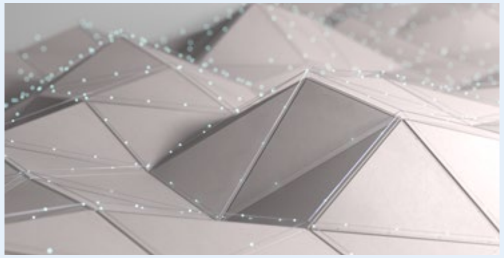
Annual Report 2022

kemira

The Kemira Annual Report 2022 consists of four modules: **Annual Review 2022**, **Sustainability Report 2022**, **Corporate Governance 2022**, and **Financial Statements 2022**. This interactive PDF version of the Annual Report has been enhanced with linked navigation to help you find the information you want more quickly. The table of contents, page references and URLs link to pages and sections within this document as well as to outside websites.

Content



ANNUAL REVIEW 2022

SUSTAINABILITY REPORT 2022

CORPORATE GOVERNANCE 2022

FINANCIAL STATEMENTS 2022

www.kemira.com

Annual Review 2022

CEO Review 2022

2022 has been another unusual and challenging year but the global Kemira team has remained steadfast in navigating global challenges and helping our customers do the same. Financially it was a record-strong year with revenue reaching an all-time high of almost EUR 3.6 billion. This increase was driven by higher sales prices, particularly in energy-intensive pulp, bleaching chemicals, and caustic soda. The operative EBITDA reached a record high of EUR 572 million in 2022. During the year our team worked very hard to mitigate the impacts of unprecedented inflationary pressures. The operative EBITDA margin improved to 16.0%, which is within our financial target range of 15-18%.

Kemira is now a fundamentally stronger company. Our balance sheet is strong and the net debt / EBITDA ratio declined to 1.3 at the end of 2022. Our strong position enables us to look for organic and inorganic growth opportunities as sustainable profitable growth continues to be our strategic focus area. In 2023, our new investments in Uruguay will be completed and we will continue to progress our biobased strategy to reach our goal of EUR 500 million in biobased revenue by 2030.

We exited the Russian market after discontinuing all deliveries to Russia and Belarus at the beginning of March. Russia was a relatively small market for us and accounted for roughly 3% of Kemira's total revenue in 2021. Several Covid lockdowns and then the rapid and sudden removal of all Covid restrictions in China have also caused difficulties during 2022. Kemira has been able to keep all our Chinese manufacturing sites running and the well-being of our employees has been continuously monitored.

A major topic for the markets and companies especially in EMEA was energy and energy availability and price inflation. Kemira is a significant user of energy with annual energy purchases globally amounting to around EUR 300 million in 2022 of which 68% was

> We are starting 2023 from a very strong position. I am very proud of our global Kemira team and what we have achieved together in 2022.

carbon-free. Most of Kemira's energy purchases are electricity, but some of our production facilities use natural gas in Europe. Kemira prepared for various scenarios should energy, particularly gas, availability be disrupted in Europe. Kemira was and is also exposed to indirect impacts via Kemira's customers and suppliers. Particularly high energy prices or disruptions in energy availability could reduce or temporarily stop production at Kemira's customers and/or suppliers, which could affect Kemira's end-market demand or supply chain. In 2022 we didn't experience major disruptions in this area.

We have focused on executing our sustainable growth strategy on many fronts. We launched a new Growth Accelerator unit within Kemira to accelerate the commercialization of new biomaterials in our current markets and create business opportunities in adjacent markets. The build-up of this new organization is ongoing and it is expected to be operational in Q1 2023. During Q2 2022, we also announced a multi-year extension to our partnership with Danimer Scientific to commercialize fully biobased barrier coatings.

In June, we committed to the Science Based Targets Initiative (SBTi) and set a new ambitious climate target. We commit to cutting emissions from our operations (Scope 1 and Scope 2 emissions) by 50% by 2030 from a 2018 baseline. This target is in line with limiting global warming to 1.5°C and it will be validated by the SBTi. Our ambition is to be carbon neutral by 2045 for Scope 1 and Scope 2 emissions. We are currently working on developing a quantified near-term Scope 3 target within the timeframe set by the SBTi framework.

Kemira is a safety-first company. Safe and responsible operations as well as safe production and use of our products throughout their lifecycle is a priority for us. Our most important objective is to make sure every one of us, including our contractors and other partners, can return home safely, every day. In 2022 we worked systematically to reinforce a "safety first" culture where people actively promote safety, recognize and correct unsafe behaviors, complied with safe working practices, and have accountability at all levels of the organization. We saw our efforts pay off during the second half of the year when the number of incidents significantly declined.

Our people, the global Kemira team, are at the center of our success and progress. I'm happy to note that our employee engagement remains consistently high despite the challenging environment in which we have been operating. In 2023 we will be deepening our internal engagement in the areas of well-being and diversity & inclusion. Diversity is one of the greatest contributors to Kemira's success and we believe that solving tomorrow's challenges is only possible when we bring together our diverse knowledge, experience, and passion for what we do.

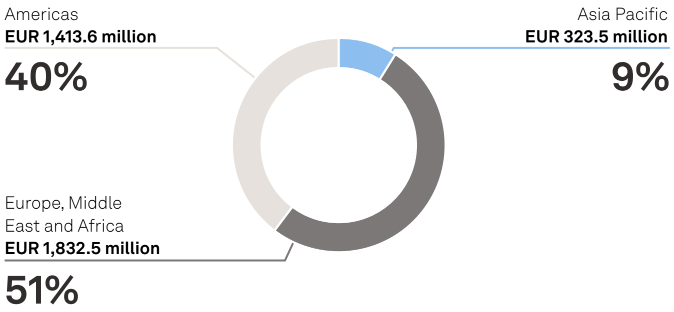
We are starting 2023 from a very strong position. I am very proud of our global Kemira team and what we have achieved together in 2022. Our efforts have been truly appreciated by our customers who once more have given us higher satisfaction scores than ever before.

I want to also warmly thank our customers, suppliers, and other stakeholders for their continued trust in us. I am convinced that what we have learned in 2022 will help us to build a better and more sustainable future together.

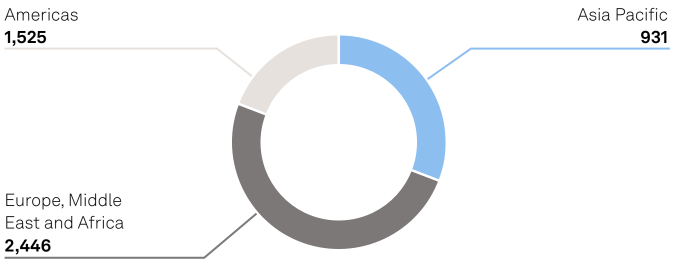
Jari Rosendal
President and CEO

Key figures 2022

KEY FIGURES EUR, REVENUE BY REGION %



EMPLOYEES BY REGION



62 manufacturing sites

Operating in **36** countries

Shipping to **110** countries

Revenue, EUR	Operative EBITDA, EUR	Operative EBITDA margin	Earnings per share, diluted, EUR	Total employees
3.6 billion	**572** million	**16%**	**1.50**	**4,902**

Chemistry with a purpose. Better every day.

Our purpose highlights our commitment to constant improvement and our goal of a better every day for people, business and the environment. Our employees, customers and the society are central when our chemistry is applied in a reliable, responsible and safe way.

Our success is built on a unique combination of more than 100 years of chemistry expertise, high quality product portfolio, advanced digital technologies for process optimization and transparency, prime service reliability and delivery capabilities. We develop and apply chemistry to optimize water management and the ways natural resources are used and recycled. We advance people's everyday health and safety and constantly improve our customers' processes – enabling their sustainable business.

PULP & PAPER

The Pulp & Paper segment combines best-in-class application expertise, latest technologies for advanced process management and a complete chemistry portfolio to serve our customers in the papermaking industry across different grades from pulp to board, tissue, specialty papers as well as graphical and printing papers.

INDUSTRY & WATER

The Industry & Water business segment enables water intensive industries and municipal water treatment operators improve their process and resource efficiency. In oil and gas applications we enable reduced water and energy use for more efficient well management and improve oil sands tailings treatment.

Our focus on water intensive industries continues and we are continuously evaluating new opportunities for growth within this sector.

SAMPO LAHTINEN: GROWTH ACCELERATOR TO SPEED UP GROWTH AMBITIONS

In June Kemira announced the formation of a new Growth Accelerator unit to drive long-term growth for selected strategic initiatives, starting in 2023 and supporting both segments. The unit's main objectives are to accelerate commercialization of new and unique biomaterials into Kemira's current markets and to create business opportunities in new adjacent markets for both new and existing Kemira products. Kemira's target is to grow the revenue from biobased products to more than EUR 500 million by 2030.

In the chemical industry, commercialization of new materials typically takes time and resilience, and the requirement for persistent dedication is one of the reasons why the unit is needed. We aim to provide customers with more visibility to the new biomaterial products in our pipeline. Moreover, we will provide more opportunities for our customers to become early adopters for such products, and opportunities to co-develop new products in their markets.

"We now have sufficient focus, dedication and mandate to accelerate commercialization of our transformational products and expansion to new markets. Kemira already reached EUR 219 million biobased revenue in 2021."

Sampo Lahtinen

Senior Vice President, Growth Accelerator, Kemira

How we create value

KEY INPUTS

Our people
- Competence and skills of 4,902 employees representing 62 nationalities

Global operations
- 62 manufacturing sites
- 110 ship-to countries

Financials
- Equity: EUR 1,684.6 million
- Interest bearing liabilities EUR 1,021.8 million
- Cash: EUR 250.6 million

Purchased materials
- 2.5 million tons, of which 38% recycled, industrial by-products and 3% renewable raw materials

Energy, Water
- Total energy purchased 4,500 GWh
- Water consumption 6.2 million m^3

Partnering with stakeholders
- Key relationships with customers, suppliers, contractors, distributors and agents, industrial partners for secondary raw materials

Intellectual property
- Innovations: 2,101 granted patents
- Brand and reputation

OUR ACTIVITIES

Sustainable products and solutions
- Customers' product quality and process efficiency improvements
- 53% of our products improve customers' resource efficiency
- Safe production and use of our products

Responsible operations and supply chain
- Lowering costs and environmental impacts of our operations
- Workplace safety
- Sustainability in sourcing and supply chain management

Innovations
- Dedicated forward looking R&D
- Digitalization and service design, innovative business models
- 24 new product and concept launches

Purpose-driven inclusive culture
- Purposeful work, recognition and development opportunities
- Guiding principles and systems (Code of Conduct, Leadership principles)
- Commitment to UN Global Compact via advancing the SDG agenda

KEY OUTPUTS

Economic value
- Revenue from customers EUR 3,569.6 million
- Operating profit EUR 347.6 million

Products and services
- Revenue from biobased/renewable products over EUR 219 million
- Technical expertise, applications support, digital services and total chemistry management
- Process control and monitoring

Emissions and waste
- Scope 1 + Scope 2 GHG emissions 816 thousand tons CO_2 eq., Scope 3 emissions 3,609 thousand tons CO_2 eq.
- Total waste 107,700 tons

KEY IMPACTS

Environment
- Clean safe water
- Renewable biobased economy
- Water and energy efficient industry

Stakeholders, society
- Customer satisfaction: NPS 53
- Collaboration with key business development and innovation partners
- Recognition for our contribution to better societies and environment by external parties eg. CDP, EcoVadis, sustainalytics, ISS ESG, MSCI, S&P Global
- Job opportunities, partnerships for local communities
- Employee engagement, competencies, strong leadership for future of work
- Collaboration with universities and research institutions

Economic value distribution
- Profit
- Wages and benefits EUR 384 million
- Income taxes paid EUR 33 million
- EUR 95.9 million paid in dividends to approx. 50,000 shareholders

Delivering customer value

Our focus on security of supply and good customer experience have been rewarded with record high customer satisfaction.

The past years have brought many challenges to businesses and the economy overall. Our global supply teams in particular have faced unprecedented turmoil. A global pandemic, raw material shortages and logistical challenges followed by the war in Ukraine have put the agility, speed and resilience of global supply chains to the test.

Despite this, we have improved our customer satisfaction again in 2022, and have seen a significant increase in our Net Promoter Score (NPS) occurring from 2020 onwards – in other words, during extraordinarily high raw material and energy prices, health and safety concerns, and availability disruptions on several fronts.

Our NPS score is currently at +53. According to customer feedback, 72% of surveyed customers state that there has been no change to the supply of products and service to them during the pandemic. This "business as usual" assessment during an unprecedented period of uncertainty is a source of pride for the Kemira team, as we make every effort to keep our promises to the customers.

THIERRY BLOMET: SOLVING CHALLENGES IN TURBULENT TIMES

We've had to operate in a volatile business environment and take into account unpredictable circumstances across our value chain. Our strategic actions over the years to ensure business continuity have provided a leverage. The diversification of supply has reduced dependencies for instance, and we have built long lasting partnerships based on trust. This has only been possible with the dedication of Kemira's seasoned sourcing, procurement, customer service and other professionals, who tend to work behind the scenes to fulfill customer orders, coordinate with manufacturing to secure supply, arrange transportation of products and to navigate and negotiate for Kemira to remain competitive. Thank you to each and every valuable member of the Kemira team.

"We focus on world-class supply chain, a global manufacturing network with local presence and strong backward integration to key raw materials, as well as digitalizing our processes to ensure speed and transparency. I want to congratulate the team who has worked tirelessly to come up with solutions and solve issues. Thanks to your expertise we have been able to ensure operational agility and delivery reliability in a volatile environment."

Thierry Blomet

Senior Vice President, Sourcing, Kemira

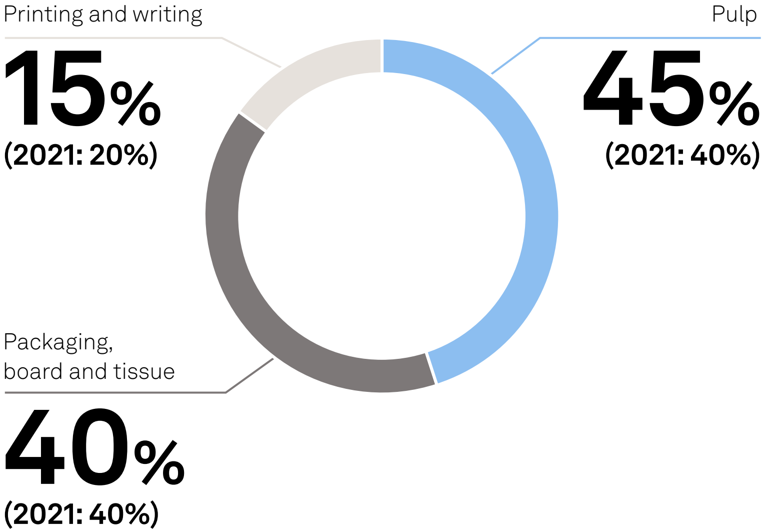
PULP & PAPER

Customer-driven sustainability trends enhance growth

Paper and board are sustainable natural products derived from renewable and recyclable raw materials. Wood-based fiber can be utilized in a variety of applications and end-uses, for example to reduce the use of plastics in food packaging applications. And its utilization is growing due to the demand of existing and also novel applications, as industry keeps innovating to find new solutions in fiber-based economy, such as textiles.

We collaborate with industry-leading companies to address sustainability drivers and other global megatrends, such as urbanization and e-commerce, and evolving needs and opportunities. With a complete chemistry portfolio, our application expertise, and digital technologies for advanced process control, we help our customers succeed – enabling efficient, sustainable processes and ensuring end-product quality and safety.

REVENUE BY PULP & PAPER CUSTOMER TYPE



HIGHLIGHTS 2022

Commercializing biobased barriers – partnership expansion with Danimer Scientific
Kemira is developing new, biobased and biodegradable aqueous dispersion barrier solutions for paper and board products in collaboration with Danimer Scientific. In May, we announced a multi-year license and supply agreement to commercialize barrier coatings based on Danimer's Nodax™ PHA* technology. The fully biobased barrier coatings offer excellent oil, grease, and water barrier properties, are safe to use in direct food contact, and have favorable end-of-life attributes, allowing full recyclability and compostability.

Digital services for data-driven process and chemistry management
Kemira Pulp & Paper established a new dedicated service organization to accelerate growth in our services offering. With our expert and digital services, we help our customers optimize their production, increase process efficiency and productivity, and save on energy, water, and raw materials. KemConnect™ Harmonizer, a digital service combining automated machine learning and chemistry expertise, creates unique visibility and predictability in the papermaking process. The service, offered in collaboration with SimAnalytics, has revealed previously hidden opportunities for improvement in customer projects.

*Polyhydroxyalkanoate

Our chemical expertise benefits four main customer applications

PULP

Meeting the growing fiber demand in, for example packaging and tissue, and new end-use applications such as wood-based textile fiber require expertise in pulp production. Kemira is the key supplier for fiber production, providing targeted chemistry and application know-how for efficient and profitable pulping and bleaching operations. Our extensive R&D and application knowledge throughout the entire papermaking process helps our customers with pulp quality and environmental performance.

BOARD

High quality packaging board both protects a wide variety of products and promotes brands in the best possible way. This requires properties such as strength and stiffness, lightest possible weight as well as superb printing and converting of the package. With liquid packaging and food service grades, strict standards for hygiene and cleanliness must be met to ensure consumer safety. We offer industry-leading chemistry expertise to help board manufacturers achieve all these qualities.

TISSUE

Strength, softness, and absorbency are the required properties for many tissue products. We analyze customers' processes to introduce the desired functionality into the sheet with the help of chemistry. We also help reduce costs for raw materials and energy, and help with the hygiene, cleanliness, and safety of operations.

PAPER

Great opportunities exist in the paper business to use chemistry for competitive advantage. On the cost side, this includes fiber substitution where strength aids and binders allow the use of cheaper fibers and fillers. In operations, cleaner machine water systems can increase uptime and sellable tons. And new binder, coating, and strength chemistries support future development and meet the specific needs of new paper applications.

CASE

Functionality for fiber-based food packaging

Paper and board require functional properties that enable the efficient use of the renewable and recyclable raw material in plastic replacement in demanding packaging applications. One such critical feature is the fiber-based material's resistance against liquid, i.e. hydrophobation.

