production AB	2022	5,977	792	1,128	—	—
Novo Energy R&D AB	2022	3,670	—	—	—	—
Joint ventures in which a subsidiary is a venturer:						
HydroVolt AS	2022	16,454	—	19,298	—	—
	2021	2,978	—	7,719	—	
Aurora Lith, S.A.	2022	—	—	—	—	—

*The amounts are classified as trade receivables and trade payables, respectively.
** Related party transactions between Volkswagen Group and Northvolt AB (Parent Company).

Note 27

Events after the reporting period

No significant events after the reporting period.

Parent Company Financial statements

Parent Company - Statement of profit or loss

	NOTE	2022	2021
Revenue	29	1,116,257	348,183
Cost of goods sold		-1,154,108	-332,786
Gross profit (loss)		**-37,851**	**15,397**
Research and development expenses		-971,175	-517,557
Selling, general and administrative expenses		-1,697,043	-1,064,242
Other operating income and expense	30	703,092	958,656
Gain (loss) from sale of joint venture	41	—	-126,267
Operating profit (loss)	31, 32, 33, 34	**-2,002,977**	**-734,013**
Finance income	35	3,110,634	2,090,130
Finance expenses	36	-1,135,223	-261,122
Profit (loss) after financial items		**-27,566**	**1,094,995**
Appropriations		-901,149	-350,000
Profit (loss) before tax		**-928,715**	**744,995**
Income tax	37	—	—
Profit (loss) for the year		**-928,715**	**744,995**

Parent Company - Statement of comprehensive income

	NOTE	2022	2021
Profit (loss) for the year		**-928,715**	**744,995**
Other comprehensive income		—	—
Total other comprehensive income for the year (net of tax)		**—**	**—**
Total comprehensive income (net of tax)		**-928,715**	**744,995**

Parent Company - Statement of financial position

	NOTE	DEC 31, 2022	DEC 31, 2021
Assets			
Non-current assets			
Intangible assets	38	214,100	114,586
Property, plant and equipment	39	1,983,609	826,967
Shares in group companies	40	30,475,842	13,176,836
Shares in joint ventures	41	28,303	—
Receivables from group companies	42	170,853	289,331
Other non-current assets		54,998	—
Total non-current assets		**32,927,705**	**14,407,720**
Current assets			
Inventories		14	5,443
Trade receivables	29	77,116	152,426
Receivables from group companies		1,020,298	423,364
Other current receivables		103,524	78,694
Prepaid expenses and accrued income		83,684	30,324
Current financial assets		4,242,027	11,313,776
Cash and cash equivalents	43	22,414,337	15,189,896
Total current assets		**27,941,000**	**27,193,923**
Total assets		**60,868,705**	**41,601,643**

	NOTE	DEC 31, 2022	DEC 31, 2021
Equity and liabilities			
Equity			
Restricted equity			
Share capital		314	307
Development fund		214,099	114,586
Total restricted equity		**214,413**	**114,893**
Non-restricted equity			
Share premium reserve		38,456,435	38,072,188
Retained earnings		-711,146	-1,356,628
Profit (loss) for the year		-928,715	744,995
Total non-restricted equity		**36,816,574**	**37,460,555**
Total equity	44	**37,030,987**	**37,575,448**
Non-current liabilities			
Convertible loan	45	21,318,483	2,741,308
Derivative financial instruments		—	95,742
Other liabilities		—	19,330
Total non-current liabilities		**21,318,483**	**2,856,380**
Current liabilities			
Trade payables		501,424	132,284
Liabilities to group companies		1,384,647	350,000
Income tax liabilities		9,440	21,381
Other liabilities	46	51,987	210,920
Accrued expenses and deferred income	47	571,737	455,230
Total current liabilities		**2,519,235**	**1,169,815**
Total liabilities		**23,837,718**	**4,026,195**
Total equity and liabilities		**60,868,705**	**41,601,643**

Parent Company - Statement of changes in equity

	RESTRICTED EQUITY		NON-RESTRICTED EQUITY			
	SHARE CAPITAL	DEVELOPMENT FUND	SHARE PREMIUM RESERVE	RETAINED EARNINGS	PROFIT (LOSS) FOR THE YEAR	TOTAL
Equity at Jan 1, 2021	**220**	**24,284**	**13,101,817**	**-665,920**	**-600,407**	**11,859,994**
Profit (loss) for the year	—	—	—	—	744,995	744,995
Other comprehensive income (loss) for the year	—	—	—	—	—	—
Total comprehensive income (loss) for the year	**—**	**—**	**—**	**—**	**744,995**	**744,995**
Proposition for profit allocation	—	—	—	-600,407	600,407	—
Issuance of shares	87	—	25,025,191	—	—	25,025,278
Contingent consideration	—	—	29,483	—	—	29,483
Capitalized development cost	—	90,302	—	-90,302	—	—
Warrants issue	—	—	41,483	—	—	41,483
Transaction cost related to obtaining equity financing	—	—	-125,786	—	—	-125,786
Equity at Dec 31, 2021	**307**	**114,586**	**38,072,188**	**-1,356,628**	**744,995**	**37,575,448**
Equity at Jan 1, 2022	**307**	**114,586**	**38,072,188**	**-1,356,628**	**744,995**	**37,575,448**
Profit (loss) for the year	—	—	—	—	-928,715	-928,715
Other comprehensive income (loss) for the year	—	—	—	—	—	—
Total comprehensive income (loss) for the year	**—**	**—**	**—**	**—**	**-928,715**	**-928,715**
Proposition for profit allocation	—	—	—	744,995	-744,995	—
Issuance of shares	7	—	279,294	—	—	279,301
Capitalized development cost	—	99,513	—	-99,513	—	—
Warrants issue	—	—	104,953	—	—	104,953
Equity at Dec 31, 2022	**314**	**214,099**	**38,456,435**	**-711,146**	**-928,715**	**37,030,987**

Parent Company - Statement of Cash Flow

	NOTE	2022	2021
Cash flow from operating activities			
Profit (loss) before tax		-928,715	1,094,995
Adjustment for non-cash items	49	-2,078,911	-46,358
Interest received		368,487	—
Income tax paid		—	17,298
Cash flow from operating activities before changes in working capital		**-2,639,139**	**1,065,935**
Changes in working capital			
Change in inventories		5,429	51,478
Change in trade receivables, other current receivables, prepaid expenses		-574,984	-62,857
Change in trade payables, other current liabilities, accrued expenses		1,305,259	-87,405
Cash flow from operating activities, net		**-1,903,435**	**967,151**
Cash flow from investing activities			
Acquisition of companies and shares, net of cash acquired		—	-556,811
Acquisition of property, plant and equipment		-1,247,948	-455,139
Disposal of property, plant and equipment		170	—
Acquisition of intangible fixed assets		-99,514	-90,302
New loans for the year group companies		-298,841	-289,827
Repayment from group companies		—	286,824
Shareholders' contribution given		-16,866,907	-4,403,678
Acquisition of other financial assets		-2,272,237	-10,766,036
Proceeds from sale of companies and shares, net of cash disposed of		—	102,180
Disposal of financial asset		10,718,750	295,754
Net cash used in investing activities		**-10,066,527**	**-15,877,035**

	NOTE	2022	2021
Cash flow from financing activities			
New share issue		279,302	24,674,167
Warrants issue		104,954	41,483
Proceeds from borrowings		17,452,995	188,474
Net cash used in financing activities		**17,837,251**	**24,904,124**
Cash flow for the year		5,867,289	9,994,240
Cash and cash equivalents at beginning of year		15,189,896	5,195,559
Exchange rate differences in cash and cash equivalents		1,357,152	97
Cash and cash equivalents at the end of year	**43**	**22,414,337**	**15,189,896**

Parent Company Notes

Note 28

Parent company accounting policies

General information

The Parent Company has prepared its annual accounts in accordance with the Swedish Annual Accounts Act (1995:1554) and the Swedish Financial Reporting Board's recommendation RFR 2 Accounting for Legal Entities.

The applied accounting policies for Northvolt Group are outlined in Note 2 Significant accounting principles, judgments, estimates and assumptions. The deviations between the Parent Company and the Group are described below.

Investments in subsidiaries

Shares in subsidiaries are reported according to the cost method, which means that the holdings are recognized in the balance sheet at cost less any write-downs. The acquisition value includes acquisition-related costs and any additional purchase consideration. When there is an indication that participation in subsidiaries have decreased in value, a calculation of the recoverable amount is made. If this value is lower than the carrying amount, a write-down is recorded.

Investment in joint venture

Investments in joint ventures are reported according to the cost method, which means that the holdings are recognized in the balance sheet at cost less any write-down. When there is an indication that the investment in joint venture have decreased in value, a calculation of the recoverable amount is made. If the value is lower than the carrying amount, a write-down is recorded. The results of disposal of joint ventures are reported in the item 'Gain (loss) from sale of joint venture' in the statement of profit or loss.

Group contribution

Group contributions received and provided are recognized as appropriations in the statement of profit or loss.

Financial Instruments

IFRS 9 is not applied in the Parent Company. Instead, the Parent Company applies the cost method in accordance with the Swedish Annual Accounts Act. Financial instruments are measured at amortized cost. In subsequent periods, current financial assets acquired with the intention of being held in the short term will be reported in accordance with the principle of the lowest value at the lower of acquisition value and market value. Derivative instruments with a negative fair value are reported at this value. When calculating the net sales value of debt instruments, the principles for impairment and expected credit losses (ECL) in IFRS 9 shall be applied. The Parent Company applies the ECL method in accordance with IFRS 9 for financial assets that are debt instruments. Receivables from group companies are also subject to ECL and recognized unless the amount is considered non-material. Northvolt applies the exception not to measure ECL on any financial guarantees in favor of subsidiaries, associates and joint ventures, but to apply IAS 37.

Leases

The Parent Company has elected not to apply IFRS 16 Leases, according to the exemption permitted under RFR 2. This exception means that no right of use asset and lease liability are reported in the statement of financial position. Leases in which the Parent Company is the lessee are recognized as an expense on a straight-line basis over the lease term.

Capitalized costs for own development work

For costs for own development work that are capitalized, a corresponding amount is transferred from non-restricted equity to the fund for development costs pertaining to restricted equity.