Based on Kemira's own proprietary technology, we have developed new biobased surface sizing products to help paper and board producers meet the demand for sustainable and safe packaging materials. The portfolio of Kemira FennoSize™ surface sizing products provides high-performance chemistries that have a broad product safety and regulatory profile and comply for instance with the strictest food contact requirements, to ensure consumer safety. FennoSize™ surface sizing agents are also fully recyclable to enable circularity and the efficient reuse of valuable fiber raw material.

For the paper and board manufacturer, the products provide more opportunities to develop high-value products and reach a better sizing performance cost-efficiently in the demanding papermaking process conditions.

INDUSTRY & WATER

Accelerating sustainable growth in water-intensive industries

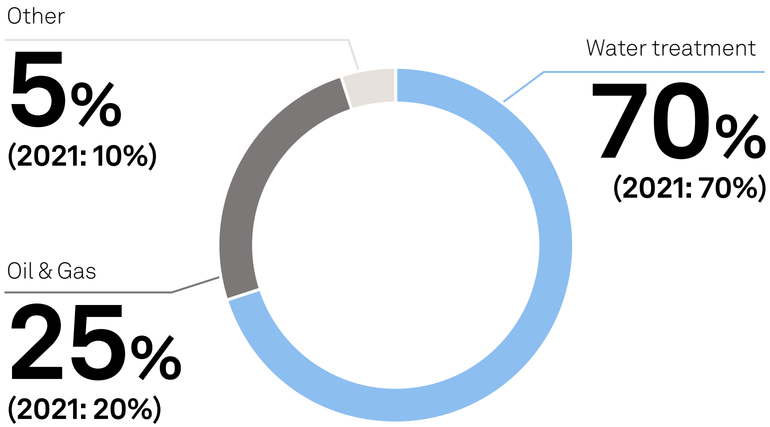
We believe in clean water and sanitation for all. Yet ensuring everyone has access to this most precious of resources remains one of our society's greatest challenges, due to climate change, population growth, and emerging contaminants, like microplastics. That's why we continue to develop new concepts for all stages of the water treatment process, enabling customers like municipal utilities to increase their capacity, sustainability and resilience.

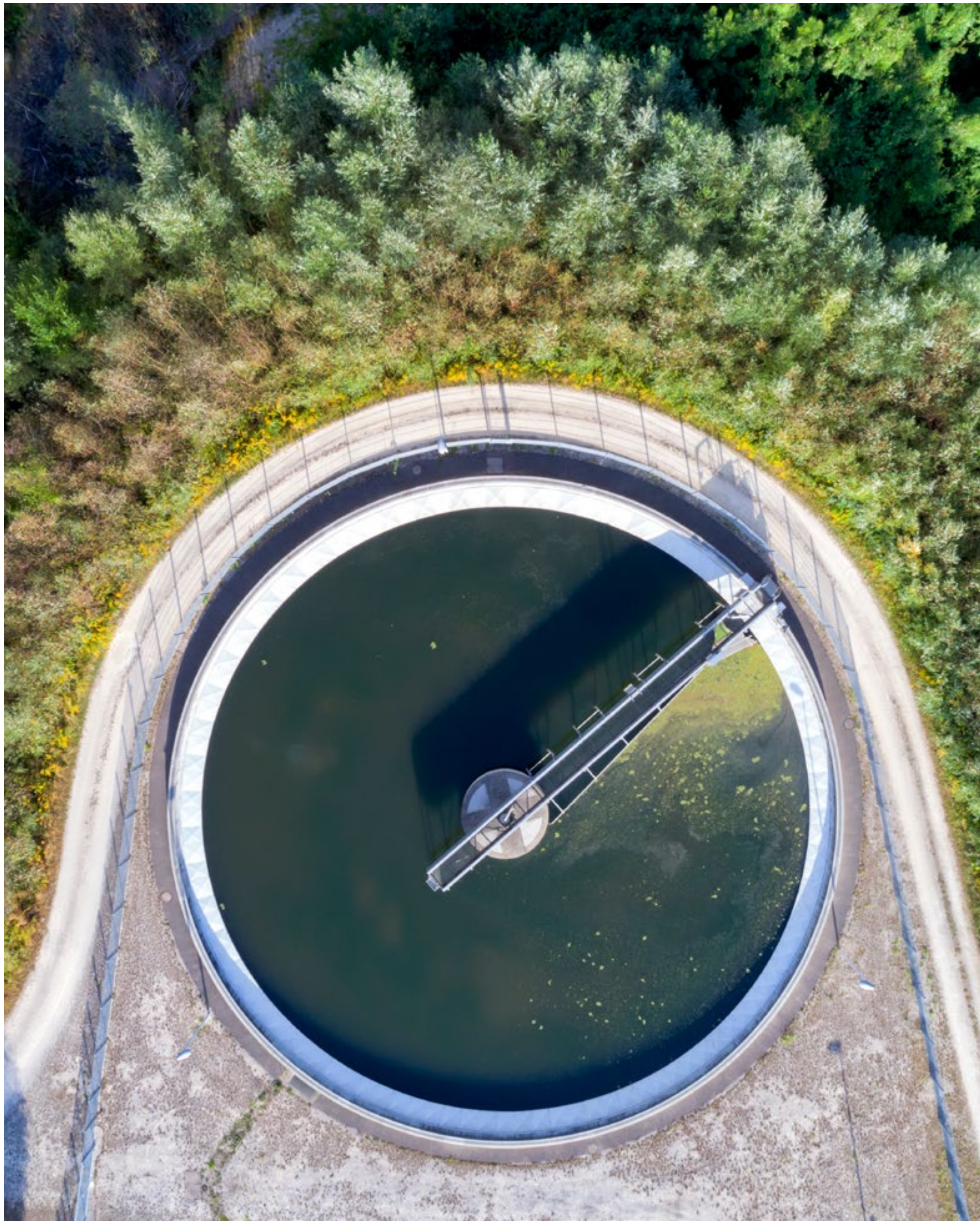
Water treatment is an important part of all our customer industries, as raw water, process water and wastewater need to be appropriately managed, in the most cost-effective way. We help water-intensive industries from food production to the energy industry or metals and mining with process and resource efficiency improvements, contributing to the end-product quality. In oil and gas applications, our chemistries enable improved yield from existing reserves and reduced water and energy use.

Sludge treatment offers opportunities for further efficiencies and for creating value from waste.

Our customers are diverse, yet they look for many of the same qualities from our products: safety, resource efficiency and solutions that are future proof for regulatory requirements driven by sustainability. The digital services we offer today are built on our over 100 years of expertise in chemical products and application know-how. We have developed unique, real-time monitoring and control technologies for chemistry applications to support performance optimization, fast troubleshooting, and continuous improvement.

INDUSTRY & WATER APPLICATION SPLIT





Solutions for municipalities and water-intensive industries

WATER TREATMENT

Through our work with cities' and municipalities' water treatment plants, we help ensure citizens have access to the clean, safe, and affordable drinking water they need for a healthy life. Our chemistries also help in treating the discharged wastewater in an efficient and responsible way – ensuring it meets environmental permit standards.

INDUSTRIAL WATER

Each process water system is different and requires customized products, depending on the water quality, branch of industry and process parameters. With the right technologies, water can be reused through several cycles. We help customers optimize the total cost of process, with lower energy and water consumption, and keep equipment running reliably with less maintenance required.

OIL & GAS

Oil and gas producers are searching for ways to improve production efficiency. Our solutions for stimulation and chemical EOR are designed to help operators produce more with less resources. In oil sands, Kemira's water treatment expertise and know-how from oil and gas customers creates a unique market position. We add value to customers' mandatory tailings treatment processes, accelerating the reclamation process.

CASE

Data-driven chemical treatment leads to more sustainable operations

Achieving considerable process improvements in wastewater treatment requires consistent and accurate monitoring. Digitally enhanced chemical treatment helped the Dutch city of Arnhem reduce their carbon footprint, while optimizing the plant's operational performance.

Arnhem Zuid is one of 31 wastewater treatment plants allocated to the Water Board of Rivierenland region in the Netherlands. The plant has a designed capacity of 206,000 population equivalent (p.e.). The actual load in 2021 was 327,000 p.e. and a hydraulic throughput of 6,400 m³/hour. In the beginning of 2022, Kemira's digital solution for automated chemical dosing, Kemira KemConnect™ SD, was installed in combination with the newly developed polymer Kemira Superfloc® SD-7083, to reinforce the improved chemical treatment process.

Read more about the benefits attained in Arnhem Zuid in **kemira.com**.

Responsible actions and sustainable growth

Sustainability is the key driver of our strategy and an enabler of our long-term success. Purposeful chemistry in combination with digitalization will help find solutions for global challenges of the future, such as solving climate change and protecting societies from water scarcity. Besides grasping new opportunities, we will continue to be the responsible partner for our stakeholders.

The global shared ambition to build a sustainable world is articulated in the UN Sustainable Development Goals (SDGs) and we have decided to focus on four SDGs where Kemira can make the biggest impact; 6, 8, 12 and 13. We also prioritize five key sustainability themes as safety, people, water, circularity and climate that are most material to us and where we can make the biggest positive contribution, taking all aspects of sustainability; economical, social and environmental into consideration.

SUSTAINABILITY HIGHLIGHTS 2022

New ambitious climate target

We have made our commitment to the Science Based Targets initiative (SBTi) in line with the Paris Agreement ambition of staying on the 1.5°C trajectory. Kemira set a new ambitious climate target for Scope 1 and 2 and will establish a quantitative Scope 3 target in the near future.

Speed for biobased success

Sustainable product development, encouraged by strong customer mandate, is speeding up: we accelerate the growth of new offering and applications driven by renewable chemistry and digital solutions, including forming strategic partnerships with multiple suppliers, contributing overall to reaching our EUR 500 million biobased revenue target. The lead time to markets in the chemical industry is long and thus we formed a separate Growth Accelerator unit to speed up our penetration to both old and new markets with more sustainable solutions offerings.

Concrete action to boost sustainability programs

Sustainability governance was strengthened through a dedicated steering team, four dedicated sustainability programs highlighting our most important focus areas, and KPIs and targets to steer our development and incentivize our leadership. All these actions help us take the strategic sustainability statements into concrete action. Our sustainability programs focus on; Climate Action, Nature Stewardship, building a Positive Impact Portfolio, promoting Diversity & Inclusion, accelerating our Biobased Strategy and never compromising on safety.

Our targets

Measuring the most material impacts leads to more sustainability-driven actions. We have set long-term targets that describe our ambition and we measure these with relevant KPIs. We have set six targets for our five focus areas.

8 DECENT WORK AND ECONOMIC GROWTH

PEOPLE

Our employees drive our sustainability transformation. A diverse and inclusive culture enables us all to bring our best selves to work every day.

Target:
Reach top 10% cross industry norm for Diversity & Inclusion by 2025.

6 CLEAN WATER AND SANITATION

WATER

We believe in clean water and sanitation for all. Our actions set the example for world class water management.

Target:
Improve our water management to Leadership level based on CDP Water Security scoring methodology by the end of 2025.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

CIRCULARITY

We set sustainability at the center of every design. Our sustainable chemistry and digital solutions accelerate the circular- and bio-economies.

Targets:
Reduce disposed production waste intensity by 15% by 2030.

Biobased products >500 million EUR revenue by 2030.

13 CLIMATE ACTION

CLIMATE

We cut our climate impact throughout our value chain. Clean energy and processes will support our ambition to go carbon neutral by 2045.

Target:
Scope 1 & 2 emissions -50% by 2030.

SAFETY

We prove that a safe business is a sustainable business. Safety of people, products and processes is the foundation of everything we do.

Target: TRIF 1.5 by 2025 and 1.1 by 2030.

Our Commitment and Ratings

We are committed to the United Nations Global Compact 10 principles, to respect and promote human rights, implement decent work practices, reduce our environmental impact, and combat corruption. Furthermore, we work by the United Nations Guiding Principles which require companies to conduct due diligence to protect and respect human rights. We are also long-time reporters of the Responsible Care®, a voluntary commitment by the global chemical industry to drive continuous improvement and achieve excellence in environmental, health and safety and security performance. As of 2022, we are committed to the Science Based Targets initiative, aligning our climate action with the best practices rooted in science. We also joined the Renewable Carbon Initiative, which demonstrates our commitment to accelerate the industry shift from fossil carbon to renewable carbon and raw materials.

WE AIM FOR THE LEADERSHIP LEVEL IN CDP WATER SECURITY

Disclosure via CDP increases transparency towards the investor community and value chain partners. In 2022, Kemira received an improved B score in CDP Climate rankings. Kemira has been reporting the CDP Climate since 2010 and has been scored since 2012. We are committed to improving our management systems and increasing measures to mitigate climate change. Kemira received a B score in the CDP Water Security 2022 rankings. This is the second year that we received a scoring. Water Security reporting is of great importance to us since we have publicly committed to reach leadership level in this scoring by the end of 2025.

ECOVADIS PLATINUM RATING PLACES KEMIRA AMONG THE TOP 1% OF COMPANIES IN THE WORLD

Kemira was awarded the Platinum rating by EcoVadis for the second year in a row. An improved score of 78 out of 100 (73/100 in 2021) placed Kemira among the top 1% of companies in the world. This shows our commitment to our value chain partners to keep sustainability high on the agenda and set the example for responsible corporate practices.

KEMIRA RATINGS ARE ABOVE OR EQUAL TO THE CHEMICAL INDUSTRY AVERAGES

WATER

CLIMATE

KEMIRA'S SUSTAINABILITY PERFORMANCE KEY FIGURES

68%
of global energy use is carbon free

41%
of used raw materials are renewable or recycled

53%
of products improve customer recource efficiency

21 Bm³
of water treated with the help of Kemira chemistry, which is comparable to the annual water consumption of over 370 million people

RASMUS PINOMAA: TRANSFORMING SUSTAINABLY WITH CHEMISTRY

We know that greenhouse gases in the atmosphere cause climate change. The misplaced molecules like carbon dioxide cause harm to our environment. What if we could utilize those molecules, and create products out of those? With chemistry, we can help reduce the amount of misplaced molecules, and convert them into value.

In Kemira we apply our chemistry so that our customers can improve their use of resources. We want to do it better every day. With the help of our chemistry, customers can reduce their need of energy and water and cut their waste and emissions. They can use their molecules more efficiently and create more value. Besides increasing customers resource efficiency, we also provide clean water solutions for them. With chemistry and digitality you can truly make a difference, whether it's tackling climate change or preserving the water cycle.

Our sustainability journey is well on its way. We use large amounts of circular raw materials and zero carbon energy, for example our coagulants used in water purification are mainly manufactured from other industries' waste. But we don't want to stop there.

This year we committed to the Science Based Targets initiative to stay aligned with the best climate science and on a trajectory to limit the global warming to 1.5 degrees. We also joined the Renewable Carbon Initiative, which demonstrates our commitment to accelerate the industry shift from fossil to renewable materials.

We still have a long journey ahead of us, but we are on track to execute on our sustainability transformation.

"Our sustainability journey is well on its way. We use large amounts of circular raw materials and zero carbon energy."

Rasmus Pinomaa

Director, Sustainability, Kemira

Safety

At Kemira, safety is our highest priority. We ensure safe, responsible operations as well as safe production and use of our products throughout their lifecycle.

Safety is a collaborative effort that involves everyone. Our business requires us to operate our manufacturing sites safely, transport high quality products to customers on time and without incidents, ensure our customers understand how to handle our products and finally, that the end consumer product is safe to use.

If rigorous requirements are not met, there is potential to harm people, processes and the environment. We keep close track of metrics related to people safety, process safety, transportation safety, chemical safety and environmental safety. Our industry is also highly regulated and we must maintain compliance with local, national and regional laws.

Target:
TRIF*: 1.5
by 2025 and
1.1 by 2030

*Total recordable injury frequency per million hours, Kemira + contractors, year-to-date.

ANNE HELENIUS-HEIR: SAFETY IS PART OF OUR DNA

Working with chemistry carries a great responsibility. Safe, sustainable solutions are a shared goal and safety must be on our shared agenda. Safety culture is more than personal protective equipment and handling chemicals properly. Safety is a mindset. Kemira is committed to safeguarding the health and safety of our employees and contractors. We are building a culture that instills safety through learning programs, focused on competencies like critical health and safety standards, and best practices for manufacturing operations. During the year we ran global safety campaigns with local events, successfully engaging employees and promoting the importance to stop and think with focus on safe behaviors and the impact of daily decisions on safety.

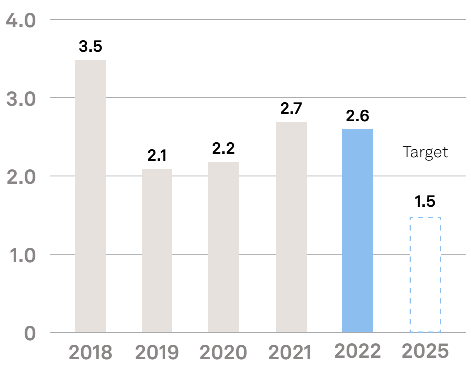
"Safety is a top priority and integral part of our company culture. We work systematically to raise awareness of each and everyone's role in safety. It is all about mindset and behavior: stop, think, act."

Anne Helenius-Heir
Vice President, EHSQ, Kemira

We continue to focus on improving our safety performance.

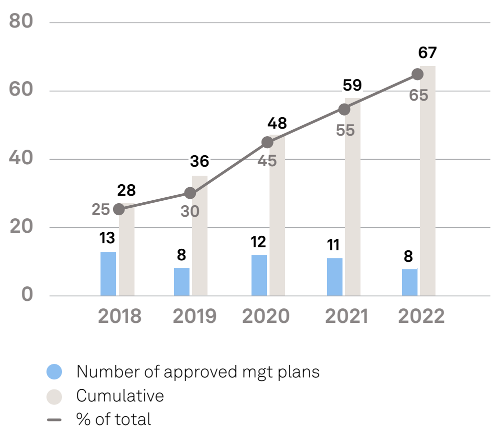
- Total number of TRIs in 2022 was 36 and TRIF was 2.6, covering both our own employees' and contractors' incidents.
- Number of reported safety observations 20,042 and Behavioral Based Safety (BBS) surveys 15,674 with 325,000 individual BBS observations.
- In our employee survey 86 percent of employees concur that 'Safety is a top priority' which is rated a point above manufacturing benchmark (October MyVoice Survey).
- Management plans for substances of concern have been done for 8 substances during 2022 and in total 67 approved plans are now available. Eight SVHC (Substances of Very High Concern) substances have been removed from portfolio during the process has been in place.