Note 29

Revenue from contracts with customers

Set out below is the disaggregation of Northvolt AB's revenue from contracts with customers:

	2022	2021
Revenue from contracts with customers		
Product Sales	1,082,656	234,178
Project Sales	21,933	114,005
Other	11,668	—
Total	**1,116,257**	**348,183**
Revenue by geographical markets		
Sweden	984,769	207,280
Germany	106,275	81,515
Norway	—	35,756
Other countries within Europe	25,213	23,632
Total	**1,116,257**	**348,183**

*Net sales are broken down by country based on where the customer is located.

Revenue from contracts with customers is recognized when control has transferred to the customer and the performance obligation is satisfied. Payment recognized may not match the revenue earned for the period. This results in the recognition of trade receivables, contract assets or contract liabilities.

As at year-end	Dec 31, 2022	Dec 31, 2021
Trade receivables	77,116	152,426
Contract assets	—	7,867
Contract Liabilities	—	—

Northvolt AB may receive advance payments from customers and those advance payments are recorded as a contract liability until the performance obligation is fulfilled. Advance payments from customers are normally recognized as revenue in the subsequent fiscal year.

Note 30

Other operating income and expenses

	2022	2021
Operating income		
Invoicing group companies	640,608	565,363
Government grants	14,152	28,050
Foreign exchange gains	18,120	365,308
Other operating income	32,970	—
Total	**705,850**	**958,721**
Operating expenses	**-2,758**	**-65**
Net operating income and expenses	**703,092**	**958,656**

Invoicing to group companies is related to overhead allocations invoiced from the Parent Company to its subsidiaries.

Note 31

Related party transactions

	2022	2021
Share of total purchases made this year from other companies in the Group	29.01%	39.06%
Shares of total sales for the year made to other companies in the Group	84.21%	61.89%
Sales (including other income)		
To subsidiaries	1,479,451	695,557
To joint ventures	12,238	—
Purchases		
From subsidiaries	999,494	477,198
From joint ventures	1,686	—

Note 32

Leases - Lessee

The Parent Company enters into lease agreements mainly for offices. Lease expenses for the year amount to SEK 51.1m (2021: SEK 41.3m).

Future lease payments, for non-cancellable leases, are due as follows:

	2022	2021
Within one year	60,408	42,118
Between one and five years	136,626	161,034
Later than five years	49,153	47,809
Total	**246,187**	**250,961**

Note 33

Fees and remuneration to the Group's auditors

	2022	2021
EY		
Audit fees	4,261	3,064
Audit activities other than the audit assignment	400	316
Tax consultancy services	208	—
Other services	2,187	375
Total	**7,056**	**3,755**

Audit fees refer to the statutory audit of the annual accounts and accounting documents as well as the Board of Directors and the CEO, and audit and other review work conducted according to agreements or contracts. This includes other tasks that are incumbent upon the company's auditors as well as advisory services or other assistance required as a result of observations made during such review work or the completion of such other tasks. Other services performed refer to other ongoing advisory fees.

Note 34

Employee benefit expense

34.1 Salaries, other remuneration and social security contributions

Salaries, other remuneration and social security contributions	2022	2021
Salaries	897,980	595,102
Social costs	299,365	188,068
Pension costs	115,193	68,411
Other personnel cost	42,425	21,941
Total	**1,354,963**	**873,522**
of which to Boards of Directors, CEO and Senior Executives		
Salaries	29,916	32,282
Social Security	10,820	11,010
Pension costs	5,685	9,474
Total	**46,421**	**52,766**

34.2 Average number of employees

	2022	2021
Average number of employees	1,242	845
of which women %	35%	35%

34.3 Gender distribution in senior management

	2022		2021	
Gender distribution	**Total**	**of which % women**	**Total**	**of which % women**
Board of Directors	8	25%	8	13%
Senior Executives	12	33%	13	23%

Note 35

Finance income

	2022	2021
Interest income measured at amortized cost, Group companies	27,091	20,135
Interest income and similar items measured at amortized cost	368,716	19,917
Foreign-exchange gains	2,714,827	2,050,078
Total	**3,110,634**	**2,090,130**

Note 36

Finance expense

	2022	2021
Interest expense measured at amortized cost, Group companies	-1,118,907	-189,391
Interest expense and similar items measured at amortized cost	-4,685	-2,451
Foreign exchange losses	-8,423	-69,280
Other	-3,208	—
Total	**-1,135,223**	**-261,122**

Note 37

Income tax

37.1 Reconciliation of effective tax

	2022	2021
Profit (loss) before tax	-928,715	744,995
Income tax calculated in accordance with national tax rate	-191,315	-153,469
Tax effect of		
Non-deductible expenses	156,945	-61,409
Capital gains or losses, non-taxable	—	-26,011
Carried forward losses from prior year utilized in period	—	243,859
Unrecognized taxable losses	34,370	-2,970
Reported tax expense	**—**	**—**

37.2 Distribution of expiry dates of tax losses carried forward

The tables below specify carried forward losses not recognized as a deferred tax asset.

	2022	2021
No expiry date	197,665	23,973
Total	**197,665**	**23,973**

Note 38

Intangible assets

	Patents	Capitalized Development Cost	Total
Cost			
At Jan 1, 2021	97	24,284	24,381
Additions (internally generated)	—	90,302	90,302
Divestment and disposals	—	—	—
At Dec 31, 2021	**97**	**114,586**	**114,683**
Accumulated amortization			
At Jan 1, 2021	—	—	—
Amortization for the year	-97	—	-97
At Dec 31, 2021	**-97**	**—**	**-97**
Net carrying amount			
At Dec 31, 2021	**—**	**114,586**	**114,586**

	Patents	Capitalized Development Cost	Total
Cost			
At Jan 1, 2022	97	114,586	114,683
Additions (internally generated)	—	99,514	99,514
At Dec 31, 2022	**97**	**214,100**	**214,197**
Accumulated amortization			
At Jan 1, 2022	-97	—	-97
Amortization for the year	—	—	—
At Dec 31, 2022	**-97**	**—**	**-97**
Net carrying amount			
At Dec 31, 2022	**—**	**214,100**	**214,100**

Impairment test of internally generated intangible assets that are not in use yet is performed on an annual basis. As at December 31, 2022, there was no impairment identified. No impairment losses were recorded in prior periods.

Note 39

Property, plant and equipment

	Land and buildings	Plant and machinery	Equipment and tools	Construction in progress and advance payments	Total
Cost					
At Jan 1, 2021	4,503	108,443	3,105	363,923	479,974
Additions	—	—	1,237	479,110	480,347
Divestment and disposals	—	-31,736	-734	—	-32,470
Reclassifications	3,919	345,695	—	-349,614	—
At Dec 31, 2021	**8,422**	**422,402**	**3,608**	**493,419**	**927,851**

	Land and buildings	Plant and machinery	Equipment and tools	Construction in progress and advance payments	Total
Accumulated depreciation and impairment					
At Jan 1, 2021	—	-15,394	-1,232	—	-16,626
Divestment and disposals	—	7,262	—	—	7,262
Depreciation for the year	-176	-89,425	-1,919	—	-91,520
At Dec 31, 2021	**-176**	**-97,557**	**-3,151**	**—**	**-100,884**
Net carrying amount					
At Dec 31, 2021	**8,246**	**324,845**	**457**	**493,419**	**826,967**
Cost					
At Jan 1, 2022	8,422	422,402	3,608	493,419	927,851
Additions	—	—	—	1,247,948	1,247,948
Divestment and disposals	—	-311	8	—	-303
Reclassifications	—	236,430	2,764	-239,194	—
At Dec 31, 2022	**8,422**	**658,521**	**6,380**	**1,502,173**	**2,175,496**
Accumulated depreciation and impairment					
At Jan 1, 2022	-176	-97,557	-3,151	—	-100,884
Divestment and disposals	1	135	—	—	136
Depreciation for the year	-421	-89,180	-1,538	—	-91,139
At Dec 31, 2022	**-596**	**-186,602**	**-4,689**	**—**	**-191,887**
Net carrying amount					
At Dec 31, 2022	**7,826**	**471,919**	**1,691**	**1,502,173**	**1,983,609**

Note 40

Shares in group companies

The following list includes directly owned shares owned by the Parent Company.

				2022			2021		
Company name	Corp. Reg. number	Domicile	Country of incorporation	No. of shares	% Voting and equity interest	Carrying Amount	No. of shares	% Voting and equity interest	Carrying Amount
Northvolt Japan KK	1209-01-0386	Osaka	Japan	10,000	100%	79	10,000	100%	79
Northvolt Labs AB	559144-2891	Västerås	Sweden	50,000	100%	4,997,631	50,000	100%	3,396,842
Northvolt Ett AB	559154-7715	Stockholm	Sweden	50,000	100%	15,984,869	50,000	100%	7,680,458
Northvolt Ett Expansion AB	559237-8078	Stockholm	Sweden	25,000	100%	4,120,283	25,000	100%	390,174
Northvolt Systems AB	559244-0282	Stockholm	Sweden	25,000	100%	2,375,988	25,000	100%	928,268
Northvolt Revolt AB	559237-8060	Stockholm	Sweden	25,000	100%	1,864,723	25,000	100%	169,494
Aurora Lithium AB	559163-0610	Stockholm	Sweden	50,000	100%	21,150	50,000	100%	2,813
Northvolt Germany GmbH	HRB 25 3048	Munich	Germany	25,000	100%	110,362	25,000	100%	56,855
Cuberg, Inc.	5769258	California	USA	10,000	100%	914,581	10,000	100%	551,677
Northvolt Fem AB	559381-5391	Stockholm	Sweden	25,000	100%	86,025	—	—	—
NVC Energy V AB	559344-2642	Stockholm	Sweden	25,000	100%	50	25,000	100%	50
NOVO Energy AB	559344-2600	Gothenburg	Sweden	—	—	—	25,000	100%	75
NVC Energy VII AB	559344-2410	Gothenburg	Sweden	—	—	—	25,000	100%	50
Northvolt America Inc.	6863285	Delaware	USA	10,000	100%	101	—	—	—
Total carrying amount						**30,475,842**			**13,176,836**

	Dec 31, 2022	Dec 31, 2021
Cost at the beginning of the year	**13,176,836**	**8,318,526**
Acquisitions	126	556,811
Reclassifications	-75	16,282
Capital contributions	17,299,005	4,387,397
Divestment	-50	-102,180
Cost at the end of the year	**30,475,842**	**13,176,836**
Carrying amount at year-end	**30,475,842**	**13,176,836**

Note 41

Shares in joint ventures

	Dec 31, 2022	Dec 31, 2021
At January 1	**—**	**449,849**
Capital contributions	28,303	
Reclassifications	—	-5,215
Divestment	—	-444,634
At December 31	**28,303**	**—**

Specification shares in joint ventures

	2022			2021		
Company	No. of shares	Share %	Carrying Amount	No. of shares	Share %	Carrying Amount
NOVO Energy AB	12,500	50%	28,303	—	—	—

Company	Corp. Reg. number	Domicile	Country of incorporation
NOVO Energy AB	559344-2600	Gothenburg	Sweden

See Group Note 15 Interest in joint ventures for further information on equity and result of each joint venture for the years presented in the table above.

Note 42

Receivables from group companies

	Dec 31, 2022	Dec 31, 2021
At January 1	**289,331**	**286,327**
New receivables	313,621	289,828
Payment/amortization	—	-286,824
Debt to equity conversion	-432,099	—
At December 31	**170,853**	**289,331**

Note 43

Cash and cash equivalents

	Dec 31, 2022	Dec 31, 2021
Cash at banks	14,610,140	15,189,896
Short-term deposits	7,804,197	—
Total	**22,414,337**	**15,189,896**

Note 44

Share capital

See Group Notes 18 Equity and number of shares.

Note 45

Convertible loan

	Dec 31, 2022	Dec 31, 2021
Convertible Loan 1	3,293,927	2,741,308
Convertible Loan 2	18,024,556	—
Total	**21,318,483**	**2,741,308**

Loan 1: The loan can be converted in December 2025, or in connection with an IPO. Until the loan is repaid or converted, the annual interest amounts to 5.5% (7% until October 6, 2020).

Loan 2: The loan can be converted in the second half of 2027 or in connection with an IPO. Until the loan is repaid or converted, the annual interest amounts to 8% and steps up by 1% every 6 months from February 2024.

Note 46

Other current liabilities

	Dec 31, 2022	Dec 31, 2021
Employee related costs	49,615	35,448
Other liabilities	2,372	175,472
Total	**51,987**	**210,920**

Note 47

Accrued expenses and deferred income

	Dec 31, 2022	Dec 31, 2021
Government grants	228,515	243,232
Employee related costs	168,145	107,149
Other accrued expenses	175,077	104,849
Total	**571,737**	**455,230**

Note 48

Changes in liabilities attributable to financing activities

Changes in liabilities from financing	Convertible loan
Opening balance Jan 1, 2021	**2,581,589**
Cash flow from financing activities	—
Exchange differences	52,450
Other	107,269
Closing balance Dec 31, 2021	**2,741,308**
Cash flow from financing activities	17,452,995
Exchange differences	29,421
Other	1,094,759
Closing balance Dec 31, 2022	**21,318,483**

Note 49

Adjustment for non-cash items

	2022	2021
Depreciation and amortization	91,139	93,120
Unrealized exchange rate differences	-2,367,175	61,601
Non-cash financial items	197,125	-327,346
Capital gains from non-financial items	—	—
Loss on sale of joint venture	—	126,267
Total adjustment	**-2,078,911**	**-46,358**

Note 50

Contingent liabilities and pledged assets

Pledged Assets	2022	2021
Shares in subsidiaries	15,984,869	7,203,729
Pledged receivables with subsidiaries	170,583	289,330
Pledged cash for subsidiaries	5,864,025	2,772,729
Pledged bank guarantees	48,846	14,820
Total	**22,068,323**	**10,280,608**

The Board of Directors has not identified any contingent liabilities.

Note 51

Events after the reporting period

No significant events after the reporting period.

Note 52

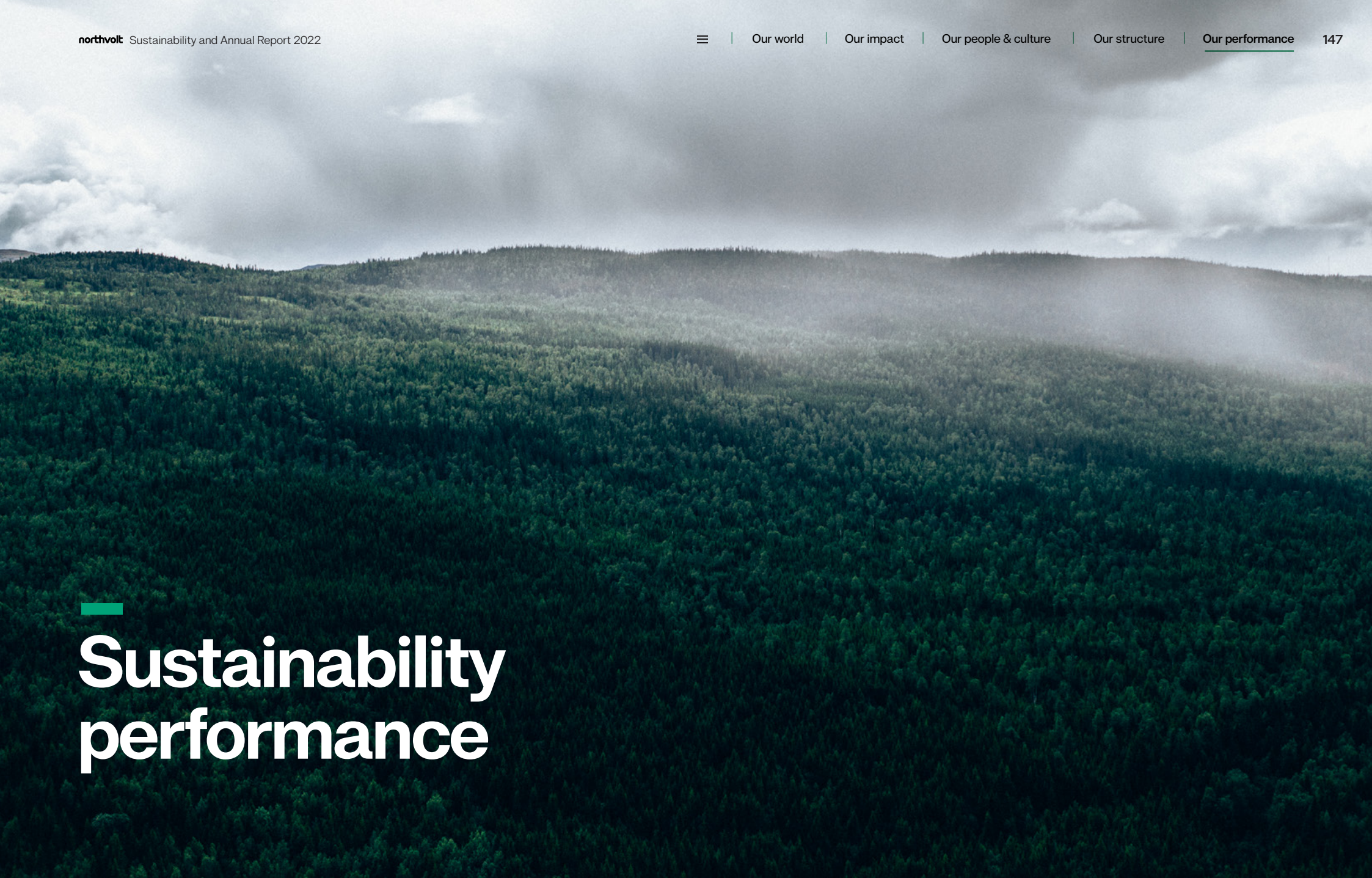
Proposed appropriation of profits

In the Parent Company the unrestricted shareholders equity amounts to (SEK):

Share premium reserve	38,456,434,790
Profit (loss) brought forward	-711,146,552
Profit (loss) for the year	-928,715,833
Total unrestricted equity	**36,816,572,405**

The Board of Directors and the Chief Executive Officer propose that the Parent Company's unrestricted equity are carried forward and that no dividend be paid for the financial year.

Carried forward	**36,816,572,405**



Sustainability performance

Sustainability performance

Northvolt's sustainability commitment forms the core of our company mission and is integrated into the company's operations and business decisions. Northvolt's Sustainability Report is an integrated part of the combined Annual Report. In this section we present in-depth sustainability information and full data.

Our material topics: the impact and management approach
We are committed to contributing to long-term sustainable development through our sustainability goals. Our goals are set on a visionary, 'hard to achieve' basis and we are convinced that ambitious goals of this kind are necessary for the wider industry moving forward. We will promote the achievement of these goals within our operations and value chain.

The UN Sustainability Development Goals
The UN Sustainable Development Goals (SDGs) set a global framework for countries, businesses and other stakeholders to address society's most important challenges and encourage everyone to work together to create a sustainable future. Our business activity involves a majority of the SDGs and we are focusing our efforts on those that we could make the most impactful contribution to. These are integrated into our business model, strategy and our material topics.

Our Green Batteries & Factories

TOPIC	WHY IS IT MATERIAL?	CONNECTION WITH THE IMPACT	KEY POLICY	HOW WE MANAGE THE IMPACT	GOALS	CONNECTION TO UN SDGS
Climate change & climate risk management	Climate change presents a critical challenge for businesses, governments and society. Mitigating the impact of climate change has to be done through innovation and a sense of urgency. Northvolt was founded to play a part in providing a new and better way forward.	Batteries are a key enabling technology for decarbonization of transport, energy and industry. At the same time, battery manufacturing can incur a high cost on the environment, global resources and climate if it is undertaken in an unsustainable manner. We intend to set a global standard for a low-carbon approach to battery manufacturing.	• Energy Policy • Environmental Policy	• Through our work on LCA and GHG accounting, we look to understand our full climate impact and take necessary measures to improve footprint. • Climate risk assessment • Environmental management system	100% fossil-free energy supply for production on annual basis **Progress** 95% (98%) 10 kg CO_2e/kWh by 2030* **Progress:** 33 kg CO_2e/kWh (33 kg CO_2e/kWh)	7 13
Product sustainability & safety	Our products must carry as low an environmental burden as possible and be designed with both production, use phase and end-of life impacts in mind, to support the low-carbon transition in a sustainable manner.	We take full responsibility for the sustainability and safety performance of our products. Primarily, performance affects our downstream value chain. Producing batteries with a low environmental and social impact also underpins our wider climate change work.	• Energy Policy • Environmental Policy • Quality Policy	• Rapid scale up of recycling volumes through Revolt program • Stringent safety design and testing programs and monitoring of performance at site and during use • Monitoring of Revolt output and integration with new Northvolt cells • Integrated management system for quality and environment	Products which set the industry benchmark for battery safety **Progress:** Goal under developmemt 50% recycled material in cells by 2030 **Progress:** 6% (N/A)	7 9 11 12 13

* 10 kg targetcover per kWh battery cells produced on a life cycle basis.