OUR SAFETY PERFORMANCE (TRIF)



TRIF: Total Recordable Injury Frequency per million hours

NUMBER OF PRIORITY SUBSTANCES HAVING APPROVED MANAGEMENT PLAN



Kemira's Priority Substance List includes substances found in Kemira's portfolio either as raw materials or final products in a concentration >0.1%. It includes listed substances in SVHC, REACH annex XVII, CoRAP, California Proposition 65, SIN, OSPAR, ECHA and EPA Endocrine disruptors, TSCA 2014 work plan and Conflict mineral lists examine options for managing these specific risks, and formulate action plans for the preferred options. These options to mitigate risks may include (e.g. substitution, phase-out or limiting exposure).

HIGHLIGHTED ACHIEVEMENTS IN 2022

- Safety Performance: The safety target 2022 TRIF 1.9 was not reached. We need to continue systematic safety work together with our all stakeholders.
- Contractor Safety: New global contractor onboarding and prequalification process was established and contractor management standard was updated.
- Competence Management: We undertook a training program focused on two major elements of process safety, contractor management and permit to work. In addition, an EHSQ Learning Path was piloted for Field Work personnel in the Americas, covering all critical EHSQ Standards.
- We developed Behavioral Based Safety (BBS) program, which is the key to improve our ways of working and to achieve our future challenging safety targets.
- Kemira EU safety data sheets have been updated to be compliant with (EU) 2020/878 Annex II of REACH regulation.

THE NEXT BIG THING IN PROGRESS

- Overall roll-out of refreshed BBS program with analytics and support.
- Increasing safety awareness with focused safety trainings.
- Evaluation of EHSQ criticality for existing contractors and setting of organizational controls based on the evaluation.
- Implementing of expected changes due to revisions on CLP, REACH and food contact materials regulations in EU.

CASE

Choose safety every day

To instill safety into our culture, we provide learning programs that focus on competencies such as critical health and safety standards and best practices for all our employees. We also pay attention to contractor safety through global harmonization of our contractor qualification and work execution processes.

Despite this we unfortunately saw a negative trend in our safety performance, which is why we increased our focus to reinforce a culture where all employees actively promote safety by recognizing and correcting unsafe behaviors. We put in a great deal of effort over the last year to encourage active dialogue and allow for personal reflection. Engagement through the whole organization has been the key.

In 2022, all manufacturing sites stopped work and carried out a Safety Stand Down, as mandated by Kemira's Top Management. They all took the opportunity to discuss important topics such as everyone's duty to stop hazardous work. We also celebrated World Safety Day and launched a "Choose Safety" video campaign both of which connected people around the important topics. The ultimate goal was to reinforce a commitment to prioritize safety at all times.

With this intensive safety communication together with all actions done in our organization, we were not able to reach of our safety targets but we were able to turn the negative trend. We reached TRIF 1.7 in Q4. This outcome shows us that our target 2023 (1.9) is achievable and motivates us to continue our safety efforts in 2023.

People

Sustainability continues to be at the core of our strategy and is an important driver of employee engagement. Our new leadership model enables our strategy execution, our sustainability transformation and the development of a diverse and inclusive workplace that will bring out the best in our people.

Reach top
10%
cross industry norm for Diversity & Inclusion by 2025

Our company culture is shaped by our new leadership model based on 3 key principles: Focus on Growth, Collaborate to Succeed and Deliver Value. Our people managers drive our sustainable growth strategy and develop our culture by leading our people embracing growth mindset, deep collaboration and focusing on the outcomes and progress. Recognizing diverse perspectives and creating a workplace where everyone feels they belong is important to us. Kemira is a global company and our employees come from diverse backgrounds. Diversity is one of the greatest contributors to our success and we believe that solving tomorrow's challenges is only possible when we bring together our diverse knowledge, views, experience and passion for what we do.

Our sustainability agenda sets us apart as an employer. Sustainability is a key element of our employer image with 91% of our employees responding that sustainability is important to them. It is also an important factor that attracts new employees to join Kemira. According to our recent Employer Brand survey in several of our larger markets Kemira is viewed very positively for acting responsibly and accounting for our impacts to the environment and society.

To continue developing our employees and help them understand our strategy and the vital role everyone in Kemira plays in executing our sustainability transformation, we continued co-creating learning paths around sustainability and made available a new path selling sustainability for all employees. We measure our employees' engagement with continuous employee listening. Despite challenging environment our employee engagement has been consistently strong in the past few years and continues to be also in 2022: Kemira engagement score was 79 (global manufacturing benchmark 76). The response rate was also very high 81% (benchmark 75%). The relative strengths Speak my mind, Growth and Collaboration have all notably improved 1–2 points in comparison to last year.

HIGHLIGHTED ACHIEVEMENTS IN 2022

- We defined and launched our Diversity & Inclusion statement as part of our sustainability transformation.
- Our D&I index score improved by 2 points from 2021.
- Two employee networks were launched: the KemPride LGBTQIA+ employee resource network in June and Women's resource network in August.
- We completed a gender pay gap analysis and initiated a continuous screening process to ensure that our good situation continues.
- We implemented our hybrid work model and created a new International remote work opportunity for pilot stage in EMEA.
- The implementation of our future orientated leadership model has progressed very well. Our key people processes such as recruitment, performance and development have been aligned with the Leadership Principles and our managers have been trained.
- Almost 300 ambassadors and managers have participated in our leadership development program.

THE NEXT BIG THING IN PROGRESS

- The four key initiatives for 2023 in our people roadmap are Diversity & Inclusion, Leadership, Wellbeing and Future competences.
- Boost the awareness and discussion around diversity and inclusion topics through employee networks and focus groups.
- Accelerate the implementation of the Leadership Principles roadmap to continue to transform the culture to enable sustainable profitable growth.
- Continue to develop learning paths and training for employees on physical and mental wellbeing, career growth, and hybrid working.

CHUAN ZHAO AND VLADIMIR GRIGORIEV, CO-CHAIRS OF KEMPRIDE: SAFE AND INCLUSIVE WORKPLACE WHERE EVERYBODY CAN BE AUTHENTIC

Employee led KemPride network was launched in June with the aim to foster an equitable, safe and supportive business environment for LGBTIQ+ colleagues and their allies. Members across the organization, from different countries have bonded together to drive the KemPride agenda and take actions, such as joining a charity event, Kemira Global Challenge 2022, and organizing a learning session on inclusive language to smash the unconscious bias. Kemira is now a proud member of Workplace Pride, an Amsterdam-based international Non-profit Organization dedicated to promoting the lives of Lesbian, Gay, Bisexual, Transgender, Intersex, and Queer (LGBTIQ+) people in workplaces worldwide.

As individuals, we each contribute our own unique perspectives to the business and to our success as a supplier and as an employer. The ability to share common experiences is key to creating belonging and authenticity and a culture that values what makes us each unique.

"On behalf of KemPride, we are really proud that we achieved so many milestones in 2022. Being a minority group, visibility is so important: connecting and networking help to create meaningful dialogue to help establish a safe environment for supporting LGBTIQ+ colleagues at Kemira. This rainbow journey is more of a marathon than a sprint, and we have just begun the race. We will continue building a fun and inclusive community for all through engagement and collaboration, and with support from our allies and Kemira's leadership."

Vladimir Grigoriev
Director, Applications & Marketing
Americas, Kemira

Chuan Zhao
Manager, Marketing Technologies
APAC, Kemira

Water

Clean water is essential not just for life itself, but for making sure we can live high-quality, enjoyable lives. Climate change and the growing global population mean that ensuring everyone has access to this most precious of resources is one of our biggest challenges.

We serve water-intensive industries and our solutions help make more clean, safe water available to everyone. We work with water treatment plants in cities and municipalities helping ensure citizens have access to the clean, safe, and affordable drinking water. Our products also ensure that discharged urban or industrial wastewater meets environmental permit standards, reducing the load on local water bodies.

Water-intensive industries rely on Kemira's products to use less water and make their processes more sustainable, for example by enabling them to use recycled water rather than freshwater in their processes.

Improve our water management to **Leadership level** based on CDP Water Security scoring methodology by the end of 2025.

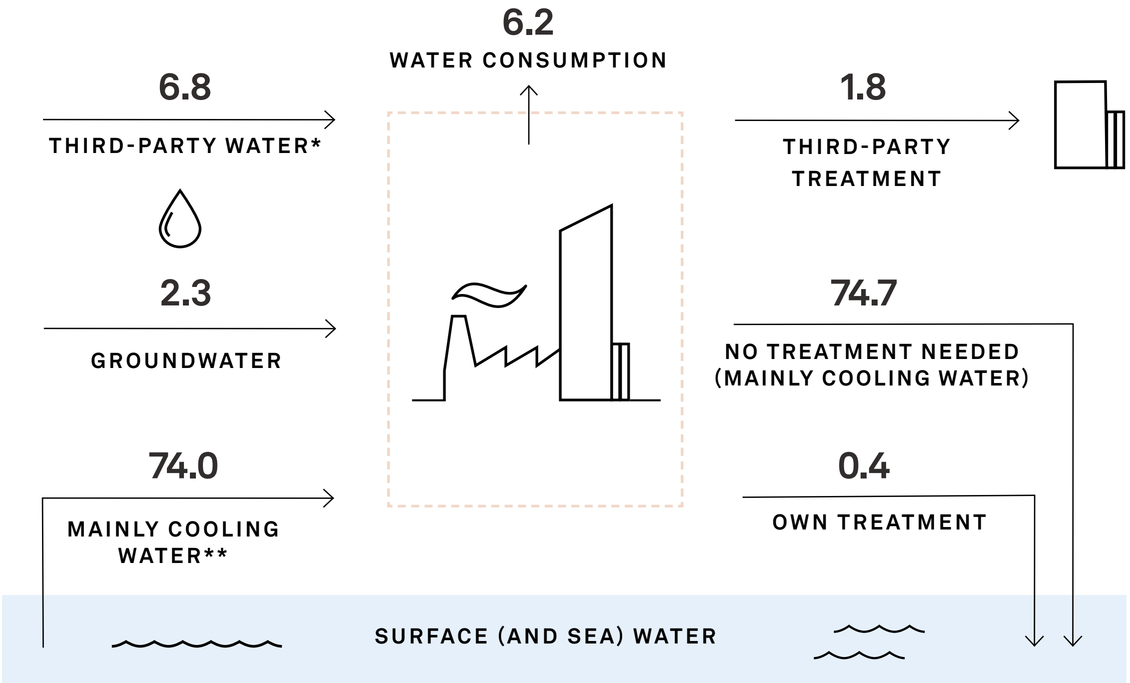
OUR WATER FOOTPRINT – AIMING FOR IMPROVEMENT

Kemira is committed to the CEO Water Mandate, advancing best practices in water stewardship. We aim to continuously improve efficiency of freshwater use intensity and improve our water management by striving to upgrade our CDP Water Security scoring to leadership level by the end of 2025. We answered CDP's Water Security questionnaire for the first time in 2021 and achieved score B (management level). In 2022, our CDP Water Security category received again a B score even with the ever increasing requirements for reporting.

HIGHLIGHTED ACHIEVEMENTS IN 2022

- We made progress in improving water management, as our CDP's Water Security disclosure total score remained as B (Management level) under stringent scoring criteria with general improvement in category scores.
- Freshwater use intensity reduced by 8% from 2021 and 17% from the baseline year 2019. The reduction results from decrease in the proportion of water intensive products and process improvements.
- We conducted extended water risk assessment, which included scenario analysis based on site locations. No site specific operational water related risks were identified with substantive or strategic impact on our business (financial implications above EUR 10 million) in timeframe of 3 to 6 years into the future. According to pessimistic scenario analysis (RCP 8.5), by 2040, 15 of Kemira's manufacturing sites will be located in water stress areas compared to current 9 sites.
- Award-winning breakthrough in phosphorus recovery: Kemira ViviMag® was granted the silver award in the "Breakthroughs in Research & Development" category of the project innovation competition, with 203 submissions from 52 countries at the International Water Association's 2022 World Water Congress & Exhibition. Read more in **kemira.com**.

DIAGRAM OF WATERFLOWS (MILLION m^3)



* Third-party water includes 0.1 million m^3 of wastewater to Kemira's treatment.
** 99% cooling water and 1% process water.

THE NEXT BIG THING IN PROGRESS

- We have started a project to address identified data gaps in water flow measurements to improve accuracy of Kemira's water balance. The objective is to improve both site level and production line level water balance accuracy.
- Extend water risk assessment further to understand future water related risks in different scenarios better on site level and the whole value chain.
- Continuously extend coverage of Life Cycle Assessments in our product portfolio to better understand and quantify water related impacts in our whole value chain.

CASE

Online analytics improve capacity
Kemira helped the Finnish city of Joensuu unlock capacity and improve their sustainability by predicting surges in volume and stabilizing their processes with Kemira KemConnect™ PT. The municipal wastewater treatment plant (WWTP) was designed to process loads of 76,000 population equivalent (PE) a day, but the actual load is closer to 86,000 PE due to surrounding towns and industry, including a large dairy company. The Joensuu plant made significant energy efficiency improvements as aeration energy capacity increased by 10–20% and generated 10% more biogas from waste after implementing the data-driven technology for enhanced primary treatment. Read more in **kemira.com**.

Circularity

We are committed to enable a circular economy through adopting circular business practices across our own operations and enabling our customers to become more energy, resource and water efficient.

Our human activities increases pressure on our planet and resources. Circular economy and related principles is our box of tools for reducing harm on the environment.

We can reduce unnecessary costs by reducing the amount of waste we generate. At the same time, sourcing industrial by-products has the potential to both alleviate pressure on natural resources and reduce our raw material costs.

Our key focus is to further decrease the amount of waste to be disposed – through better process optimization, raw material sourcing and innovative technologies.

In 2022, 38% of raw materials used in Kemira's global manufacturing came from recycled sources or industrial by-products. In our inorganic coagulants line, 70–80% of raw material comes from recycled sources (eg. scrap iron and spent pickle liquor). These are used in the treatment of wastewater, drinking

Reduce disposed production waste intensity by **15%** to 3.9 by 2030	By 2030, achieve **>EUR 500M** revenue from biobased products

water, and in many other municipal and industrial water treatment applications.

Kemira's targets are to achieve over EUR 500 million revenue from our biobased products by 2030 and reduce disposed production waste intensity by 15% by 2030. In the waste target we measure disposed production waste. It includes both hazardous and non-hazardous waste. It excludes waste that is recovered, e.g. via recycling, reuse and incineration with energy recovery. It is expressed as an intensity, metric tons of waste per thousand metric tons of production.

Kemira launched a new **Growth Accelerator** unit to drive its long-term growth for selected strategic initiatives in year 2022.

We will also continue to improve our own use of recycled raw materials (currently 24%). In 2022, disposed production waste intensity was 4.4. which is slightly higher than 4.3 in 2021, but 4% lower compared to baseline level of 4.6. The primary reason for the increase from 2021 was disposal of accumulated production waste from previous years at one production site.

HIGHLIGHTED ACHIEVEMENTS IN 2022

- Kemira joined the Renewable Carbon Initiative (RCI) to partner with leading companies and accelerate the industry shift from fossil carbon to renewable carbon and raw materials. Membership demonstrates Kemira's commitment to advancing innovative sustainability practices with focus on promoting circularity and a biobased economy.
- Total hazardous waste continued to subside since 2020. Total hazardous waste generation decreased from 2021 mostly due to less production at one hazardous waste intensive site and reclassification of hazardous waste as wastewater at one site. Significant decrease of 45% from 2020 to 2021 was due to closure of the most hazardous waste intensive manufacturing site.
- Product line specific waste data collection started at production lines with most impact in Kemira's reduction target and new waste reduction opportunities through cycling raw material from waste back to process were identified using the data.
- Kemira conducted industrial pilot scale trials together with customers with ViviMag™, a patented technology to recover phosphorus and other valuable resources, such as iron, from sewage sludge. The technology has been developed by Wetsus, the European center of excellence for sustainable water technology, and Technical University Delft with Kemira, several other private companies and municipal water companies.
- Development work with Kemira's external biobased partnerships progressed and technical proof-of-concept proceeded according to plan in 2022. Several application trials with renewably sourced, biodegrable polyhydroxyalkanoate (PHA) which is an alternative for fossil-based barrier materials were carried out and coated materials were converted with high speed cup machines. Also unique engineered polysaccharide technology platform for various applications across our product lines progressed.

THE NEXT BIG THING IN PROGRESS

- Accelerating commercialization of new and unique renewable and biomaterials into existing markets. Current strategic initiatives include e.g. PHA and Alfa Glucan.
- Sustainable textiles are emerging growth opportunity – regulation (EU 2025 and Finland 2023) will open-up new business opportunities in textile recycling and wood based textile fibers.
- Kemira will continue commercializing the ViviMag™ technology directly or through partners.
- Increase efficiency rate of raw material use and decrease generation of disposed production waste at the same in production of wastewater treatment chemicals by addressing new opportunities identified using product line specific data.
- Kemira joins other Finnish companies in a VTT coordinated research project Forest CUMP, which will develop process concepts for capture and utilization of industrial carbon dioxide emissions and further conversion into valuable chemicals and materials.

CASE

Breakthrough in the production of biobased water-soluble polymers

Kemira started the first worldwide full-scale production of its newly developed polymer based on biobased feedstock. The first commercial volumes were shipped to one of the wastewater treatment plants of the Helsinki Region Environmental Services (HSY) for trials.