TOPICS	WHY IS IT MATERIAL	CONNECTION WITH THE IMPACT	KEY POLICY	HOW WE MANAGE THE IMPACT	GOALS	CONNECTION TO UN SDGS
Our Responsibility						
Responsible sourcing	The majority of battery manufacturing's social and environmental impact occurs in upstream activities of the supply chain. While our vertically integrated approach provides a high degree of control over how we engage with upstream activities, we still rely on a network of suppliers for materials, equipment and services.	Sourcing raw materials inherently contributes to environmental and social impact – both positive and negative. Some impact in the raw material supply chain is systematic and we need to continuously engage with our suppliers to identify, measure and mitigate these risks.	• Anti-corruption Policy • Business Partner Policy • Code of Conduct • Supplier Code of Conduct • Sourcing and procurement Policy	• Pursuing a vertically integrated model for lower complexity and greater transparency • Risk assessment of supply chain • Due Diligence of suppliers • Mitigating and corrective actions included in supplier agreements • Ongoing monitoring of risks • KYC and sanctions screening	100% traceability to mine for raw materials **Progress:** 89% (89%) 100% of suppliers screened for sustainability risks **Progress**: 60% (N/A) 100% Supplier Code of Conduct acceptance by significant suppliers **Progress:** 84% (N/A)	11 12 13
Ethical business conduct	Northvolt addresses ethical business conduct as a part of our compliance program and has always had a strong focus on business ethics in our corporate values.	We operate in a business context were ethical misconduct is a possibility. Misconduct may arise either internally or in external contexts (e.g., within the supply chain).	• Anti-corruption Policy • Business Partner Policy • Code of Conduct • Gift Policy • Supplier Code of Conduct	• Risk assessment • Learning management system and training in for example anti-corruption, trade sanctions and bribery • Monitoring instances of non-compliance • Whistleblowing hotline	100% of employees adhere to our Code of Conduct **Progress:** 26 substantiated reports** 100% of employees conducted ABC training **Progress**: 74%* (20%)	8
Our People & Culture						
Occupational health & safety	As a company in a heavy industry which requires significant use of hazardous substances, creating and maintaining a safe work environment is of critical importance for the well-being of our employees.	Construction and operation at our sites exposes workers to real and potential health and safety risks such as chemical exposure and fires. Throughout our supply chain we are also exposed to potential health and safety risks where our suppliers are not compliant with expected standards.	• Code of Conduct • Salary Policy Supplier • Supplier Code of Conduct • Work Environment Policy	• Weekly reviews in the Executive Management Team • Reviews in each BoD meetings • Quarterly review in safety committee on site level • Established HSE teams on site to monitor H&S performance, conduct risk assessments and incident investigations.	Safest workplace in our industry **Progress:** • LTIFR 3.56 (1.78) • TRIFR 5.88 (4.38)	8
Talent attraction & retention	Northvolt needs to continue to attract and develop a diverse and competent workforce to stay competitive and to deliver on the objectives set out by the company.	As we are creating a new industry in Europe, there are talent constraints. As we grow, we will create new job opportunities in our sector, and strive to encourage people to join our mission. We aim to be an attractive employer for top talent.	• Code of Conduct • Salary Policy Supplier • Work Environment Policy	• Learning Management system • Employee branding • Working with our values and culture • Working with leadership and employees satisfaction • Proactive approach to attracting female talent • Engagement with local community	40% female employees by 2030 **Progress:** 29% (29%) Local communities >74% positive to Northvolt **Progress:** • Skellefteå: 75% positive • Västerås: 73% positive	8 11

*White collar employees who completed ABC training

** Confirmed incidents of non-compliance

Environmental performance

Emissions

Our carbon footprint is calculated on an annual basis, using the methodological framework established by the Greenhouse Gas (GHG) Protocol. We report according to the operational control approach specified in the GHG protocol. We promote a comprehensive approach to our carbon footprint by including direct (Scope 1) and indirect (Scope 2 and 3) GHG emissions which cover the full value chain of our operations. This is complemented by our ongoing Life Cycle Assessment (LCA) work, which provides us with enhanced granularity compared to standard databases.

Over the year, a gradual improvement of data as well as amended accounting principles have led to an increase in the scope of which emissions are included in reporting. We aim to continue to strengthen our GHG accounting over time and to include more categories and a higher degree of granularity. Read more under How we report on pages 159-161.

	Measurement unit	2022	2021
Scope 1			
Fuels Out of which is:	Tonnes CO_2e	2,190	58
CO_2	Tonnes CO_2e	2,160	N/A
CH_4	Tonnes CO_2e	0,3	N/A
N_2O	Tonnes CO_2e	30	N/A
Fugitive emission	Tonnes CO_2e	80	92*
Scope 2			
District heating (market based)	Tonnes CO_2e	990	472
District heating (location based)	Tonnes CO_2e	1,280	660
District cooling (marked based)	Tonnes CO_2e	0	0
District cooling (location based)	Tonnes CO_2e	0	0
Electricity (marked based)	Tonnes CO_2e	190	74
Electricity (location based)	Tonnes CO_2e	3,320	1,323

	Measurement unit	2022	2021
Scope 3			
Purchased goods and services	Tonnes CO_2e	168,560	34,584
Upstream transportation & distribution	Tonnes CO_2e	6,900	7,589
Capital goods	Tonnes CO_2e	29,520	24,760*
Business travel	Tonnes CO_2e	3,860	1,632
Waste generation	Tonnes CO_2e	820	N/A
Fuel and Energy related activity (not covered in Scope 1 and 2)	Tonnes CO_2e	3,140	N/A

Comments:
For all categories in Scope 1, 2 and 3 the emissions have increased due to several reasons, notably our scaling up operations and our employee numbers nearly doubling in size compared to last year. We have also strengthened our data processes and added more data points and sites into the scope.

For Scope 1, 2 and 3 we have used external emission factors that account for all gases listed in GRI 305-1/305-2/305-3. For the biodiesel we use the biogenic emission account for 4 tonnes CO2e. We have not yet established a base year as we are still extending our scope for emission calculations in order to prove a holistic view of our carbon footprint.

Other emissions

	Measurement unit	2022	2021
VOC (NMP, Electrolyte and emission from can stamping)	Tonnes	2	0,013

Comments:
VOC emission only cover Northvolt Labs and Northvolt Poland.

*Restated data due to improved data availability. Read more under How we report on pages 159-161.

Environmental and Quality Management System

Northvolt's Environmental Policy is the steering document for managing risks and opportunities for improvement in areas such as emissions, waste, resource use and chemicals. It is based on the principles of green batteries and green factories with a holistic view of establishing a sustainable benchmark for our industry. Northvolt's ISO 14001 certified Environmental Management System covers Northvolt AB, Northvolt Labs, Northvolt Systems and Northvolt Revolt. Environmental Management is also part of our supplier assessments. Northvolt Ett will be ISO 14001 certified the upcoming years.

Northvolt´s quality policy is the steering document for managing our quality work, with the commitment to deliver reliable, safe, and high performance products and services to help achieve customers' targets. Northvolt is developing and maintaining a Management System according to ISO9001 / IATF 16949 to secure a standard way of working, achieving high quality levels for it customers. All our sites below are certified according to ISO 9001.

	ISO 14001	ISO 9001
Northvolt AB	✓	✓
Northvolt Labs	✓	✓
Northvolt Ett	–	✓
Northvolt Systems	✓	✓
Northvolt Revolt	✓	✓

Energy

Battery production is energy intense, and our focus is to reach and maintain 100% fossil-free energy in our operation and to optimize our energy use. Energy is measured and calculated on actual data received from energy suppliers.

	Measurement unit	2022	2021
Total energy consumption	MWh	222,280	89,308
Out of which is fossil-free	MWh	212,670	87,117
Total share of fossil free energy	%	95%	98%
Of the total energy consumption:			
Fuel consumption	MWh	9,600	327
Of which is fossil-free (biofuels)	MWh	1 010	0
Electricity consumption	MWh	168,260	64,007
Out of which is fossil-free	MWh	167,480	63,710
District heating consumption	MWh	27,620	12,299
Out of which is fossil-free	MWh	27,390	10,700
District cooling consumption	MWh	16,810	12,675
Out of which is fossil-free	MWh	16,810	12,675

Comments:

Energy consumption has increased preliminary due to start of production of Northvolt Ett and expansion projects.

*Restated data. Read more under How we report on pages 159-161.

Water and waste

Our battery production is dependent on freshwater. Risks of effluents are mitigated through active environmental management and control in our operations. We do not operate in water stressed areas. Waste is generated from the operations and construction of our sites. Both water and waste is covered under our environmental permit. Our recycling operations will have the capacity to recycle waste containing nickel, manganese, cobalt and lithium. For the remaining waste, we rely on partnerships to enable re-use and recycling of all types of waste where this is possible. We have internal target to reduce our hazardous waste generation.

	Measurement unit	2022	2021
Water consumption	m^3	1,645,670	15,373
Waste (non-hazardous)	Tonnes	8,690	6,196
Waste (hazardous)	Tonnes	4,800	2,270*
Wastewater (hazardous) sent to external waste treatment company	Tonnes	8,760	N/A

Comments:
Water data from Northvolt Ett has been included for 2022.

Recycled input materials used

Today we have traces of recycled copper and aluminium in our products. In the upcoming year we are working to obtain a better understanding of integrating higher amount of recycled content and we are establishing a roadmap to reach our targeted recycled content level. The upcoming start of production of Revolt Ett will enable an increase in the amount of recycled material which is fed into our cathode active material and thereby into our battery cell production. In the current reporting we are following ISO 14021 definition, in line with GRI reporting standards where only pre-consumer (not reclaimed within the same process step) and post-consumer materials are to be considered as recycled materials.

	Measurement unit	2022	2021
Recycled material per cell (weight based)	%	6	N/A

Comments:
Recycled material consists of recycled copper.

Compliance with laws and regulations

During the year, Northvolt have had four cases of non-compliance with environmental regulations which relates to not immediately reporting a gas leak to notification authorities, control and inspection fee from tax authority and sanction fee for lack of pipe marking. Total fines were 212,500 SEK during 2022.

Northvolt have all relevant permits in place and conduced audits have been passed during the year. In August 2022 Northvolt received our permit for Northvolt Ett Revolt expansion (125,000 tonnes). In Northvolt Ett, the company has been charged for violating one of the terms in the environmental permit which relates to breach of water temperature to the river.

Employee performance and development

The employee data covers Northvolt AB, Northvolt Ett, Northvolt Labs, Northvolt Dwa Industrial and ESS Systems and Northvolt Germany. Data for Cuberg, our US subsidiary is presented separately unless stated otherwise. Northvolt aims to include Cuberg in our HR system in 2023.

Number of employees (including Cuberg)

	Measurement unit	2022	2021
Total	Number	4,167	2,419

Number of nationalities

	Measurement unit	2022	2021
Nationalities	Number	114	101

*Restated data. Read more under How we report on pages 159-161.

Percentage of employees by gender

	Measurement unit	2022	2021
Women	%	29	29
Men	%	71	71

Number of employees by gender

	Measurement unit	2022	2021
Women	**Number**	**1,162**	**674**
Permanent	%	94	95
Temporary	%	6	5
Employees working full-time	%	100	100
Employees working part-time	%	0.09	0.15
Men	**Number**	**2,861**	**1,686**
Permanent	%	95	97
Temporary	%	5	3
Employees working full-time	%	100	100
Employees working part-time	%	0.03	0.00
Total workforce	**Number**	**4,041**	**2,363**
Permanent	%	94	96
Temporary*	%	7*	7*
Employees working full-time	%	100	100
Employees working part-time	%	0.05	0.04

New employee hires

	Measurement unit	2022	2021
New employees hires, total	**Number**	**2,093**	**1,579**
By age group (% of total staff)			
18-25	%	18	10
26-30	%	23	29
31-40	%	35	40
41-50	%	13	14
>50	%	6	6
By gender			
Women	Number	623	454
Men	Number	1,455	1,121
Undefined	Number	15	4
By country			
Sweden	Number	1,922	1,467
Poland	Number	165	106
Germany	Number	6	6

*During the year some people converted to permanent employment which explain why the percentage is higher than 100. We had 18 people of undefined gender in 2022 (3 in 2021).

Number of employees by region and gender

	Measurement unit	2022	2021
Sweden	**Number**	**3,746**	**2,204**
Women	Number	1,088	636
Men	Number	2,649	1,565
Undefined	Number	9	3
% of which are women	%	29	29
% of which are men	%	71	71
Poland	**Number**	**283**	**156**
Women	Number	71	38
Men	Number	203	118
Undefined	Number	9	0
% of which are women	%	25	24
% of which are men	%	71	76
Germany	**Number**	**12**	**3**
Women	Number	3	0
Men	Number	9	3
Undefined	Number	0	0
% of which are women	%	25	0
% of which are men	%	75	100

Cuberg employee data (presented separately)

	Measurement unit	2022	2021
Total	**Number**	**126**	**56**
Women	Number	35	16
Men	Number	90	40
Undefined	Number	1	0
% of which are women	%	28	29
% of which are men	%	71	71

Employee turnover

	Measurement unit	2022	2021
Employee turnover total			
Men	%	13.5	10.3
Women	%	16.4	11.9
Total	%	14.3	10.7
By age group			
18-25	%	16.3	8.7
26-30	%	12.4	7.2
31-40	%	13.0	9.6
41-50	%	17.4	12.9
>50	%	22.2	23.0
By country			
Sweden	%	15.0	11.1
Poland	%	5.9	4.6
Germany	%	N/A	N/A

Workers who are not employees

	Measurement unit	2022	2021
Consultants	Number	835	263
Interns	Number	79	74

Comments:

Consultant and interns performs the same task as Northvolt employees. Consultant and interns are not included in our FTE headcount but they have a separate headcounts shown in the table above. The numbers of consultants have increased due to high need for experts within our industry.

Diversity

The organization's governance bodies and employee category by gender and age group

	2022	2022	2022	2021	2021	2021
	Board of Directors	Executive Management team	Middle management	Board of Directors	Executive Management team	Middle management
Total number	8	13	395	8	12	244
% of which are women	25	38	29	12.5	25	27
% of which are men	75	62	71	87.5	75	73
18-25	0	0	1	0	0	0
26-30	0	0	26	0	0	12
31-40	0	2	195	1	3	105
41-50	2	8	131	4	4	97
>50	6	3	42	3	5	30

Independent Board member

Since the shares of Northvolt AB are not listed on a regulated marketplace in Sweden, Northvolt is not required to consider the independence requirement for Directors stipulated in the Code. However, upon election of the members of the Board, the relevant shareholders considers rule 4 of the Code as guidance in its nomination work.

Collective bargaining agreement

All Northvolt employees in Sweden are insured. This means everyone with a Northvolt employment agreement (inc. non-permanent and interns) in Sweden are covered by insurances established by the collective bargaining agreement. Additionally, Northvolt provides two additional types of insurance as a benefit to our employees in Sweden, as well as the opportunity to join our management incentive program to buy warrants.

The Collective Bargaining Agreement (CBA) provides Northvolters in Sweden with a number of benefits. We are connected to Teknikavtalet CBA, meaning that employees' work conditions and salaries are regulated and protected by the labor unions behind the agreement. In addition to this, the CBA provides employees with an occupational pension and various insurances. 100 percent of Northvolt's employees in Sweden are covered by CBA.

Northvolt's employees in Poland are supported by the national Labor Law in place of a CBA or unions. Our employees in Germany are covered by a liability insurance (Berufsgenossenschaft) for incidents at the workplace or on the way to/from the workplace. Additionally, our working conditions comply with German Labor Law. Since our site in Germany is still in the start-up phase, we are continuing to add benefits for our employees (e.g. occupational pension).

	Measurement unit	2022	2021
Percentage of Northvolt employees covered by CBA	%	93	93

Parental leave

All our employees in Sweden, Poland and Germany are entitled to take parental leave and parental leave benefits according to national regulation.

Training and education

	Measurement unit	2022	2021
Northvolt's employees (white collar) participated in training in anti-corruption	%	74	20
Executive Management team participated in training in anti-corruption	%	100	N/A
Employees who have read and agreed to our Code of Conduct (CoC)	%	100	100
Average hour training (per employee)	Number	19	18

Comments

Northvolt's Anti-corruption Policy is approved by the Board and communicated to all Northvolt employees, board members, consultants, interns and members of any advisory board when acting on behalf of Northvolt, and any other person or partner company acting on behalf of Northvolt.

All employees are required to agree to the Code of Conduct (CoC) before joining and as a precondition for entering into business with Northvolt, suppliers must confirm that they comply with our Supplier Code of Conduct. Our suppliers are responsible for ensuring that their employees, subcontractors and other representatives comply with the Anti-Corruption Policy when acting in relation to, or on behalf of Northvolt. Our CoC, Supplier CoC and Anti-Corruption Policy is available at our intranet and on our website.

Northvolt introduced a new CoC training in December 2022 and the entire Executive Management team presented in this report has taken the training.

Regular performance and career development reviews

	Measurement unit	2022	2021
Annual review participation rate (total)	**%**	**85**	-
Participation rate per gender			-
Women	%	82	-
Men	%	86	-

New hires at Northvolt Sweden and Poland are included in an onboarding review which includes a two- and a five-month check-in with their manager on performance and growth. Team and individual business (what) and behavior (how) goals are set on an annual basis and updated once a quarter. 360° feedback is sourced through the year to provide input to target setting and growth plans. Managers are required to follow up on performance and development in 1:1s through the year. Irrespective of employment type, all employees with at least three months tenure are included in an annual performance & development review to reflect on past performance and set a future focus for growth. Employees may then create individual growth plans to keep on track with their desired development path. Once a year there is also a leadership review with upward feedback from employees to their managers. Northvolt aims to include all sites in the system for review.

Occupational Health & Safety

Work-related injuries

	Measurement unit	2022	2021
Fatalities	**Number**	**0**	**0**
Northvolt employees	Number	0	-
Contracted	Number	0	-
Lost time injury	**Number**	**49**	**13**
Northvolt employees	Number	30	-
Contracted	Number	19	-
LTIFR		**3.56**	**1.78**
Restricted work injury	**Number**	**4**	**17**
Northvolt employees	Number	1	-
Contracted	Number	3	-
Medical treatment injury	**Number**	**28**	**2**
Northvolt employees	Number	11	-
Contracted	Number	17	-
TRI		**81**	**32**
TRIFR		**5.88**	**4.38**
Minor injuries	**Number**	**313**	**151**
Northvolt employees	Number	265	-
Contracted	Number	48	-
Near miss	**Number**	**773**	**434**
Northvolt employees	Number	667	-
Contracted	Number	106	-
Risk observation	**Number**	**3053**	**968**
Northvolt employees	Number	2121	-
Contracted	Number	932	-
Total worked hours	**Number**	**13,782,294**	**-**

*Due to change of supplier, data or change of methodology, data could not be aggregated in 2021.

Sick-leave rate

	2022	2021
Sick-leave rate, share of ordinary working hours	2.07	N/A*
Sick-leave rate, share of ordinary working hours, short-term	1..57	N/A*
Sick-leave rate, share of ordinary working hours, long-term	0.50	N/A*

Comments:
Reporting of serious injuries in 2021 was in line with the reporting requirements from Swedish Work Environment Authority. As for 2022 the updated classification system is aligned with international standard definitions for injury reporting and harmonized between Northvolt sites. Please be advised that Health & Safety data from 2021 is not comparable to data from 2022 due to a change in approach to data collection as well as updated methodology.

Supply chain

KPI	Measurement unit	2022	2021
Direct suppliers screened against environmental, social and governance criteria	%	60	N/A
Direct significant suppliers screened against environmental, social and governance criteria	%	98	N/A
New direct suppliers screened against environmental, social and governance criteria	%	78	N/A
Traceability to mine for raw materials (excluding graphite)	%	89	89
Significant suppliers who have accepted Northvolt´s Supplier CoC or equivalent standard	%	84	N/A
Number of sustainability site visits and audits conducted of raw material suppliers			
Site visit	Number	3	1
Audit Northvolt lead	Number	2	N/A
Audit Third part lead	Number	6	1

Comments:
This past year we have been working on implementing a scalable due diligence processes accounting for a full spectrum of sustainability risks, across all purchasing categories and spend levels. As part of this improvement of procedures we have also introduced new ways of filing and tracking compliance with the sustainability screening and acceptance of our Supplier Code of Conduct, including retroactively applying our expectations for existing contracts. Due to its recent roll out, the measured progress will continue to increase over time.