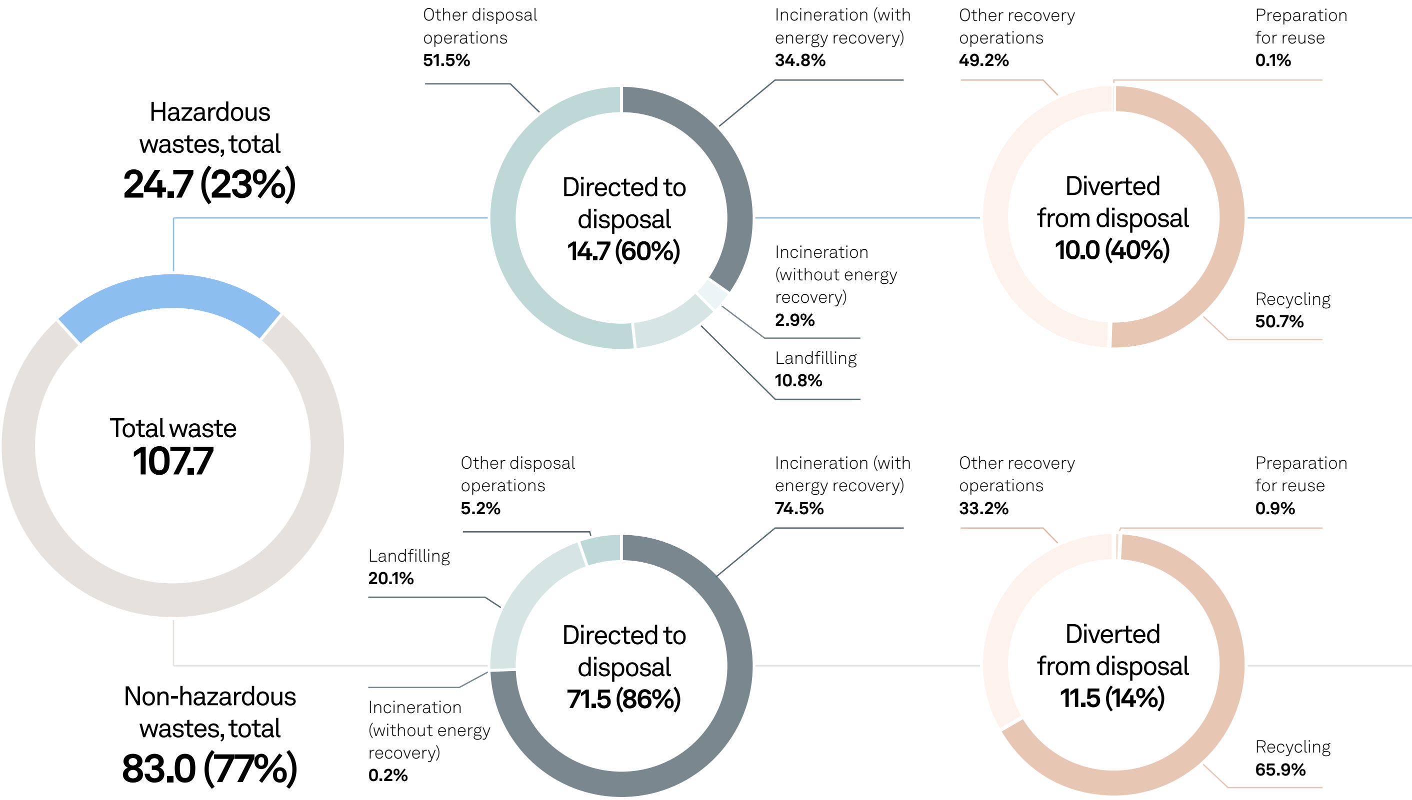
Sustainability is a key driver of our strategy and making our product portfolio greener is one core element of it. The development of completely new and sustainable polymer chemistry doesn't happen overnight and is costly and time consuming.

With this very first biomass-balanced polyacrylamide, a water-soluble polymer, Kemira has succeeded in offering technically equivalent alternative for this special polymer type.

This does not only improve the carbon footprint in our own production but also helps our customers to make their processes more sustainable, without any compromise in performance.

These polymers can be used in various industries, such as the water and energy industry, and potentially also in particularly demanding papermaking applications.

TOTAL WASTE BY TYPE AND DISPOSAL METHOD (OFFSITE)
1,000 TONS



Climate

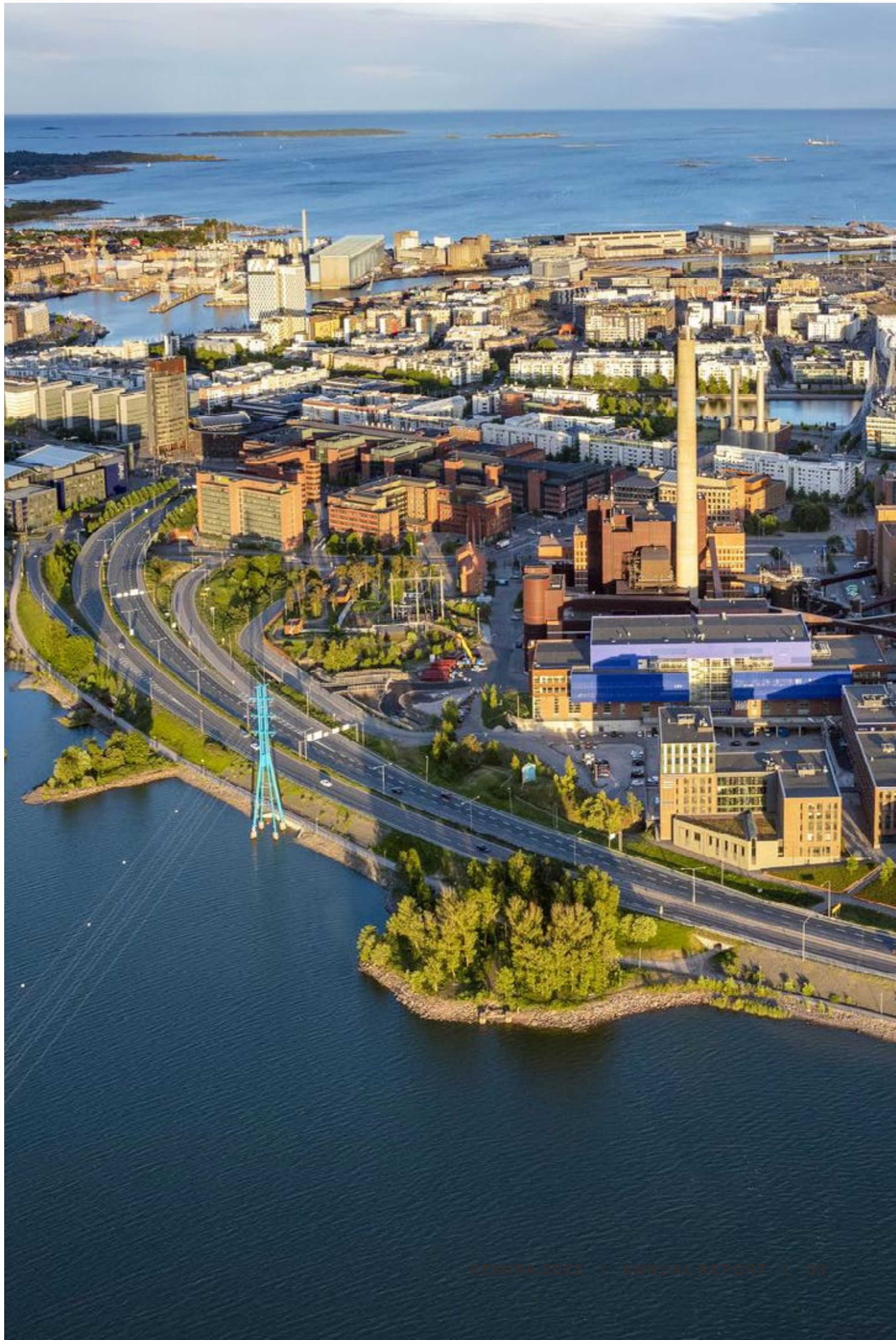
Kemira supports the ambition of the UNFCCC Paris Agreement. Our long-term ambition is to be carbon neutral by 2045. Our aim is to reduce emissions in our own operations as well as throughout the entire value chain.

In 2022, we stepped up our progress towards our climate ambitions and committed to the Science Based Targets initiative (SBTi): we set new ambitious target for significant reductions in greenhouse gas (GHG) emissions by the year 2030. Kemira commits to reduce the emissions from its own operations (Scope 1 and 2 emissions) by 50% by 2030, compared to a 2018 baseline of 930 thousand metric tons of CO_2. This target is in line with limiting global warming to 1.5°C, which is currently the most ambitious criteria for setting emission reduction targets.

For our Scope 3 GHG emissions, we are developing a quantified near-term Scope 3 target within the timeframe and criteria set by the SBTi framework. Specifically, we continue to work with suppliers to evaluate opportunities to decrease the carbon footprint of our purchased goods and services. In addition, our R&D function is working towards developing more products from biobased and industrial by-products raw materials, helping to further reduce our Scope 3 emissions in the value chain.

Ambition to be **carbon neutral** by 2045 in Scope 1 & 2	**50% reduction** of GHG emissions by 2030 (Scope 1 & 2)*

*Measured as % change in combined Scope 1 and Scope 2 greenhouse gas emissions compared to a 2018 baseline of 930 kt CO_2eq.



HIGHLIGHTED ACHIEVEMENTS IN 2022

- Increased nuclear energy-based electricity supply (zero carbon emissions) in the future in Finland (Olkiluoto 3 plant unit), in the United States (Georgia; Plant Vogtle Unit 3), which will enhance Kemira's Scope 2 emissions reduction pathway toward our 2030 target.
- Our Helsingborg, Sweden site renewed its electricity sourcing contract (October 2022 through December 2023) including Gurantees of Origin from wind power which will account for 50% of the site's sourced electricity consumption. Scope 2 emissions will be reduced by approximately 13,000 tons of CO_2e/a.
- We began cooperation with Gasgrid and Ovako to assess and develop pipeline transmission, storage and use of hydrogen for customers. At Kemira's Joutseno plant, hydrogen is generated as a by-product of chlorate production. The project will enable Finland's first full hydrogen value chain from electricity through chemical industry by-product hydrogen to green steel industry end products, promoting strong sectoral integration and the development energy and raw materials system.

THE NEXT BIG THING IN PROGRESS

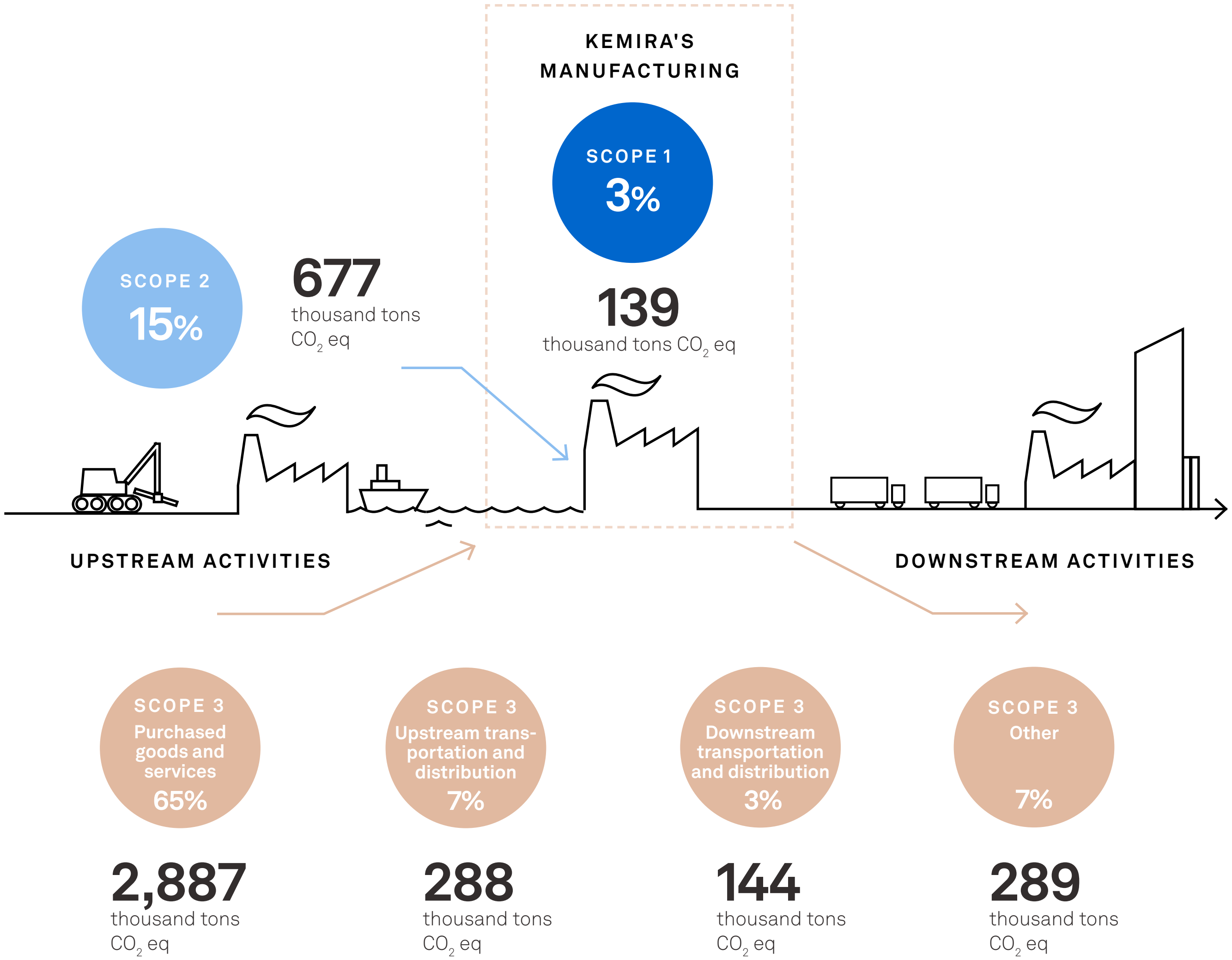
- Kemira's San Giorgio (Italy) polymer manufacturing site signed an agreement for the installation of a 3 MWe gas trigeneration (combined cooling, heating, and power) system to supply the manufacturing energy needs and a 0.5 MWe photovoltaic carport plant. The project will reduce primary energy consumption by approximately 25% and will provide approximately EUR 600,000 per year savings on energy (considering pre-energy crisis prices, or up to EUR 1.1 million per year considering current prices). The trigeneration unit will use 100% green natural gas and will have the capability to also use hydrogen.
- Kemira will continue to evaluate opportunites to increase participation in hydrogen hubs and distribution networks, along with natural gas replacement projects at its highest fuel consuming sites, as these technologies become more available, reliable and cost effective.
- Kemira began the process to align its climate risk assessment process with the TCFD framework through the implementation of pilot assessment at three manufacturing sites and with various global corporate functions. Kemira will continue to expand the scope of the risk assessment to other locations and functions and intends to fully align and discloses risks in accordance with the TCFD framework.

CASE

To reach Kemira's ambitious climate target we need to focus on renewable energy options such as solar or wind power. In the previous years we have focused on power purchase agreements, but going forward we need to explore site specific opportunities. There are several options available from collaboration with solution provider to direct investments in renewable energy.

As a case example, Kemira’s Mojave (California, United States) coagulant manufacturing site finalized an agreement to install an on-site photovoltaic solar system (927 kW), which will provide 100% of the site’s electricity needs (approximately 2 GWh/a of renewable, zero-carbon emission electricity). There have been some unforeseen delays due to supply chain dynamics. However, the project is developing and is currently in the equipment procurement phase. Operation is expected in the 2nd quarter of 2024.

GREENHOUSE GAS EMISSIONS



Sustainability Report 2022

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Our Management Approach

Introduction

Sustainability is the key driver of our strategy and clear requirement for our long-term success. We approach sustainability holistically and our fundament in this work is based on robust responsible business practices. We take into consideration all aspects of sustainability; environmental, social and economical. Sustainability focus areas are the most material topics that are defined through a materiality assessment process in cooperation with our stakeholders. Our work is guided by the United Nations Sustainable Development Goals (SDGs) and thus contribute to the global sustainability agenda. Our commitments to the Kemira Code of Conduct, internationally defined sustainability principles, and stakeholder expectations, as seen in our strategy, corporate policies and integrated management system, shows that sustainability for us is not only about being a good corporate citizen, but finding new business opportunities.

International sustainability principles, commitments and ratings

The United Nations Global Compact has been signed by Kemira Oyj since 2014 as our commitment to its 10 principles, to respect and promote human rights, implement decent work practices, reduce our environmental impact and combat corruption. Furthermore Kemira works by the **United Nations Guiding Principles** which require companies to conduct due diligence to protect and respect human rights and remedy victims of business related abuses.

Responsible Care® is a voluntary commitment by the global chemical industry to drive continuous improvement and achieve excellence in environmental, health and safety and security performance. Kemira was among the first companies in Finland to make the commitment to Responsible Care®. Through this framework, global chemical manufacturers commit to pursue an ethic of safe chemicals management and performance excellence worldwide. This helps to enhance public confidence and trust in the industry's dedication to safely manage chemicals throughout their lifecycle while ensuring that chemistry can continue to contribute to a healthier environment, improved living standards and a better quality of life for all. Kemira is committed to operate according to the principles of Responsible Care®.

In 2022 Kemira committed to the Science-Based Targets initiative. Climate change is the biggest challenge of humanity and with this commitment we make sure that our climate action work is aligned with the expectations of our stakeholders and of the science community. Further we also joined the Renewable Carbon Initiative, which demonstrates our commitment to accelerate the industry shift from fossil carbon to renewable carbon and raw materials.

External rating surveys. Our stakeholders share interest in our sustainability performance and thus Kemira is actively reporting to external rating offices to increase transparency around sustainability topics. The most important reporting platforms in 2022 have been CDP Climate Change and CDP Water Security, EcoVadis and S&P Global and from investor platforms ISS ESG, Sustainalytics and MSCI. In the majority of the surveys, Kemira is an average or above average performer compared to chemical industry peers.

Materiality and stakeholder engagement

IMPACT

The most significant economic, environmental and social impacts are described below. A more detailed description of business model and impacts can be found in our **Annual Review**.

Economic impact: We generate revenue by selling chemical products and solutions for industrial uses in the pulp and paper, water treatment, oil and gas and mining industries. We have a direct economic impact on suppliers and service providers through the payments we make for purchased goods and services, to employees through compensation and benefits, to capital providers through dividends and interest payments, to the public sector through taxes, and to society through local community projects, sponsorship and donations. Unethical business behavior could impact Kemira's reputation and thus financial position.

Environmental impact: We have a positive environmental impact through our products and solutions which enable our customers to improve their resource efficiency by reducing the use of water, the generation of waste, the need of energy or the use of raw materials in their processes. Our main environmental risks relate to carbon emissions from our own manufacturing and in the value chain due to our purchasing activities, upstream and downstream transportation, and to potential incidents through accidental release of chemicals or process safety deficiencies.

Social impact: Our main social impacts, and related risks, concern safety in the workplace, safe use of our products along the value chain and human rights issues like non-compliance with responsible business practices in our own operations or those of our upstream business partners.

STAKEHOLDER EXPECTATIONS

Our key stakeholders include our customers, shareholders, lenders, employees and suppliers. Other relevant stakeholder groups include the local communities where Kemira operates, regulatory bodies, trade associations, decision makers and opinion leaders.