Read more about our developments and changes in our supply chain sourcing process on pages 36-39 and on page 161.

Membership associations

Northvolt is an active partner in several alliances and industry collaborations. The company holds dialogues with industry peers on issues relating to technology and innovation across relevant short- and long-term aspects relating to economic, governance, environmental and social dimensions. Northvolt maintains a central list of the organizations we are a member of, which is reviewed annually to ensure that these are in line with our values and commitments.

In Europe, Northvolt is a member of the European Battery Alliance as well as the Platform for Electromobility, among others.

In Sweden, Northvolt is a member of the Association of Swedish Engineering Industries, the Confederation of Swedish Enterprise, the Electrification Commission and Fossil Free Sweden.

How we report

Northvolt's Sustainability Report 2022 covers Northvolt AB and its subsidiaries where we have operations and in some instances this differs from the list of entities covered in the consolidated financial statements. The report have been prepared in accordance with GRI standards, guiding readers to information on relevant indicators. Sustainability is our core business and in this report, we outline our impact on the economy, environment and people, together with our priorities and responses. The report covers fiscal year 2022 and was published on May 10th 2023.

In accordance with the Swedish Annual Accounts Act chapter 6,§11, Northvolt has chosen to establish its statutory Sustainability Report integrated in the Sustainability and Annual report. All required information as defined by the Swedish Annual Accounts Act is incorporated in this document on pages 28-51, 58-60, 66-73 and 148-158.. EY has provided limited assurance on Northvolt´s sustainability report in accordance with GRI Standards and expressed an opinion on the statutory sustainability report in accordance with the Swedish Annual Accounts Act. See Auditor´s limited review report on page 167.

Unless otherwise indicated, standard disclosures include all operations that can potentially affect Northvolt's performance, excluding joint ventures.

Our approach
This report sets out the ways in which we are measuring progress and details our approach to managing sustainability risks. Based on our materiality assessment, the topics most relevant to Northvolt and our value chain are presented.

Data was collected through calendar year 2022, and 2021 represented our baseline year. This report has been reviewed and approved by Executive Management and the Board.

Frameworks
This report has been prepared in accordance to the Global Reporting Initiative (GRI) Standard 2021, with guidelines from the Task Force on Climate-Related Financial Disclosures (TCFD) and in line with SASB standard - Fuel Cells & Industrial Batteries. Greenhouse gas emissions were calculated according to the Greenhouse Gas Protocol.

Environmental data collection
Environmental data pertains to Northvolt and its significant operating subsidiaries, excluding joint ventures and entities where we do not have operating control, as well as smaller offices with fewer than 10 employees. Emissions data from joint ventures will be collected once they become operational. All data is compiled either monthly, quarterly or annually.

The following facilities have therefore been included within the scope of the reporting for 2022

- Sweden Stockholm (Volthouse and Tomteboda)
- Sweden Västerås (Labs, Revolt, P&L, S&E and R&D)
- Sweden Skellefteå (Ett, Other office building)
- Poland Gdansk (Dwa ESS and Dwa Industrial)
- USA San Fransisco (Cuberg)

We work continuously to improve data quality and precision by using a combination of primary and secondary data. We will continue to be transparent on how we calculate, learn and adapt our approach as methods and data quality improve.

For Scope 1, 2 and 3 we have used external emissions factors that cover all gases listed in GRI 305-1/305-2/305-3. We have not yet established a base year because we are still extending our scope for emission calculations in order to provide a holistic view of our carbon footprint.

Scope 1 and 2
Scope 1 and 2 emissions are based on actual data derived from the following sources:

- Refrigerant top up data from service reports
- Natural gas, electricity, district heating and cooling consumption from invoices and supplier portals
- Leased own cars
- Other fuels, for example back-up power

Fuel is used for electricity or heating purposes on site. Common fuel types are natural gas, gasoline, and diesel. At Northvolt, only natural gas and diesel are within the scope of reporting, as these are the only fuels used. Fuel use falls under the "Scope 1" emission category in the GHG protocol. Northvolt has leased its own cars and back-up power that runs on diesel and biodiesel. For the biodiesel, the biogenic emission accounts for 4 tons of carbon emission.

Emissions factors used include DEFRA, supplier specific emission factor for electricity and district heating and cooling.

Scope 3
Our reporting is based on the data which is available and where the quality of data has been deemed sufficient. We are continuously working to gather data of higher quality and expect improved emissions data under Scope 3 for future reports.

In 2022 we have reported emissions data for the following Scope 3 categories:

- Purchased goods and services
- Capital goods
- Fuel- and energy-related activities not included in Scope 1 or

Scope 2
- Upstream logistics and distribution
- Waste generated in operations
- Business travel

Data from Cuberg is only in the Scope 3 category "Fuel- and energy-related activities not included in Scope 1 or Scope 2" and not in the remaining Scope 3 categories.

Purchased goods and services
Emissions from this category are based on total volume of purchased cathode active raw material, graphite, copper foil, aluminium foil and electrolyte for the year, as these are considered our most material purchases. Emission factors applied consist of a mix of Ecoinvent 3.8, academic literature and supplier specific factors. The data is based on purchases for our production at Northvolt Labs and Ett only.

Capital goods
Emissions from this category are emissions from our construction activities at Northvolt Ett only and consist of the total volume of concrete, steel and insulation panels purchased for FY 2022. Emission factors used are Ecoinvent 3.8 as supplier specific factors.

Fuel- and energy-related activities not included in Scope 1 or Scope 2
Emissions from this category are calculated based on the same activity data as the emissions reported under Scope 1 and Scope 2. For energy related emissions, upstream emissions as well as emissions related to distribution and loss of energy are covered. For fuel related emissions, upstream emissions are included in the scope. Emissions and distribution loss factors used are taken from publicly available sources including DEFRA, United Nations Economic Commission for Europe and Worldbank as well as supplier specific information.

Upstream logistics and distribution
Northvolt calculates emissions within the Scope 3 category based on logistics data for Northvolt Sweden for the year. The emissions are calculated based on supplier specific emissions data, provided by logistics providers.

Business travel
Emissions data from business travel was gathered from Northvolt's external travel agencies. This data includes travel via rail and flights as well as emissions related to hotel stays. Hired cars are not included. The data only covers travel by employees employed from our Swedish entities.

Waste generated in operations (Scope 3)
For the emissions caused by waste generated in our operations, the amount of waste from all sites within the reporting scope are aggregated in 6 groups based on the waste type and treatment method:

- Energy recovery – mixed waste
- Landfill – mixed waste
- Recycling – metal
- Recycling – plastic mixed
- Recycling – paper
- Recycling – mixed other

Emissions factors are taken from our waste suppliers when applicable. If not, we have used the EPA GHG Emission Factors Hub.

Water consumption
Data collection for water consumption differs between sites due to the different designs of water systems. Design choice has a great impact on total water consumption. Across locations, all water consumption is manually reported and tap water consumption data comes from the municipality.

The data is aggregated from customer portals or from invoices. In 2021, only Northvolt Labs' and Dwa Industrial's water consumption data were collected and reported. Northvolt Ett and Stockholm facilities were excluded in the previous report as measuring points were not available.

In 2022, Northvolt Ett in Skellefteå was added to the report but Stockholm facilities are still excluded due to the unavailability of data. The water consumption at Northvolt Ett is significantly larger than in the facilities in Västerås and Poland, not only because of the larger size but also because of the differences in internal cooling system design. The incoming water from the river is measured by an external company and the outgoing water to the river is measured by Northvolt with a flow meter.

Even though the water data collection has improved since 2021 at Northvolt Ett, it is likely the discharged water is overestimated due to a range of factors. We are aware of these factors and are working to remedy them.

Waste
Waste data is measured and calculated on actual data received from waste suppliers.

Correction from last year
Several data points concerning our sustainability data have been corrected from what was reported in 2021. Adjustments that are considered significant concern fugitive emission and waste data.

Scope 1 – Fugitive emissions – Overestimation of the fugitive emissions in Västerås facilities (instead of the amount of refrigerants that had to be refilled, the total amount in the system was used) We have corrected this number from 6402 tonnes to 92 tonnes CO_2.

Waste – After publication of the sustainability report 2021 we identified an additional 2000 tonnes hazardous waste at Northvolt Ett.

Capital goods – Due to data unavailability we were not able to disclose full information in 2021. The relevant numbers have been corrected.

LCA calculation
We will conduct LCAs on all of our products and certify these according to ISO 14040:2006 and 14044:2006 standards, using as much primary data as possible.

In addition to quantifying the current impacts of our products, we proactively use LCAs as tools for decision making and eco-design across the organization. By conducting LCAs, we identify hotspots and inefficiencies in our production processes where improvements can be made.

From our work over the past year, integrating LCA as a decision-making tool within the organization means that employees have a greater buy-in into the advances required to produce green batteries. When we can understand how our decisions actively impact the overall environmental performance of the batteries, we feel empowered to make decisions with environmental performance in mind. This gives us a greater chance of reaching our goals and generating long-lasting change.

Health and Safety
Health and safety figures summarize all activities on Northvolt sites during 2022. The injuries are ex-pressed per million hours worked. Safety indicators include Northvolt employees and contractors. A workplace accident is the direct result of a work-related activity, and it has taken place during working hours. The data is taken from TIA system which is available for everyone on the sites to use.

- **Fatality** An injury on the job by an employee or contractor that results in fatality.
- **Lost time injury (LTI)** An injury sustained on the job by an employee or contractor that results in the loss of productive work time.
- **Lost time injury frequency rate (LTIFR)** The number of lost time injuries occurring in a workplace per 1 million hours worked
- **Medical treat-ment injury (MTI)** An injury which resulted in a treatment from physician or other medical personnel.
- **Minor injury** A injury sustained on the job by an employee or contractor that is non-severe and only requires medical attention immediately after the injury occurs and at the location where it occurred.
- **Near miss** An incident in which no injury was sustained, but where, given a slight shift in time or position, injury easily could have occurred.
- **Restricted work injury (RWI)** An injury sustained on the job by an employee or contractor that results in that the person cannot perform all of the routine job functions but does not result in days away from work.
- **Risk observation** A object, situation, or behaviour that has the potential to cause injury.
- **Total recordable injury (TRI)** A measure that encompasses all fatalities, lost time injuries, restricted work injuries and medical treat-ment injuries.
- **Total recordable injury Frequency rate (TRIFR)** The number of fatalities, lost time injuries, restricted work injuries and medical treatment injuries occurring in a workplace per 1 million hours worked.

Human resource data
Employee data is collected with every new hire Northvolt takes on. All data is aggregated in the Company's HR system. Access to edit in the HR system is limited to a few people to ensure the information is reliable and correct. The employee data is gathered from the HR system based on the employee's position which shows the employee's current status, manager, legal entity, FTE, and cost center. In addition, other information is imported from the employee's profile. This enables us to define the employee's status whether they are active or have left the company or will be leaving in the future or are a future hire and analyzing the data by gender, location, year, age etc..

During the year, we have secured more resources and strengthened processes in data management, and we have therefore made minor adjustments to last year's HR data.

Reporting boundaries HR data
Northvolt collects and reports data from Northvolt AB, Northvolt Systems AB, Northvolt Ett AB, Northvolt Labs AB, Northvolt Revolt AB, Northvolt Poland Sp.z.o.o. and Northvolt Germany GmbH.

Cuberg is our US subsidiary and is presented separately as it is not yet included in our HR system.

Sustainable supply chain
In 2022 we revised our approach to accounting for suppliers screened, in order to align with our target of 100% suppliers screened for sustainability risks. The 2021 data was accounting for all suppliers who had received our sustainability self-assessment questionnaire during the reporting year, including those suppliers who were not nominated after the sourcing process. For 2022 we are calculating the suppliers screened as a percentage of our existing suppliers. It is a cumulative figure and includes suppliers who were contracted before 2022. By adjusting our methodology to look at the cumulative figure we have a better understanding of how we are progressing to the target of 100% suppliers screened. We also included metrics on new suppliers screened for ESG criteria to ensure year on year trackning of progress.

In relation to actual and potential negative environmental and social impact in the supply chain we are working on a methodology to present data that accurately represents the impact of our supply chain across categories not only for raw materials.

Sustainability reporting frameworks and indices

Statement of use: Northvolt has reported in accordance with the GRI Standards for the period 1 of January until 31 of December.
GRI 1 used: GRI 1: Foundation 2021

GRI STANDARD		DISCLOSURE	LOCATION	OMISSION/COMMENTS
General Disclosures 2021				
GRI 2: General Disclosures 2021	2-1	Organizational details	18, 54, 84, 163-165	
	2-2	Entities included in the organization's sustainability reporting	84, 159-161	
	2-3	Reporting period, frequency and contact point	84, 159-161	
	2-4	Restatements of information	159-161	
	2-5	External assurance	159, 167	
	2-6	Activities, value chain and other business relationships	5, 16, 37-39, 148-149	
	2-7	Employees	152-155	
	2-8	Workers who are not employees	155	
	2-9	Governance structure and composition	54-61, 155	
	2-10	Nomination and selection of the highest governance body	54-61	
	2-11	Chair of the highest governance body	54-61	
	2-12	Role of the highest governance body in overseeing the management of impacts	58-60	
	2-13	Delegation of responsibility for managing impacts	58-60	
	2-14	Role of the highest governance body in sustainability reporting	58-60	
	2-15	Conflicts of interest	54-57	
	2-16	Communication of critical concerns	54-61	
	2-17	Collective knowledge of the highest governance body	54-61	
	2-18	Evaluation of the performance of the highest governance body	54-61	

GRI STANDARD		DISCLOSURE	LOCATION	OMISSION/COMMENTS
	2-19	Remuneration policies	N/A	Not applicable. Information unavailable.
	2-20	Process to determine remuneration	N/A	Not applicable. Information unavailable.
	2-21	Annual total compensation ratio	N/A	Not applicable. Information unavailable.
	2-22	Statement on sustainable development strategy	8-10	
	2-23	Policy commitments	37-39, 58-60, 82	
	2-24	Embedding policy commitments	37-39, 58-60, 82	Northvolt is developing embedding policy commitments.
	2-25	Processes to remediate negative impacts	56, 82	
	2-26	Mechanisms for seeking advice and raising concerns	56	
	2-27	Compliance with laws and regulations	152	
	2-28	Membership associations	158	
	2-29	Approach to stakeholder engagement	73	
	2-30	Collective bargaining agreements	155	
Material topics				
GRI 3: Material Topics 2021	3-1	Process to determine material topics	73	
	3-2	List of material topics	73, 148-149	
Anti-corruption				
GRI 3: Material Topics 2021	3-3	Management of material topics	148-149	
GRI 205: Anti-corruption 2016	205-2	Communication and training about anti-corruption policies and procedures	60, 156	
Materials				
GRI 3: Material Topics 2021	3-3	Management of material topics	148-149	
GRI 301: Materials 2016	301-2	Recycled input materials used	148, 152	
Energy				
GRI 3: Material Topics 2021	3-3	Management of material topics	148-149	
GRI 302: Energy 2016	302-1	Energy consumption within the organization	148, 151	

GRI STANDARD		DISCLOSURE	LOCATION	OMISSION/COMMENTS
Emissions				
GRI 3: Material Topics 2021	3-3	Management of material topics	148-149	
GRI 305: Emissions 2016	305-1	Direct (Scope 1) GHG emissions	31, 150	
	305-2	Energy indirect (Scope 2) GHG emissions	31, 150	
	305-3	Other indirect (Scope 3) GHG emissions	31, 150	
Supplier environmental assessment				
GRI 3: Material Topics 2021	3-3	Management of material topics	148-149	
GRI 308: Supplier Environmental Assessment 2016	308-1	New suppliers that were screened using environmental criteria	37-39, 149, 158	
Employment				
GRI 3: Material Topics 2021	3-3	Management of material topics	48-51, 148-149	
GRI 401: Employment 2016	401-1	New employee hires and employee turnover	153-154	
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	48-51, 155-156	
Occupational health and safety				
GRI 3: Material Topics 2021	3-3	Management of material topics	41-43, 148-149	
GRI 403: Occupational Health and Safety 2018	403-1	Occupational health and safety management system	41-43	
	403-2	Hazard identification, risk assessment, and incident investigation	41-43	
	403-3	Occupational health services	41-43, 48-51	
	403-4	Worker participation, consultation, and communication on occupational health and safety	41-43	
	403-5	Worker training on occupational health and safety	41-43	
	403-6	Promotion of worker health	41-43	
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	41-43	
	403-9	Work-related injuries	157	

GRI STANDARD		DISCLOSURE	LOCATION	OMISSION/COMMENTS
Training and education				
GRI 3: Material Topics 2021	3-3	Management of material topics	48-51, 148-149	
GRI 404: Training and Education 2016	404-3	Percentage of employees receiving regular performance and career development reviews	156	
Diversity and equal opportunity				
GRI 3: Material Topics 2021	3-3	Management of material topics	17, 148-149	
GRI 405: Diversity and Equal Opportunity 2016	405-1	Diversity of governance bodies and employees	155	
Supplier social assessment				
GRI 3: Material Topics 2021	3-3	Management of material topics	148-149	
GRI 414: Supplier Social Assessment 2016	414-1	New suppliers that were screened using social criteria	37-39, 149, 158	

TCFD index

Governance	
a) Describe the board's oversight of climate-related risks and opportunities.	58
b) Describe the management's role in assessing and managing climate-related risks and opportunities.	58
Strategy	
a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	31-35
b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	31-35
c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	31-35
Risk management	
a) Describe the organization's processes for identifying and assessing climate-related risks.	66-72
b) Describe the organization's processes for managing climate-related risks.	66-72
c) Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organization's overall risk management.	66-72
Metrics and targets	
a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	31-35
b) Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 GHG emissions, and the related risks.	31-35
c)Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	31-35

Read our full TCFD report for alignment with the criteria

SASB index

Topic	Accounting metric	Reference (page)
Energy Management	Total energy consumed	151
	Percentage grid electricity	151
	Percentage renewable	151
Workforce Health & Safety	Total recordable incident rate (TRIR)	157
	Fatality rate	157
Product efficiency	Average storage capacity of batteries, by product application and technology type	Confidentiality constraints
	Average battery efficiency as coulombic efficiency, by product application and technology type	Confidentiality constraints
	Average operating lifetime of batteries, by product application and technology type	Confidentiality constraints
Product End-of-life Management	Percentage of products sold that are recyclable or reusable	100%
	Weight of end-of-life material recovered, percentage recycled	TBC
	Description of approach to manage use, reclamation, and disposal of hazardous materials	44, 79-82, 152
Material sourcing	Description of the management of risks associated with the use of critical materials	37-39

Auditor's limited review report

Auditor's Limited Assurance Report on Northvolt AB's Sustainability Report and statement regarding the Statutory Sustainability Report 2022

This is the translation of the auditor's report in Swedish.

To Northvolt AB, corporate identity number 559015-8894

Introduction

We have been engaged by the Board of Directors of Northvolt AB to undertake a limited assurance engagement of Northvolt AB's Sustainability Report for the year 2022. Northvolt AB has defined the scope of the Sustainability Report on pages 162-165 in this document and the Statutory Sustainability Report on page 3.

Responsibilities of the Board of Directors and the Executive Management for the Sustainability Report

The Board of Directors and the Executive Management are responsible for the preparation of the Sustainability Report including the Statutory Sustainability Report in accordance with applicable criteria and the Annual Accounts Act respectively. The criteria are defined on pages 159-161 in the Sustainability Report, and are part of the Sustainability Reporting Guidelines published by GRI (The Global Reporting Initiative), that are applicable to the Sustainability Report, as well as the accounting and calculation principles that the Company has developed. This responsibility also includes the internal control relevant to the preparation of a Sustainability Report that is free from material misstatements, whether due to fraud or error.