- A significant share of our investors practices ESG Investing (Environmental, Social, and Governance). These ESG investor signatories represent 20% of the ownership of Kemira shares (restated figure 21% in 2021).
- Many of our customers are sustainability leaders in their respective industrial sectors. Kemira plays a role in their value chains, and we are expected to demonstrate the same strong commitment to sustainable business as our customers.
- Our employees see sustainable business conduct as an important factor behind their engagement with Kemira, according to our employee surveys.

Our approach to stakeholder engagement includes activities ranging from information sharing to active dialogue and collaboration on issues of mutual interest. We regularly review our stakeholders expectations and potential concerns. The latest materiality assessment was performed in late 2021 and finished in early 2022.

Due to their effect or potential effect on the Kemira organization's ability to consistently provide products and services that meet customer and applicable statutory and regulatory requirements (including ISO Standards), Kemira has determined:

- the interested parties that are relevant to its business and Management System
- the requirements of these relevant interested parties
- the risks and opportunities of these relevant interested parties
- the response in place and the improvement plan when needed.

Kemira organization monitors and reviews information about the relevant interested parties and their specific requirements at least once per year.

STAKEHOLDER ENGAGEMENT

List of stakeholder groups	Identifying and selecting stakeholders	Approach to stakeholder engagement	Key topics and concerns raised	Kemira's response
	Why is this stakeholder important to us as a company?	**How do we normally engage with this stakeholder?**	**What are their key concerns? 3 year horizon**	**What are our key mechanisms that help us address these concerns?**
Customers	• Our customers are Kemira's main source of value creation • Our customers' expectations and needs drive our product portfolio and offerings	• Direct customer contacts • Customer webinars, events and newsletters • Customer satisfaction measure • Key drivers in customer satisfaction are the technical service, speed and proactivity, as well as increasingly our ability to offer new and sustainable solutions	• Communication to customers about sustainability of products and Kemira's supply chain • Transparency and reporting of sustainability efforts: performance and targets (incl. data collection and management), traceability of products, product environmental data • Offer support to customers to become more sustainable like innovative products and services, circular end properties and partnerships • Reliable production flow • Value beyond the tangible products e.g., services and digital solutions	• R&D project portfolio management through stage gate process and sustainability checks • Sustainable development in Product Development (e.g., use of circular and renewable solutions in product portfolio) • Product lifecycle management for all aspects of product safety • Improve understanding of customer needs beyond current offerings • Sustainability performance data, like Product Carbon Footprints, submitted on request • Systematic quality assurance processes (ISO 9001)
Shareholders and lenders	• Share of our value creation through dividends and interest payments • Expectations for return on investment, good corporate governance practices and sustainability performance	• Regulatory financial communications: financial reporting and stock exchange communication • Regular events like roadshows, conference calls and one-to-one meetings	• Overall management approach to sustainability issues - sustainability strategy and concrete measures and efforts supporting the agenda (such as science-based targets, transparency in reporting, transforming business portfolio) • Sustainable profitable growth and long-term returns • Governance (e.g., diversity and inclusion) • Controversy management	• Transparent and regular reporting and verified disclosure according to the GRI standard • Participation in CDP Climate Change and CDP Water Security programs • Responding to rating company and investor questionnaires

List of stakeholder groups	Identifying and selecting stakeholders	Approach to stakeholder engagement	Key topics and concerns raised	Kemira's response
Employees	• Our employees' engagement, safety and well-being, integrity and competencies impact our value creation, operational and sustainability performance	• Performance management and development process • Regular Town hall meetings globally • Co-operation with employee representatives • Continuous listening and employee feedback • Ethics and Compliance hotline and trainings • Local wellbeing programs in all regions	• Understanding Kemira's sustainability strategy and future direction, linking those to employees work • Clear and concrete proof of actions in the sustainability agenda and long term targets setting, especially in mitigating climate change through greenhouse gas reductions (targets, progress, KPIs) • Ways of developing and maintaining competences for the future and mitigating cost increases (inflation, energy scarcity) • Product innovations • Company and management diversity • Health & safety (incl. wellbeing; mental health)	• Strategy and purpose communication and action planning • Corporate sustainability programs • Performance and development discussions • Future leadership principles implementation • Systematic competence development • Team engagements on sustainability • Rewarding and recognition • Compensation management
Suppliers	• Share of our value creation through payments for goods and services • Suppliers' sustainability performance may impact our operational efficiency and business risks	• Working closely with key suppliers to help them meet our performance and product expectations, and take corrective actions if needed	• Safety remains important • Environmental impacts needs to be managed properly throughout the upstream value chain • Labor & human rights issues • Ethics in value chain • Sustainable products and services	• Suppliers are asked to commit to Kemira Code of Conduct for Business Partners • Supplier sustainability assessments and audits performed • Leading by example through high EcoVadis rating • Supplier engagement relating to climate and other sustainability topics • Sourcing sustainable raw materials
Local communities	• Share of our value creation in the form of tax payments and employment • Safety and environmental performance may impact the acceptance of our local presence	• Dialogue and collaboration with local communities at major sites to ensure we understand and address their concerns • Collaboration with schools and universities	• Exposure to safety and environmental risks • Employment opportunities	• Environmental aspects and impacts and EHSQ risk assessments • Regular and open dialogue with local communities
Regulatory bodies, trade associations, decision makers, NGOs and opinion leaders	• These stakeholders have the capability to influence or make political decisions on legislation with an impact on our operations and business	• Memberships in industrial trade associations • Subject-specific dialogue with regulatory bodies on national and regional level	• Resource efficiency in operations • Chemicals safety • Environmental impact management and mitigation	• Actively participating in dialogue on EU directive proposals on sustainability and the chemical industry • Participation in CEFIC • Participation in the Chemical Industry Federation of Finland

DETERMINATION OF MATERIAL TOPICS

The materiality assessment process is built on identification, analysis, prioritization and integration of most material sustainability topics.

Identification: Material topics relevant to Kemira have been identified based on their relative magnitude of impact and respective concerns raised by different stakeholders. Emphasis has been put on the determination of actual and potential, negative and positive impacts on the economy, environment, people and human rights. The most recent materiality assessment was based on the United Nations Sustainable Development Goals (SDGs) framework.

Analysis: Representatives of our key stakeholder groups (investors, customers, internal stakeholders) were interviewed to identify their expectations of Kemira, a benchmark study on material disclosure topics was carried out and major sustainability related development trends were analyzed. The importance of the topics were evaluated and the impact of the potential material topics based on key stakeholders' insights and expectations assessed with interviews and surveys. Based on the results from the assessment process, 21 most important sustainability topics were identified.

Prioritization: The identified topics were prioritized with reference to the relative importance to stakeholders, and to the relevance to Kemira's business and strategy, as well as the significance of specific topics related to the global chemical sector.

Integration: the results of our materiality assessment were visualized in the form of a materiality matrix and our corporate sustainability program was revised based on the results. The relevance of our existing sustainability focus areas were assessed by cross-referencing the top materiality assessment topics with those.

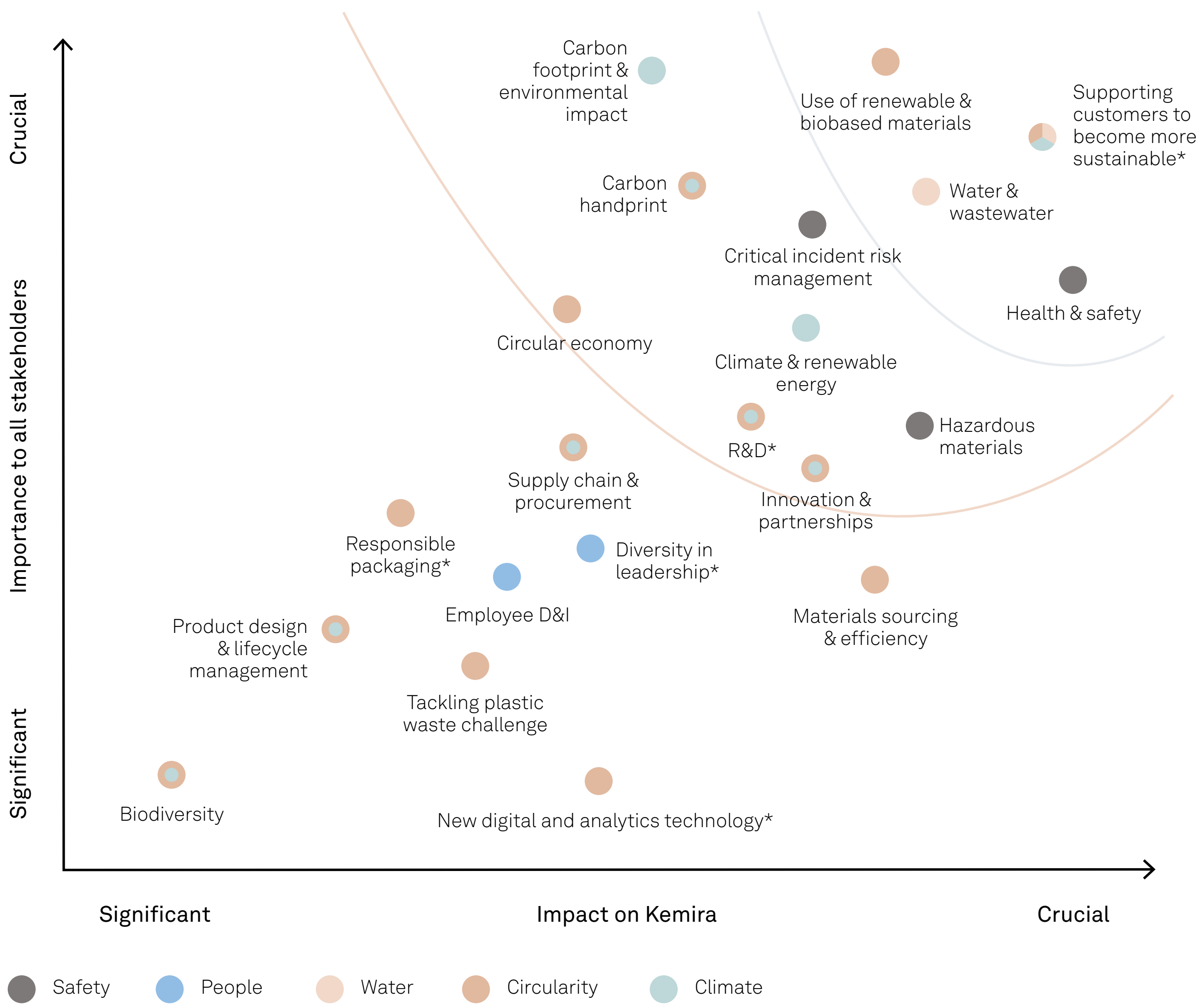
In the table we describe our material GRI disclosure topics and the topic boundaries. We have aligned our GRI disclosure based on the prioritized UN SDG topics in the materiality assessment. Thus we have included also non-GRI topics to the reporting, that are highly material to Kemira. These are for example product design, product stewardship and products and solutions.

MATERIAL GRI TOPICS	TOPIC BOUNDARIES	KEMIRA DATA COLLECTION PRACTICES
Added non GRI topics		
Product development	Kemira Operations[1)]	Product sales data is extracted from Kemira's ERP system. Product applications are manually linked to product categories.
Product stewardship	Kemira operations	Data is extracted from Kemira's ERP system and from PSRA documentation, and from Kemira processes.
Products and solutions	Kemira operations[1)]	Data is extracted from Kemira's ERP system.
Economic GRI Standard Series		
Economic performance	Kemira operations[1)]	Data is extracted from Kemira's ERP system.
Anti-corruption	Kemira operations[1)]	Data is collected from each region, from Kemira's legal archive, and through notifications from Kemira's Compliance and Ethics Hotline.
Anti-competitive behavior	Kemira operations[1)]	Data is collected from each region, from Kemira's legal archive, and through notifications from Kemira's Compliance and Ethics Hotline.
Environmental GRI Standard Series		
Materials	Kemira operations as covered by our ERP[2)]	Kemira's ERP system.
Energy	Kemira manufacturing sites[3)]	Data is collected from each production site and consolidated at the Group level.

MATERIAL GRI TOPICS	TOPIC BOUNDARIES	KEMIRA DATA COLLECTION PRACTICES
Greenhouse gas emissions Other emissions to air	Kemira manufacturing sites[3]	Data is collected from each production site and consolidated at the Group level. Scope 3 emissions data is collected from Kemira's ERP system and the relevant organizational units. Default data and assumptions are as in the WBCSD Guidance for Accounting & Reporting Corporate GHG Emissions in the Chemical Sector Value Chain.
Water and Effluents	Kemira manufacturing sites[3]	Data is collected from each production site and consolidated at the Group level.
Waste	Kemira manufacturing sites[3]	Data is collected from each production site and consolidated at the Group level.
Biodiversity	Kemira manufacturing sites[3]	Data is collected from each production site and consolidated at the Group level.
Environmental compliance (old GRI criteria but included due to reporting structure)	Kemira manufacturing sites[3]	Data is collected from each production site and consolidated at the Group level.
Supplier environmental assessment	Kemira suppliers	Data is extracted from Contract Management Tool used to track suppliers' signing of Code of Conduct for BP. Assessment data is stored on both external and internal service platform.
Social GRI Standard Series		
Employment*	Kemira operations[1]	Data is extracted from HR data management system.
Labor/Management relations*	Kemira operations[1]	Data is collected from each region and combined with the HR data management system.
Workplace safety and occupational health and safety	Kemira operations[1]	Data is extracted from synergy data management system. Data covers also contractors working at Kemira sites.
Training and education	Kemira operations[1]	Data is extracted from HR data management system.
Diversity and equal opportunity	Kemira operations[1]	Data is extracted from HR data management system.
Non-discrimination	Kemira operations[1]	Data is collected from each region, from Kemira's legal archive, and through notifications from Kemira's Compliance and Ethics Hotline.
Freedom of association and collective bargaining	Kemira operations[1]	Data is collected from each region, from Kemira's legal archive, and through notifications from Kemira's Compliance and Ethics Hotline.
Human rights	Kemira operations[1]	Data is collected with a Human Rights Impact Assessment and from company processes and procedures.
Public policy	Kemira operations[1]	Data is collected from each region, from Kemira's legal archive, and through notifications from Kemira's Compliance and Ethics Hotline.
Customer health and safety	Kemira operations as covered by our ERP[2]	Data is extracted from Kemira's ERP system and from R&D New Product Development process documentation, from PSRA documentation, and from Kemira's legal archives.
Marketing and labelling	Kemira operations as covered by our ERP[2]	Data is extracted from Kemira's ERP system and from PSRA documentation, and from Kemira's legal archives.
Socioeconomic compliance (old GRI criteria but included due to reporting structure)	Kemira operations[1]	Data is collected from each region, from Kemira's legal archive, and through notifications from Kemira's Compliance and Ethics Hotline.
Supplier social assessment	Kemira suppliers	Data is extracted from Contract Management Tool used to track suppliers' signing of Code of Conduct for BP. Assessment data is stored on both external and internal service platform.

*) Not material GRI topic but reported because considered useful based on continuity.
1) Kemira's operations = All operations covered by Kemira's consolidation rules.
2) Kemira's operations covered by ERP = All operations covered by both Kemira's consolidation rules and the company's Enterprise Resource Planning (ERP).
3) Kemira's manufacturing sites = All manufacturing sites covered by Kemira's consolidation rules.
4) PSRA Product Stewardship and Regulatory Affairs.

MATERIALITY MATRIX BASED ON KEMIRA'S 5 FOCUS AREAS



* Emerging topics in the assessment are defined as topics that are considered emerging in industry reports, but peers and customers had not yet taken those into consideration

MATERIALITY MATRIX

In 2022 Kemira finalized its latest materiality assessment to verify and update most important material sustainability topics.

The result of the analysis is visualized in a materiality matrix. The topics have been evaluated on a scale from significant to crucial, which highlights that only important topics have been taken into consideration. The topics were then linked to the Kemira focus areas (safety, people, circularity, water, climate), to showcase how the topics link to the existing corporate focus areas.

The results of the analysis reflect well Kemira's business operations as well as strategic ambitions in advancing sustainability. Water, renewable raw materials, health and safety, climate change mitigation and circular economy are all subjects, that are identified as having importance by external stakeholders as well as by Kemira. These are also subjects where Kemira can have a crucial impact and towards which Kemira has already developed long term targets.

Kemira's next round of materiality assessment is in 2023. The objective is to perform a double-materiality assessment during the year.

Strategy, governance and policies

WHAT SUSTAINABILITY MEANS TO US

Sustainability is a key driver of our strategy and requirement for our long term success. It's present in how we manage our own operations and create value for our customers. We also expect our partners to commit to sustainable operations. We want to use our chemistry expertise to find solutions and contribute to a sustainable and prosperous society.

Sustainability is a broad topic and work is made throughout the organization to improve the company sustainability performance and become better every day, as we state in our purpose. Everything starts with the responsible business practices, which is the fundament for all sustainability work. Through the materiality process, and mirroring with our strategic ambitions, we choose focus areas that are the spearheads of Kemira sustainability and build the corporate sustainability program around those. We also link these spearheads to most relevant Sustainable Development Goals, to connect our work with global sustainability ambitions. Ambitious targets and KPIs have been created to support our work to achieve our targets.

PURPOSE & STRATEGY

Chemistry with a purpose. Better every day.

We aim to become the leading provider of sustainable chemical solutions for water-intensive industries.

Our own sustainability fundamentals and strategy	What we can do for our customers	Our own product portfolio

	Safety	People	Water	Circularity		Climate
KPIS & TARGETS	TRIF 1.5 by 2025 and 1.1 by 2030	D&I index industry top 10% by 2025	Improve water management to Leadership level (CDP) by 2025	Disposed production waste intensity reduction by 15% by 2030	Biobased revenue growth to 500 M€ by 2030	Scope 1&2 emissions reduction by 50% by 2030

FOCUS AREAS: Safety, People, Water, Circularity, Climate

PROGRAMS

- Safety
- Diversity & Inclusion
- Nature stewardship
- Climate action
- Positive impact portfolio, Biobased strategy

RESPONSIBLE BUSINESS PRACTICES

Health & Safety; Employees; Kemira Values; Water & Wastewater; Materials; GHG emissions; Digital and analytics technology; Critical incident risk management; Diversity & Inclusion; Pollution prevention; Leadership Principles; Circular economy; Energy; Waste; Human rights; Water handprint; Carbon handprint; R&D; Supporting customers to become more sustainable; Environmental compliance; Product design for sustainability; Innovation & Partnerships; Product stewardship; Sustainable supply chain and sourcing; Biodiversity; Business ethics

SDGS, FOCUS AREAS AND PERFORMANCE INDICATORS

Our sustainability priorities are based on the most material impact of our business model, on the increasing expectations of our customers, investors and other stakeholders, and on our commitment to the Kemira Code of Conduct and internationally defined sustainability principles.