Responsibilities of the Auditor

Our responsibility is to express a conclusion on the Sustainability Report based on the limited assurance procedures we have performed and to express an opinion regarding the Statutory Sustainability Report. Our review is limited to the information in this document and to the historical information and does therefore not include future oriented information. We conducted our limited assurance engagement in accordance with ISAE 3000 (Revised) Assurance engagements other than audits or reviews of financial information. A limited assurance engagement consists of making inquiries, primarily of persons responsible for the preparation of the Sustainability Report, and applying analytical and other limited assurance procedures. Our examination regarding the Statutory Sustainability Report has been conducted in accordance with FAR's accounting standard RevR 12 The auditor's opinion regarding the statutory sustainability report. A limited assurance engagement and an examination according to RevR 12 is different and substantially less in scope than an audit conducted in accordance with International Standards on Auditing and generally accepted auditing standards in Sweden.

The firm applies ISQC 1 (International Standard on Quality Control) and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements. We are independent of Northvolt AB in accordance with professional ethics for accountants in Sweden and have otherwise fulfilled our ethical responsibilities in accordance with these requirements.

The limited assurance procedures performed and the examination according to RevR 12 do not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. The conclusion based on a limited assurance engagement and an examination according to RevR 12 does not provide the same level of assurance as a conclusion based on an audit.

Our procedures are based on the criteria defined by the Board of Directors and Executive Management as described above. We consider these criteria suitable for the preparation of the Sustainability Report.

We believe that the evidence obtained is sufficient and appropriate to provide a basis for our conclusions below.

Conclusion

Based on the limited assurance procedures we have performed, nothing has come to our attention that causes us to believe that the Sustainability Report is not prepared, in all material respects, in accordance with the criteria defined by the Board of Directors and Executive Management.

A Statutory Sustainability Report has been prepared

Stockholm, 4 May 2023
Ernst & Young AB

Hamish Mabon
Authorized Public Accountant

Outi Alestalo
Specialist member in FAR

Definitions

ACTIVE MATERIAL The active materials in a battery cell are those participating in the electrochemical charge/discharge reaction.

ANODE The positively charged electrode.

BATTERY MODULE An electrical energy storage device consisting of any number of battery cells.

BATTERY PACK An electrical energy storage device consisting of any number of individual battery modules connected in series and in parallel, to achieve a desired voltage and energy capacity to power a device or other application.

BLACK MASS (BM) A metal powder recovered from the crushing of end-of-life batteries and/or production scrap during battery recycling. Black mass contains valuable materials including nickel, manganese, cobalt and lithium which can be recovered through hydromet processing.

CARBON FOOTPRINT A sum of greenhouse gas emitted in a product or material life cycle, expressed as CO_2 equivalents (CO_2e)

CATHODE The negatively charged electrode.

CRADLE-TO-CRADLE(G2C) In relation to life-cycle assessment, refers the full lifecycle of a product, together with its end-of-life (excludes use phase).

CRADLE-TO-GATE(G2G) In relation to life-cycle assessment, refers to the production of a product, from raw materials and supply chain through to end of production.

CYCLE LIFE A measure of the useful lifetime of a battery or cell, expressed as the number of charge-discharge cycles the battery or cell can deliver before depleting to a certain level of performance.

DIRECT MATERIALS Bill of material suppliers, where the material ends up in Northvolt products.

DOWNSTREAM In the context of Northvolt, refers to manufacturing activities occurring after manufacturing of cathode active material.

ELECTRODE Conductive materials in a cell in which electrochemical reactions occurs.

ENERGY DENSITY Volumetric density, specifies the amount of energy a cell can hold in volume.

HIGH-RISK SUPPLIER Supplier located in a country where the Transparency International Corruption Perception Index (CPI) score is below 50.

HYDROMET Hydrometallurgy 'hydromet' is a chemical technique used for the extraction of metals from materials or solutions applied within battery recycling process it is used to treat black mass to recover nickel, manganese, cobalt and lithium.

KYC Know your customers

MIDDLE MANAGEMENT Middle management consists of four job levels M3, M4, M5 and M6 which their standard jobs start with Manager, Senior Manager, Director and Senior Director respectively.

NMC Nickel Manganese Cobalt.

SIGNIFICANT SUPPLIER Suppliers where we have a spend over 200,000 USD or are located in countries where the Corruption Perception Index (CPI) score is below 50

SUPPLIER AUDIT CONDUCTED Northvolt performs sustainability audits on certain high-risk suppliers. For this we use an internal audit checklist developed based on IFC performance standard.

TRACEABILITY We define traceability as where we have direct supply from integrated suppliers down to mine. We measure this for our raw material supply (Cobalt, Nickel, Manganese, Lithium). Whilst we always have transparency of our sources down to mine, we do not consider them traceable unless they fulfill the above definition, with the key aspect being that trace the individual product (i.e. not mass balance).

UPSTREAM In the context of Northvolt, refers to chemical manufacturing of cathode active material

VERTICAL INTEGRATION The act of consolidating distinct supply chain activities within the operations of a company, typically to facilitate cost efficiency

VOLTPACK A battery subpack developed by Northvolt

VOLTPACK MOBILE SYSTEM A complete battery system developed by Northvolt for the mobile energy storage market

How to produce a battery cell

UPSTREAM

Cathode active material production

Raw materials including lithium, nickel, manganese and cobalt are mixed and treated to create NMC cathode active material. As an alternative to virgin materials, Northvolt is able to use materials recovered from recycling to create cathode active material.

DOWNSTREAM

Slurry mixing

Graphite-based anode and NMC-based cathode active materials are separately mixed with other materials to produce anode and cathode mixtures called 'slurries'.

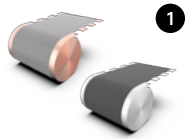
The chemicals in the mixture prevent the active material from breaking down enabling safe, high-performance and long-lasting battery.

Electrode manufacturing

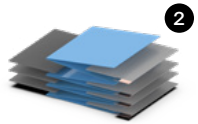
Anode material is coated onto copper and cathode material coated onto aluminum foil to create anode and cathode electrode.

On separate lines, the anode and cathode electrode is oven-dried before being pressed and collected into a large roll.

Cell assembly of prismatic cells



1. After quality inspection, the anode and cathode electrode rolls are trimmed and prepared to fit particular cell types.

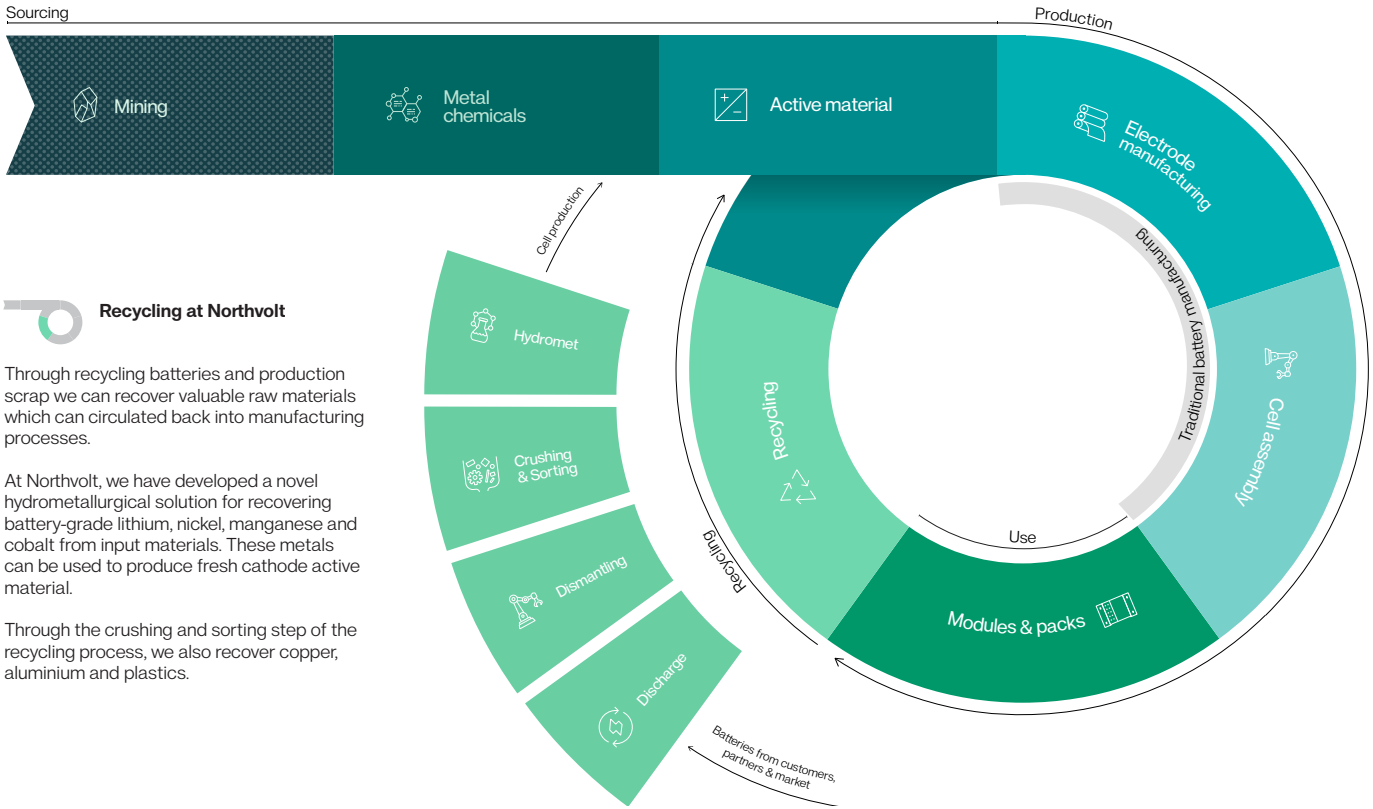


2. The anode and cathode sheets are stacked alternatively in between a separator to form a small packet referred to as a jelly-roll.

3. The jelly-roll is wrapped, taped and pressed tight. Next, the tabs of the jelly-roll are welded to create positive and negative current collectors.

4. The jelly-rolls are fitted with additional components and the whole package is inserted into a metal can and sealed.

5. The cell is filled with electrolyte before it is sent on to the final step of production – formation & aging.



Recycling at Northvolt

Through recycling batteries and production scrap we can recover valuable raw materials which can circulated back into manufacturing processes.

At Northvolt, we have developed a novel hydrometallurgical solution for recovering battery-grade lithium, nickel, manganese and cobalt from input materials. These metals can be used to produce fresh cathode active material.

Through the crushing and sorting step of the recycling process, we also recover copper, aluminium and plastics.

GET IN TOUCH
If you need more information about our sustainability work or this report please contact: **hi@northvolt.com**

northvolt