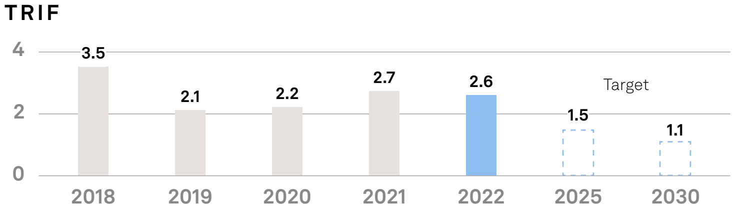
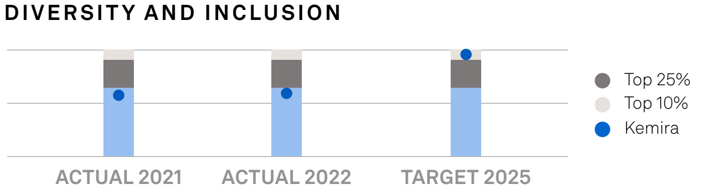
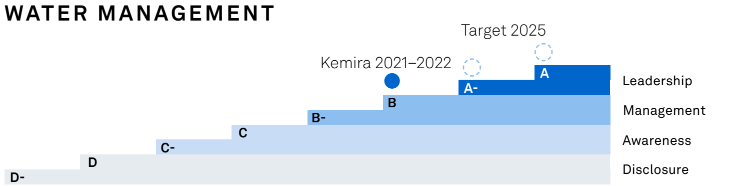
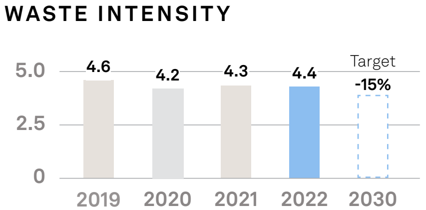
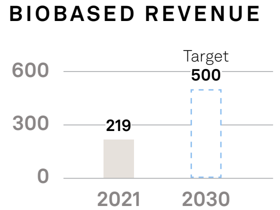
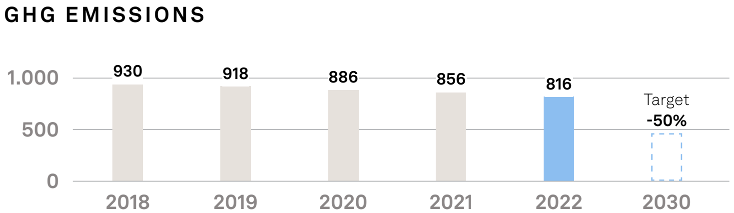
The global shared ambition to build a sustainable world is articulated in the UN Sustainable Development Goals (SDGs). These offer us a common framework through which to evaluate how Kemira currently contributes to these goals and how we can further develop to make even bigger impact in the future. We have chosen four SDGs to focus on. SDG number 8; Decent Work and Economic Growth, represents our focus on social and economical sustainability. Three of the SDGs describe our focus on important environmental sustainability topics, these are SDG number 6; Clean Water and Sanitation, SDG number 12; Responsible Consumption and Production and SDG number 13; Climate Action. The chosen SDGs reflect well our most material topics.

We have chosen to build our corporate sustainability program around prioritizing five sustainability themes that best match our businesses and customer segments. These are also the five themes where we can make the biggest difference: either by reducing our impacts or maximizing our contributions to achieving the UN SDGs. These five themes are: Safety, People, Circularity, Water and Climate.

TOP MATERIAL TOPICS ALLOCATED TO MANAGEMENT BOARD MEMBERS

Our priority focus areas	Top material topics identified in the materiality matrix	Management Board champion
SAFETY	• Critical incident risk management • Hazardous materials • Health & safety	EVP, Operational Excellence & Sustainability
PEOPLE	• Health & safety • Diversity in leadership • Employee D&I	EVP, Human Resources Group General Counsel
WATER	• Supporting customers in sustainability • Water & wastewater • R&D • Innovation and partnerships	Segment Presidents EVP, Operational Excellence & Sustainability Chief Technology Officer
CIRCULARITY	• Supporting customers in sustainability • Circular economy • Use of renewable & biobased raw materials • Carbon handprint • R&D • Innovation & partnerships	Segment Presidents EVP, Operational Excellence & Sustainability Chief Technology Officer
CLIMATE	• Supporting customers in sustainability • Carbon footprint & environmental impact • Climate and renewable energy • Carbon handprint • R&D • Innovation & partnerships	Segment Presidents EVP, Operational Excellence & Sustainability Chief Technology Officer

FOCUS AREAS AND PERFORMANCE INDICATORS

SDG	FOCUS AREA	KPIS AND TARGETS	PERFORMANCE
8 DECENT WORK AND ECONOMIC GROWTH	**SAFETY** We prove that a safe business is a sustainable business. Safety of people, products, processes and environment is the foundation of everything we do.	**KPI:** Total Recordable Injury Frequency (TRIF) per million hours, Kemira + contractors. **Target:** TRIF 1.5 by 2025 and 1.1 by 2030.	
8 DECENT WORK AND ECONOMIC GROWTH	**PEOPLE** Our employees drive our sustainability transformation. A diverse and inclusive culture enables us all to bring our best selves to work every day.	**KPI:** Diversity & Inclusion index compared to top 10% cross-industry norm. **Target:** Reach top 10% cross-industry norm for Diversity and Inclusion by 2025.	
6 CLEAN WATER AND SANITATION	**WATER** We believe in clean water and sanitation for all. Our actions set the example for world class water management.	**KPI:** Improve water management. **Target:** Improve water management to Leadership level based on CDP Water Security scoring methodology by the end of 2025. Kemira published it's water target in the beginning of 2022, to strive for an improvement in overall water management.	
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	**CIRCULARITY** We set sustainability at the center of every design. Our sustainable chemistry and digital solutions accelerate the circular- and bio-economies.	**KPI:** Disposed production waste intensity. **Target:** Reduce disposed production waste intensity by 15% by 2030. Baseline is 2019 at 4.6 metric tons of waste per thousand metric tons of production and target is 3.9 by 2030. **KPI:** Biobased products revenue **Target:** Revenue from biobased products >500 million EUR by 2030. Baseline is 100 million EUR in 2019.	 
13 CLIMATE ACTION	**CLIMATE** We reduce our climate impact throughout our value chain. Clean energy and processes will support our ambition to be carbon neutral by 2045.	**KPI:** Scopes 1 & 2 emissions. **Target:** -50% from 2018 Scope 1 and Scope 2 emissions by 2030. 2018 baseline 930 kt CO_2 equivalents (CO_2e) **Ambition:** to become carbon neutral in scope 1 & 2 emissions by 2045. Kemira updated its climate target in June 2022 in accordance with the Science Based Target Initiative (SBTi) requirements. The emission reduction target changed from -30% to -50%. The target is not yet validated by the SBTi.	

GOVERNANCE

The Shareholders' General Meeting, the Board of Directors and the Managing Director (President and CEO) are responsible for Kemira's management and operations. Their tasks are defined based on the Finnish Companies Act and Kemira's Articles of Association. President and CEO is assisted by the Management Board, which is a non-statutory management body. More detailed information on Kemira governance can be found in the **Corporate Governance Statement**.

The Board of Directors' key duties include establishing Kemira's long-term goals and the main strategies for achieving them, duties are described in detail in the **Corporate Governance Statement**. Sustainability being a key driver of Kemira's strategy brings also many sustainability related topics to the Board of Directors decision making, the Board of Directors, e.g., approves Kemira's values, the sustainability targets and the Sustainability Report. The Board of Directors has appointed two Committees to assists in fulfilling its responsibilities: 1) The Audit Committee assists in oversight responsibilities for e.g., non-financial (including economical, environmental and social topics) reporting process, 2) The Personnel and Remuneration Committee assists in preparation of matters related to e.g. compensation linked with sustainability KPI elements.

The President and CEO is responsible for managing and developing Kemira in accordance with the instructions and guidance given by the Board of Directors and implementing its decisions. The President and CEO reports to the Board of Directors on financial and non-financial matters, the business environment and other significant topics, including environmental and social topics.

The Management Board is an operative management body that is responsible for securing the long-term strategic development of the company. Kemira measures progress in the sustainability priority areas through group-level key performance indicators (KPI) and targets that are approved by the Board of Directors. Responsibility for individual corporate sustainability targets is shared between the members of the Management Board.

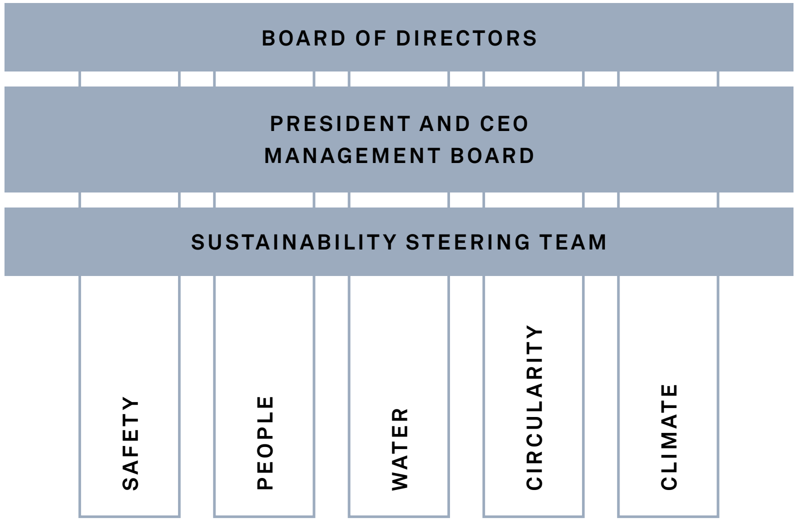
The Sustainability Steering Team is a senior management level team under the Management Board, which steers a variety of sustainability linked programs, that are dedicated to the most material sustainability topics of the corporate sustainability program. The main tasks of the Sustainability Steering Team is to prepare proposals to the Management Board about developing Kemira corporate sustainability strategy, vision and ambition, to steer chosen corporate sustainability related programs, which includes follow-up of near- and long-term plans and roadmaps, and to report annually on corporate sustainability development to the Management Board and Board of Directors. The Sustainability Steering Team ensures the development, implementation and follow-up of sustainability as part of daily business operations. Active programs steered by the Sustainability Steering Team are Climate Action (climate target), Nature Stewardship (water and waste targets, biodiversity development), Positive Impact Portfolio (supporting the biobased revenue target) and Diversity & Inclusion (diversity and inclusion target). Safety and biobased strategy programs are steered by the Management Board.

The Director of Corporate Sustainability is responsible for the corporate level sustainability program and its development, for coordinating related reporting activities, assisting the organization and its leadership to stay ahead of most recent sustainability related trends, supporting the company to identify and build relevant competences and ensuring that relevant management processes relating to material corporate sustainability topics are being developed and implemented as part of Kemira strategy and integrated management system. The Director, Corporate Sustainability, also facilitates the collaboration of the Sustainability Steering Team.

Remuneration and sustainability: Kemira has both a long- and short-term incentive plan for selected individuals of the company management. Safety has been a KPI of the short-term incentive plan for several years. There has not previously been sustainability related KPIs in the long-term incentive plan.

The aim of the long-term incentive plan is to combine the objectives of the shareholders and the persons participating in the plan to increase the value of Kemira, to commit the participants to Kemira, and to offer them a competitive reward plan. In 2023 Kemira will continue its growth strategy. To further emphasize sustainability transformation driving profitable growth, the key priorities are reflected in the incentive programmes: In addition to financial targets, the long-term incentive plan performance period 2023–2025 consists of two sustainability targets, namely Kemira CO_2 emission reduction from Scope 1 & 2 and Revenue Growth of Biobased products. More information on remuneration can be found in the **Remuneration Report**.

Diversity of governance bodies is reported in the Diversity and Equal Opportunity section in the Sustainability Report and in the **Corporate Governance Statements**.



POLICIES

The Code of Conduct is the foundation for doing business in the right way and functions as an umbrella commitment for the entire company. Kemira Code of Conduct is approved by the Auditing Committee of the Board of Directors. Global policies are in many cases extensions of the Code of Conduct commitments, where we elaborate further on those and make them more understandable for the organization. All policies are approved by the Management Board and have a dedicated owner. Policies are prepared in respective functions within the company.

The segments are guided by policies and standards defined by global functions. Global functions are responsible for developing policies, standards and tools related to their respective functional areas on a global basis. Such policies and processes are complied with throughout the company. Functions also have representatives in each geographic region. Regional organizations ensure that the global policies and standards are implemented and adhered to in the regions. They are also responsible for supporting the business locally in the region.

The policy commitments become visible in the organization through e.g., strategic target setting, like the sustainability related targets covering safety, people, water, circularity and climate topics. The enterprise strategy and risk management processes identify risks and opportunities in relation to the policy statements and specific impact assessments are made e.g., for human rights issues. Our commitments are also visible through our management processes in terms of e.g., sustainable sourcing programs, product safety work and the research and development stage gate process with sustainability checkpoints. Besides this, we create task groups for specific topics, like the Human Rights Council, which is a cross-functional group developing and discussing Kemira human rights practices.

Kemira maintains internal control systems to ensure the effectiveness and efficiency of its operations, including the reliability of financial and operational reporting and compliance with the applicable regulations, policies and practices. More details on this can be found in the **Corporate Governance Statements**.

Grievance mechanisms: it is our intention to promote and maintain the best possible relationship with our stakeholders and we regard it as essential to provide effective procedures for the rapid resolution of differences and disagreements. Kemira offers various channels to report grievances and is committed to dealing with such reports promptly and fairly. Some of the channels and mechanisms are local, varying from country to country, some are regional or global. Examples of these mechanisms are:

- Employee related complaints and appeal procedures vary from country to country depending on the local employment law and practices, such as structure of employee representation through unions and collective bargaining agreements. Kemira has employees in nearly 40 countries and thus there are a plenitude of different mechanisms.
- Our global ethics and compliance hotline which is available both internally and externally for our business partners.
- Global customer service and customer complaint process directed to customers.
- Internal SNOW portal for reporting GDPR related breaches.
- Cooperation with local authorities in cases of breaches of environmental permits.
- Internal grievance tools.
- Global vendor complaint system.

Precautionary principle: We do not have a separate statement about following the precautionary principle, but we have different mechanisms, processes and procedures in place that prevents and mitigates potential negative impacts.

Precautionary actions:
- Existing regulations create the basis for this principle (e.g., within the EU Green Deal soil regulations and SEVESO and other comparable regulation on other regions where we operate).
- Risk assessment processes are also basic precautionary action in Kemira activities.
- The principle in question is used on site-level projects e.g., through utilizing Best Available Technology principles and Capital Project Management guidance. Relating to prevention e.g., identification of critical equipment and precautionary maintenance is actively pursued.
- The principle is used in the New Product Development process where product properties are secured and chemical safety is evaluated.
- In people safety the principle is taken into action through operative risk assessments safety standards and instructions. Risk assessment of chemical exposure, needed protective measures and medical evaluations of personnel are also concrete measures.
- Concerning the environment, the principle is most visible through manufacturing sites guidance on spill prevention and other process precautionary measures.
- Also internal and external audits and authority controls are ensuring that the precautionary measures are in place.

Mitigation:
- Corporate risk assessment process identified high/medium risk items are mitigated and controlled under the risk assessment review process.
- Emergency response and crisis management processes are first emerging activities in case of incident and accidents, but also in business interruptions. To ensure continuous improvements in root cause analysis identifies improvement elements and corrective actions to be implemented.
- Liability site management is one critical mitigation measure for soil contamination in existing and old closed manufacturing sites.

Key policies	Policy owner	Description of main policy commitments	Level of approval and publicity	Application to company activities and communication
Code of Conduct	Group General Counsel	Kemira Group Code of Conduct is the foundation for doing business the right way. The Code reflects Kemira's values and the principles set out in the OECD Guidelines for Multinational Enterprises. The Code of Conduct includes 19 statements covering commitments to work community, customers, suppliers, markets, society and investors. Commitments relate to economical, environmental, people and human rights topics. More information on the specific human rights commitments can be found in the human rights section in the Sustainability Report.	Board of Directors Publicly available.	This policy applies to all organization activities and business relationships equally. Mandatory training for all employees. Available in 19 languages.
Code of Conduct for Business Partners	Head of Global Sourcing	Document reflects Kemira values and the principles set out in the Kemira Group Code of Conduct.	Management Board Publicly available.	This policy applies to business partners (e.g., suppliers, consultants, advisers, distributors and agents) Mandatory approval of business partners. Available in 19 languages.
Product stewardship policy Trade Compliance policy	Head of Product Stewardship and Regulatory Affairs	Compliance with chemical regulatory requirements, to assess human health & safety and environmental protection aspects, identify and manage chemical risks and to share information about the above mentioned themes. To protect human health and safety with different measures. Main stakeholders considered are employees and customers.	Management Board For internal use.	These policies apply to all organization activities. Mandatory training for selected employees. Only in English.

Key policies	Policy owner	Description of main policy commitments	Level of approval and publicity	Application to company activities and communication
Sustainability and EHSQ Policy	EVP, Operational Excellence & Sustainability	Safe working conditions, preventing incidents, respecting human rights in operations, diversity and inclusion, protecting the environment, enabling circular economy and protecting biodiversity. Main stakeholders are our employees and value chain partners.	Management Board Publicly available.	This policy applies to all organization activities. Mandatory training for all employees.
Sourcing and Procurement Policy	EVP, Operational Excellence & Sustainability	All activities being aligned with Kemira CoC, company values and sustainability goals, key supplier selection and supplier risk assessment criteria including sustainability performance both in social and environmental topics. Social sustainability performance expectations mainly regarding our upstream value chain partners.	Management Board For internal use.	This policy applies to all organization activities. Mandatory training for selected employees.
Logistics and Transportation Policy	Head of Global Supply Chain Management	Transportation and chemical safety, minimization of environmental impacts on transportation operations and sustainable logistics. To provide safe working conditions in supply chain and reduce environmental impacts. Main stakeholders are suppliers, employees and customers.	Management Board For internal use.	This policy applies to all organization activities. Optional training for selected employees.
Recruitment Policy	EVP, Human Resources	In all recruitments respect of diversity, equal opportunity, and treatment regardless of race, color, gender, sexual orientation, creed, political persuasion, age, social status, origin or any status protected under the laws, respect of fundamental human rights and no use of any form of forced or child labor. Particular attention is given to own employees and subjects of recruitment, which are also the main stakeholders.	Management Board For internal use.	This policy applies to all organization activities. Training for employees responsible of recruitment and for hiring managers.
Global Competition Law Compliance Policy Gifts, Entertainment and Anti-Bribery Policy	Group General Counsel	Fair and ethical competition, within framework of applicable laws. No anti-competitive activities. Zero tolerance towards bribery and corruption.	Management Board For internal use.	These policies apply to all organization activities. Mandatory training for selected employees. Several language versions available.
Tax Policy	Chief Finance Officer	Conducting our business in compliance with all applicable laws and regulations and according to high ethical standards.	Management Board For internal use.	This policy applies to all organization activities. Mandatory training for selected employees.

Integrated management system

Globally, we aim to bring together all of our operations under the Kemira Integrated Management System. The Kemira Integrated Management System defines the way our organization is working through the set of policies, standards, procedures and processes. It also defines the requirements and accountabilities at each level of the organization.

Conformance to Integrated Management System and compliance to regulatory requirements are ensured by regularly monitoring the performance indicators and by conducting internal and external audits and management reviews. In 2022 all internal and external audits were completed fully and in timely manner.

The management reviews are performed at all levels of the organization from manufacturing to regional management and the Management Board.

Kemira has a principle that all operations under our Integrated Management System meet the international standards ISO 9001:2015 for Quality, ISO 14001:2015 for Environment, and ISO 45001:2018 for Occupational Health and Safety. All 3 R&D sites (Atlanta, Espoo and Shanghai) are ISO 9001:2015, ISO 14001:2015, and ISO 45001:2018 certified. Our share of certified sites has improved from 86% to 90% from 2021, due to three (3) manufacturing sites which got their first ISO certification. Kemira's Energy Management System is certified according to ISO 50001:2018 for selected EMEA sites. Our Integrated Management System is externally audited through a three-year audit cycle. In 2022, eighty-three (83) internal and external audits (Management Systems, Process Safety, Energy, Transportation, EHS Legal Compliance, Sustainability) were conducted, including manufacturing sites, major office locations and R&D centers.

NUMBER OF LOCATIONS (MANUFACTURING SITES, MAIN OFFICES AND R&D) CERTIFIED IN 2022:

	EMEA	Americas	APAC	Total*
ISO 9001:2015	36	20	10	66 (90%)
ISO 14001:2015	36	19	10	65 (89%)
ISO 45001:2018	36	20	10	66 (90%)
ISO 50001:2018**	6			

*Kemira has 62 manufacturing sites in total, 3 main offices and 3 R&D centers.
**ISO 50001 certification is only for selected EMEA sites

INTEGRATED MANAGEMENT SYSTEM

KEMIRA'S MANAGEMENT APPROACH TO SUSTAINABILITY (NON-FINANCIAL) MATTERS

<table>
<tr><th></th><th>Environmental and climate-related matters</th><th>Social and employment-related matters</th><th>Respect for human rights</th><th>Anti-corruption and bribery</th></tr>
<tr><td>International frameworks covering all topics</td><td colspan="4">United Nations Sustainable Development Goals (SDGs)
United Nations Global Compact
United Nations Guiding Principles on Business and Human Rights
Responsible Care®</td></tr>
<tr><td>Code of conduct</td><td colspan="4">Code of Conduct
Code of Conduct for Business Partners</td></tr>
<tr><td rowspan="2">Policies and standards</td><td colspan="3">Sustainability and EHSQ policy
EHSQ standards and processes
Logistics and transportation policy and processes
Sourcing and procurement policy</td><td rowspan="2">• Global competition law compliance policy.
• Gifts, entertainment and anti-bribery policy.
• Trade compliance policy.
• Investigation procedure.
• Audit Committee Charter.</td></tr>
<tr><td>• Product stewardship policy.</td><td>• Product stewardship policy.
• Trade compliance policy.
• Recruitment and compensation policy.
• People and HR processes.</td><td>• Recruitment and compensation policy.
• Statement for slavery and human trafficking.
• Statement on conflict minerals.
• Investigation procedure.
• Audit Committee charter.</td></tr>
<tr><td>Hazards and Risks</td><td colspan="2">• GHG emissions (Scopes 1, 2 & 3), water withdrawal, disposed waste and spills and chemical releases.
• Climate change adaptation related operational risks througout the value chain
• Non-compliance with legislation and regulations may result in fines, creating reputational and business risks.
• Reputational or financial risk if products are not proven to be safe or guidance for safe use is not communicated or if employment and engagement poorly managed.
• Ability to meet new environmental expectations with products and services.
• People related health and safety hazards and work related incidents, illnesses and well-being.
• Competences related to chemical risks (physical and chemical), own work processes.
• Risk of not being able to attract talented people to the company.</td><td>• Potential violations of human and labor rights and unethical business practices can impact Kemira's reputation and thus financial position.
• Main human rights risks relate to production and raw material sourcing of suppliers and supply chain partners, health and safety at own sites and the impacts of utilizing fossil fuels.</td><td>• Risk that Kemira internal organization engages in bribery or other forms of corruption.
• Risk that third parties acting on behalf of Kemira engage in bribery or other forms of corruption. A third party is anyone with whom Kemira interacts and who sells, resells or assists Kemira in selling Kemira's products to customers.</td></tr>
<tr><td>Risk / hazard management</td><td colspan="3">• Risk are effectively managed through existing integrated management system and continuous risk identification and mitigation processes.
• Environmental, health and safety and quality activities are documented and managed in line with ISO 9001, 14 001 and 45001 standards including certification of majority of the activities. Incident and crises management –systems.
• Compliance with the chemical regulations is ensured by complying with PSRA (Product Stewardship and Regulatory Affairs) processes incl. priority substance management.
• Performance and development process (PDD) conducted and documented for all employees. Learning solutions and development paths available. Talent management activities targeted to specific job roles and positions.
• Continuous listening and employee feedback with MyVoices Pulse surveys in place.
• Kemira's New Product Development (NPD) and product lifecycle management processes are followed.
• Ethics and compliance Hotline (Whistleblower mechanism) for raising a concern or reporting potential misconduct.
• Supplier sustainability assessment and audits globally. Mandatory Code of Conduct and Human Rights for Business trainings and anti-corruption training. Supplier segmentation & prioritization by value/criticality/risk.
• Behavior based safety program.
• Reporting system in place for violations of Code of Conduct.
• Human Rights impact assessment carried out, latest in 2021.
• Identity and age checks during hiring process and annual internal country level verification of compliance.</td><td>• Continuous communication and training of Kemira's policies.
• Due diligence in reviewing and selecting third parties who act on behalf Kemira.
• Requirement that third parties commit to Kemira's Business Partner Code of Conduct.
• Screening of all business partners to identify denied and blocked persons.
• Ethics & Compliance Hotline and email for reporting suspected breaches of law or Kemira's Code of Conduct internally or externally. Reported allegations are subject to confidential and impartial internal investigation.</td></tr>
</table>

	Environmental and climate-related matters / Social and employment-related matters / Respect for human rights	Anti-corruption and bribery
Due diligence processes	• Compliance verification against existing Kemira, legal and other EHSQ requirements and talent development are managed through Global internal and external auditing and annual Global reporting processes. Audits and identified non-conformities are registered, assessed and managed in a global system ensuring also the Global visibility and compliance assurance. • Compliance with the chemical regulations followed / audited by external authorities and audited internally and externally by Kemira. • Audits and identified non-conformities are registered and managed in a global system. • Kemira's New Product Development (NPD) process and individual NPD projects as well as short-term technical assistance request (TAR) process are managed by global internal and external auditing. • In human rights issues, reporting to Audit Committee of Board of Directors. • Suppliers are required to accept Kemira's Code of Conduct to business partners. Kemira also constantly monitors, assesses and audits its supplier base by performing periodic checks either through routine processes or annual internal audits by competent sourcing members. Based on conducted assessments prioritized supplier are invited to take more detailed assessment or audit.	We review and vet all new agents and distributors who will act as third parties for Kemira. The review and vetting are based on a risk level assessment which determines which diligence activities are required when selecting and onboarding a new third party. After the due diligence activities, new third parties are subject to approval according to a risk level-based approval matrix. Kemira's Ethics & Compliance Committee coordinates investigations of internally or externally reported alleged violations of anti-bribery and anti-corruption laws. The Committee may escalate a matter to the President & CEO, and the Committee reports to the Audit Committee of the Board of Directors.
Outcomes of policies and due diligence processes	• Operations meet legal requirements. Company is ready to meet global existing and foreseen challenges. • New products with smaller environmental footprint, better chemical safety profile and providing customers with resource efficiency improving properties. • Sustainability long term targets to 2025–2030 relating to water, waste, emissions, energy, diversity and inclusion and growing the renewable raw materials based products portfolio. • Health and safety program to reach zero harm to people. Reduced risks on human health and environment. • Competences Development Program for key target groups and statutory and role-based on-the-job learning for employees on professional and leadership development. • Human rights issues identified and mitigated in own operations and value chain. • Meeting on group level the EU Taxonomy minimum safeguards of most recognized human rights guidelines and guiding principles. • Sourcing & Procurement policy, processes and procedures mitigate and prevent supplier's violations related to any type of non-legal practices, they also ensure that suppliers are operating at or above the levels required by Kemira from the economical, environmental, social and human rights point of view.	• There have been no confirmed cases of bribery or corruption involving Kemira or its third parties. • Kemira is compliant with anti-bribery and anti-corruption laws applicable to it.

Product development

Kemira's New Product Development (NPD) process follows a stage-gate model. Successful projects must demonstrate both improved sustainability and business benefits at each decision gate to justify the project's continuation, and ultimately the product launch.

Our New Product Development (NPD) sustainability assessments examine the economic, environmental and social impact of all new products and solutions developed. NPD sustainability assessment follows Kemira's sustainability goals and following six topics are evaluated in the assessments: safety, people, water, circularity, climate and profitable growth.

A new sustainability assessment methodology and digital platform were introduced to the R&D organization during 2022. For all new product development projects we carry out a sustainability assessment which is re-evaluated at each project stage. New offering is compared against benchmarked or existing solutions both from Kemira's and customer's point of view. In early new product development project stages (from technology evaluation to development and piloting) effects of Kemira's operations including used raw materials and customers's operations are evaluated. In the end of NPD project (from scale-up to commercialization) effects of Kemira's operations, raw material production operations (upstream) and customer operations (downstream) are evaluated in own categories. Sustainability index has been internal key performance indicator in Kemira R&D and it is calculated as an average of sustainability index of Gate 2 approved NPD projects.

In 2022 the average score of the assessments across our portfolio was 8.0 (For year 2021, we reported 7.3). Scoring (-1 decreased, 0 no changes, +1 improved sustainability performance) is given in six categories (safety, people, water, circularity, climate and profitable growth) and both Kemira (used raw materials are evaluated under Kemira) and customer benefits are evaluated. Maximum scores are 12 when all evaluated categories are improved and minimum scores are -12, if all evaluated aspects are decreased. Average scoring of NPD projects has been followed since 2019 when scoring was 5.3.

In addition to the safety topic in the sustainability assessment, we consider and avoid the use of hazardous substances when selecting raw materials for new product development. Each NPD project and used raw materials and end-products are evaluated in cooperation with Product Stewardship and Regulatory Affairs function. R&D also makes plans to replace raw materials with concerns or risks in product recipes. These actions improve the safety in transportation, storing and usage and in disposal of materials in our manufacturing processes and our customers' processes and products.

NPD projects also aim to identify and evaluate more sustainable and renewable alternatives for raw materials, in terms of sources and use in the whole product life cycle. Year 2022, Kemira internal capabilities to generate life cycle assessments (LCAs) were extended in our product portfolio and life cycle assessment awareness was increased in the organization.

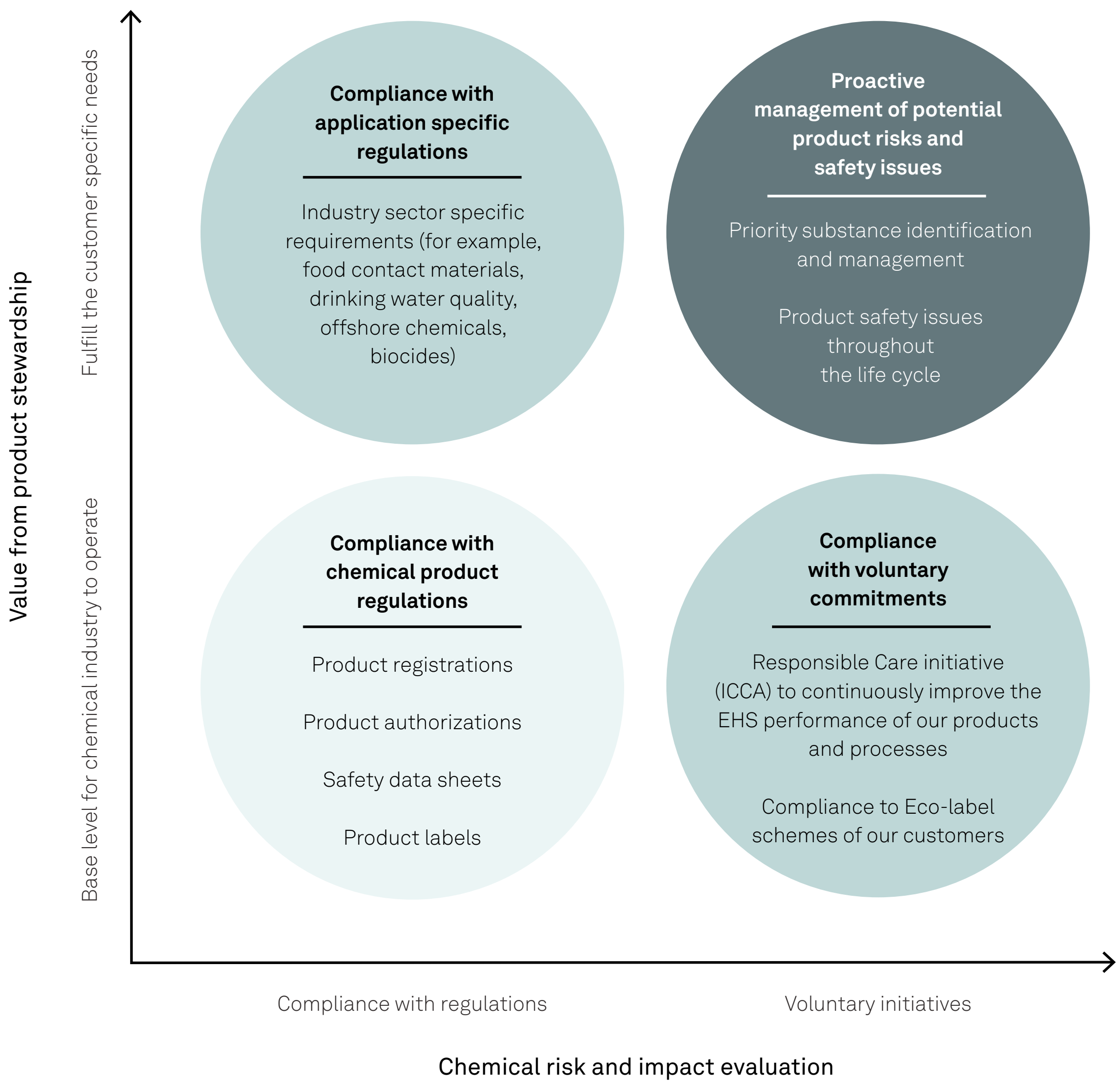
SUSTAINABILITY EVALUATION IN THE NEW PRODUCT DEVELOPMENT PROJECTS

	Evaluation criteria applied for three perspectives: Kemira, used raw materials (upstream) and our customers (downstream)	Benefits to Kemira, raw material production and our customers
Sustainability evaluation in NPD projects	Economic impact	Improved economic value
	Environmental impact	More efficient use of energy, water and raw materials Less emissions to air and water and waste Circularity by utilizing side-streams and co-products
	Social impact	Improved safety and regulatory compliance of products and safety of operations

Product stewardship

Kemira's Product Stewardship Policy defines the minimum requirements for our operations to ensure that our products can be safely used by our stakeholders and that chemical risks and their impact are incorporated in decision-making relating to our business. Our customers have their own health, safety and environmental requirements for their input materials and they typically follow several voluntary certification schemes, including eco-labeling schemes, which set further expectations on our product offerings. Chemical hazard assessments are not only prepared for products but also for raw materials, process aids and intermediates; and are incorporated in change management process during their full lifecycle. Product stewardship is the key pillar in the Responsible Care® program and involves the proactive management of the health, safety and environmental aspects of a product throughout its lifecycle. Product stewardship provides a platform that helps us to identify concerns relating to specific chemicals and their hazards at an early stage and manage those risks along the value chain to fulfill the expectations of different stakeholders.

PRODUCT STEWARDSHIP MANAGEMENT APPROACH



PRODUCT REGULATORY COMPLIANCE

The manufacturing and sale of chemicals are widely regulated around the world. Continuous follow-up of the regulatory development activities is the prerequisite for business compliance and plays a key role in ensuring product safety for customers, value chain and stakeholders.

PRODUCT LIFECYCLE MANAGEMENT

All of our products, handled raw materials and intermediates need to comply with all applicable chemical regulatory requirements in the countries where we manufacture and/or sell chemicals. Assessments examining regulatory compliance, human health impact, safety issues and environmental protection aspects all form part of our Product Lifecycle Management process from conception and development to manufacturing and sales, and finally to product elimination. All data related to chemical products and substances including raw materials is managed in Enterprise Resource Planning system and is linked to Product Lifecycle Management tool/process.

PRIORITY SUBSTANCE MANAGEMENT

We actively track our portfolio for priority substances that are subject to future regulatory restrictions or associated with particular concerns and prepare management plans for these substances. Our priority substance management plan aims to define the specific risks associated with each substance, examine options for managing these specific risks, and formulate action plans for the preferred options. These options to mitigate risks may include, for example, substitution, phase-out or limiting exposure.

COMMITMENT TO ANIMAL WELFARE AND SUSTAINABLE PALM OIL SUPPLY

Kemira is committed to reducing, refining and replacing animal testing wherever possible. Kemira does not itself perform any animal experimentation in-house. All animal testing commissioned by Kemira is done to the highest of animal welfare standards following national and international legislation on the protection of animals and only if specifically required by legislation or for product safety purposes.

Kemira is a member of the Roundtable on Sustainable Palm Oil (RSPO) supply chain standard for sustainable palm oil. RSPO certified palm oil currently has limited availability and Kemira is also forced to use palm oil derivatives without certification.

Supplier management

Our Sourcing function is globally responsible for strategic spend management, while our Supply Chain Management function provides supply chain related services on a regional level to our business segments.

Our Sourcing activities cover the identification and selection of suppliers, the consequent negotiations and contract management and the management of supplier relationships. Our supplier selection criteria are based on cost competitiveness, short-term operational excellence, long-term business stability as well as sustainability performance.

Our Supply Chain Management activities cover all supply chain related services to our business segments once the supplier relationship has been established by our Sourcing function. Supply Chain Management services include Customer Service, Logistics, Supply Chain Planning, and Procurement. The Supply Chain Management function has regional units that each provide all the services needed within their respective regions.

The total spend of the Sourcing categories "direct materials" and "indirect goods and services", amounted to about EUR 2.761 billion in 2022. The direct materials cover all raw materials, packaging and energy while indirect goods and services include all non-raw material related spending, for example, on equipment, services, and logistics.

Supplier management and supplier risk and compliance management are cornerstones of our sustainable sourcing roadmap that ensure responsibility in our supply chain. Our Supplier Management focus is on improving economic performance, anticipating risk and initiating approaches with suppliers that are responsible and innovative. It is described in three main processes: Supplier Segmentation, Supplier Performance Evaluations (SPE) and Vendor Value Program.

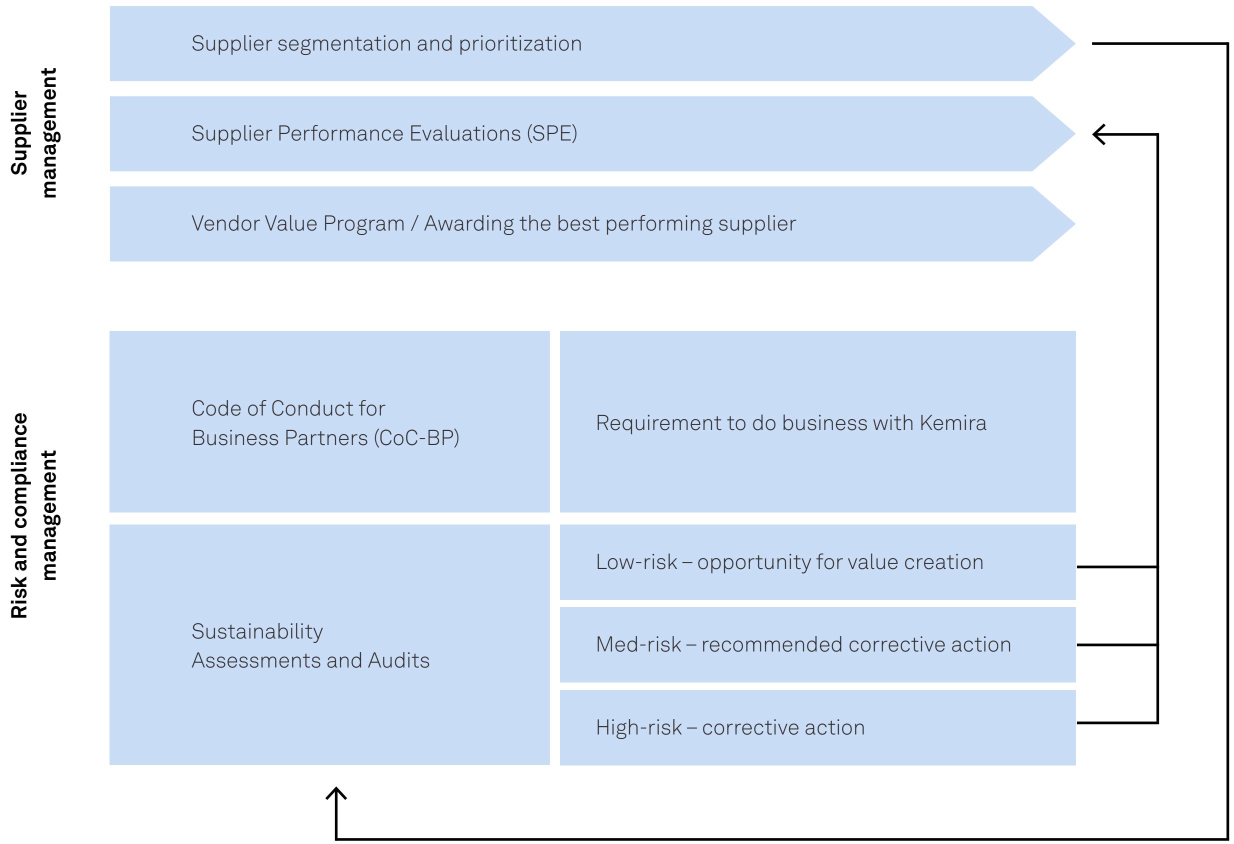
Our suppliers are segmented into four categories: strategic, critical, volume and base suppliers, and prioritized based on multi-factor risk criteria to help us better manage our suppliers and plan actions for necessary risk mitigation.

The SPE program collects and provides regular feedback to our suppliers both on their operational and sustainability performance. The majority of our strategic, critical and volume suppliers are part of regular supplier reviews.

Our Vendor Value Program is aimed at developing capabilities that will enable us to identify, partner with, and manage those suppliers, along the various value chains associated with Kemira's product lines.

Our supplier risk and compliance management define the requirements for suppliers to do business with Kemira, as well as provides tools and processes for mitigating the sustainability risk with our suppliers (sustainability assessments and audits).

SUPPLIER RISK AND COMPLIANCE MANAGEMENT



CODE OF CONDUCT FOR BUSINESS PARTNERS

All of our suppliers must follow our Code of Conduct for Business Partners (CoC-BP) in relation to all of their dealings with Kemira. Our CoC-BP is communicated to all suppliers through the ordering process as part of Kemira terms and conditions.

Supplier adherence to these principles is controlled in different stages of our Sourcing processes starting from the new supplier screening/new vendor creation process, to contracting where the commitment to our CoC-BP is integrated in the contract templates. Finally, we have continuous monitoring in place for those contracts exceeding certain spend thresholds to make sure we are reasonably covered.

SUSTAINABILITY ASSESSMENT AND AUDITS OF SUPPLIERS

We continued enrolling new suppliers into our Sustainability program by assessing them through EcoVadis, conducting Corporate Social Responsibility audits and Quality audits.

EcoVadis assessment: In 2022, 48 new suppliers were assessed and a total of 396 suppliers have now gone through the assessment and have recorded an average score of 57, which is higher than industry average on assessed average on the platform. Results with low scores were reviewed together with suppliers and improvement plans were made accordingly. In most cases, low scores were due to lack of supporting documentation provided by the vendor to the assessment company. Around 65% of the 322 reassessed suppliers were able to improve their score.

Corporate Social Responsibility audits of direct material suppliers: We did not conduct Corporate Social Responsibility audits in 2022 due to turbulence in supplier management caused by the implementation of a new supplier management IT platform and need to timely address very disruptive supply market conditions.

Quality audits of suppliers: Direct material large spend suppliers also undergo quality audits, which include management systems, workplace health and safety standards, production quality and supply security. In 2022, 11 quality audits were conducted for direct material suppliers.

Supplier assessments and audits are part of sourcing processes and Sourcing function target setting and are monitored on a monthly basis. Audit results are being reviewed together with supplier and improvement plans created and followed up accordingly as part of our supplier management practices.

SUPPLIER SUSTAINABILITY ASSESSMENTS AND AUDITS

	2022	2021	2020
EcoVadis assessment	396	348	291
Corporate Social Responsibility audit	0	1	1
Quality audit	11	14	12

STRUCTURE OF KEMIRA'S SUPPLIER BASE

	Direct materials	Indirect goods and services
Number of suppliers, approximately	1,600	11,900
EMEA	800	6,700
Americas	500	3,700
APAC	300	1,500
Percentage of suppliers that form 80% of the category spend	9%	7%

Integrity

OUR VALUES AND CODE OF CONDUCT

Our management approach to integrity and responsible business practices is based on our corporate values and our Code of Conduct. Our values are:

- We are dedicated to customer success.
- We care for people and the environment.
- We drive performance and innovation.
- We succeed together.

These principles demonstrate our commitment to conduct our business in compliance with all applicable laws and regulations and according to high ethical standards.

Our Code of Conducts set the minimum standards of expected behavior for our employees and business partners. Our internal policies and procedures provide more detailed guidance to steer our daily work and decision-making.

Kemira's Code of Conduct was reviewed, updated and approved by the Board of Directors in 2017 and thereafter reviewed biannually for validity, latest revision in 2021. Every employee is expected to comply with Kemira's Code of Conduct. All people managers and leaders are responsible for implementing the Code within their teams. Since 2013, we have required all of our employees to regularly complete the Code of Conduct online training, which was revised and updated in 2022 – it is currently available in 19 languages. We also train selected employee groups on more specific compliance matters, such as anti-bribery, human rights, competition compliance and insider information.

We expect our business partners to follow our Code of Conduct for Business Partners (CoC-BP) in their business activities. Both of these Code of Conduct documents, as well as our corporate values can be found at **kemira.com**.

OUR ETHICS AND COMPLIANCE PROGRAM

Our Ethics and Compliance Program aims to enhance compliance management at Kemira on a continuous basis. The program addresses all of the following measures taken to manage ethics and compliance risks:

- Prevention: measures that help us proactively prevent ethics and compliance risks from materializing
- Detection: measures that help us detect where ethics and compliance risks have materialized or may arise
- Responding: measures that help us investigate and respond to potential ethics and compliance breaches

ORGANIZATIONAL STRUCTURE FOR ETHICS AND COMPLIANCE

Our Ethics and Compliance function is responsible for overseeing the effective implementation of Kemira's Ethics and Compliance program. The status of the program is also reported directly to the Audit Committee on a regular basis.

The Compliance Committee oversees the management of compliance allegations to ensure fair and sufficient investigation, remediation and consistent disciplinary action across our organization. The committee consists of Group General Counsel, EVP Human Resources, Head of Internal Audit, and Director, Ethics and Compliance.

Our Local Ethics and Compliance Officer Network consists of employees across the organization based in all regions, who support our regional ethics and compliance communication, activities and overall awareness as part of their work.

INTEGRITY INDEX AND ETHICS & COMPLIANCE SURVEY

Integrity Index has been measured based on employee perception of integrity using the internal MyVoice Pulse survey. We use the question 'Speak My Mind' phrased as 'I can report unethical behavior or practices without fear of retaliation at Kemira' as a single-item index.

In 2022 the Integrity Index was 80 points, 10 points above manufacturing industry benchmark (2 points above 2021) and the participation rate in the survey 81%, being considered a company strength, with high impact in engagement.

In addition, a specific Ethics & Compliance (Risk Clarity) Survey, hosted by Gartner, was conducted in 2022 and sent to all employees, with specific questions to measure the culture of integrity, Kemira's culture scores (77% favorable) were 3% above Gartner's benchmark.

MECHANISMS FOR REPORTING CONCERNS

We promote a culture that encourages our employees to speak freely. We actively encourage our employees to contact their managers, local HR, Legal or Ethics and Compliance function to express their concerns and ask questions.

All of our employees also have access to an externally hosted Ethics and Compliance hotline, which is a 24/7 service enabling them to report potential violations of our Code of Conduct or other ethical concerns. All employees can anonymously submit such reports in their own languages, by phone or through a web form, which can be accessed through Kemira's intranet, wherever such channels are not restricted by local legislation. Information about the availability of the Ethics and Compliance hotline is shared to all employees on Kemira's intranet. We provide regular mandatory training to all employees. In 2021 the Speak Up! campaign was launched, including an online training available in 18 languages and active communications to our employees on all of our available channels to report concerns and to assure the anonymity of the report, as well as no retaliation. The hotline system and the process of handling the reports are managed by the Ethics and Compliance function. There is an e-mail address that can be used by third parties to report cases of potential misconduct relating to Kemira or our business partners. This information is available on our website and in Kemira's Code of Conduct for Business Partners.

All allegations of potential violations of our Code of Conduct made in good faith will receive a fair and comprehensive investigation utilizing internal and/or external assistance. Any reporting of potential Code violations is treated as strictly confidential and anonymous to the fullest extent and without fear of retaliation.

CONCERNS OF ALLEGATIONS OF POTENTIAL CODE OF CONDUCT VIOLATION REPORTED IN 2022

	Number of cases	Cases closed with merit	Cases closed without merit	Open cases as at Dec 31, 2022
Cases reported via hotline	13	4	8	1
Cases reported via other channels	16	6	6	4
Total number of cases	**29**	**10**	**14**	**5**

CASES CLOSED WITH MERIT BY ISSUE CATEGORY

	Number of cases
Corruption and bribery	0
Code of Conduct (incl. Conflict of Interest / Safety)	4
Employee relations fair treatment	9
Harassment	9
Transactions and company records	7
Total	**29**

INCIDENTS OF DISCRIMINATION AND CORRECTIVE ACTIONS TAKEN

During 2022, 29 incidents were reported to the Ethics & Compliance function alleging potential violations to the Code of Conduct. All cases were investigated (5 of them are still under investigation), 10 of the cases were closed with merit and remediated during 2022. No incident was concluded as being a case of discrimination.

Economic performance

DIRECT ECONOMIC VALUE GENERATED AND DISTRIBUTED

Kemira generates economic value from products, expertise and sustainable solutions, enabling our customers to improve their resource-efficiency.

Kemira distributes the generated economic value to various stakeholders. This includes suppliers and service providers through payments for raw materials and services, employees through compensation and benefits, capital providers through dividends and interest payments, public sector through taxes, and society through local community projects, sponsorship and donations. Taxes have a significant impact on our businesses, financing and growth opportunities.

Kemira's approach to tax is to support responsible business performance in a sustainable way. A separate tax footprint report is available at **kemira.com** > Company > Investors.

The economic value retained is reinvested in the company for capital investments, R&D and technology development. The economic value retained increased to EUR 304 million in 2022 (125 in 2021).

ECONOMIC VALUE, CASH FLOW BASED

Stakeholder	Econimic value, EUR million	2022	2021	2020
Direct economic value generated: Revenues				
Customers	Income from customers on the basis of products and services sold, and financial income	3,478	2,589	2,443
Direct economic value distributed				
Suppliers	Payments to suppliers of raw materials, goods and services	2,626	1,922	1,630
Employees	Employee wages and benefits	384	371	373
Investors & Lenders	Dividends, interests paid and financial expenses	131	127	121
Government & Public sector	Corporate income taxes	33	44	36
Economic value retained		**304**	**125**	**283**

Anti-corruption

OPERATIONS ASSESSED FOR RISKS RELATED TO CORRUPTION

In 2020 Kemira conducted a global ethics and compliance risk assessment, covering key business operations and functions in all regions. Anti-corruption was one of the key focus areas in the assessment. During 2021 and 2022 the assessment results have been utilized in Kemira's ethics and compliance and internal audits. No significant risks related to corruption have been identified through ethics and compliance activities or internal audits in 2022.

COMMUNICATION AND TRAINING ABOUT ANTI-CORRUPTION POLICIES AND PROCEDURES

Kemira's principles for anti-corruption are included in the Kemira Code of Conduct and in the Kemira Group Gifts, Entertainment and Anti-Bribery Policy. Both documents are available to all employees on Kemira's intranet, and the Code of Conduct is also publicly available at **kemira.com**.

Kemira's Code of Conduct has been approved by the Board of Directors, and as part of our mandatory and regular Code of Conduct training our anti-corruption principles are communicated to all of our employee groups and regions on a regular basis. All members of Kemira's Board of Directors are aware our anti-corruption principles.

Kemira provides mandatory anti-corruption training to its white-collar employees who need to have a comprehensive understanding of Kemira's anti-corruption principles. The table below demonstrates the scope of the training, with a breakdown by employee category and regions.

ANTI-CORRUPTION TRAINING PERFORMANCE

		Number of permanent employees, not absent	Number of permanent employees, received training on anti-corruption	% of employees received training on anti-corruption
Americas	White collars	868	847	98%
	Blue collars	654	0	
APAC	White collars	473	471	100%
	Blue collars	457	0	
EMEA	White collars	1,520	1,489	98%
	Blue collars	885	0	
Total		**4,857**	**2,807**	**58%**

We expect our suppliers and other business partners to conduct their business with integrity and commit to Kemira's Code of Conduct for Business Partners in their business activities with Kemira. According to the CoC-BP, Kemira expects our Business Partners to ensure that they, and third parties acting on their behalf, do not offer, give or accept improper or corrupt payments, and that they will not engage in any form of bribery. We aim to communicate the CoC-BP to all of our suppliers, agents and distributors. All of our suppliers (engaged with an SAP Purchase Order) receive a written reference to Kemira's CoC-BP as part of the Kemira general terms of purchase on the back of the Purchase Order.

TOTAL NUMBER AND PERCENTAGE OF SUPPLIERS THAT OUR ANTI-CORRUPTION POLICY HAS BEEN COMMUNICATED TO

Region	Total number of suppliers*	Total number of suppliers* that our anti-corruption principles have been communicated to	% of suppliers* that our anti-corruption principles have been communicated to
Americas	4,200	4,200	100%
APAC	1,800	1,800	100%
EMEA	7,500	7,500	100%
Total	**13,500**	**13,500**	**100%**

*The numbers include suppliers engaged with an SAP Purchase Order. In addition to SAP transactions, some small purchases are processed via the travel claim process.

CONFIRMED INCIDENTS OF CORRUPTION AND ACTIONS TAKEN

There were no confirmed incidents of corruption in 2022.

Anti-competitive behavior

LEGAL ACTIONS FOR ANTI-COMPETITIVE BEHAVIOR, ANTI-TRUST, AND MONOPOLY PRACTICES

Kemira had no pending or completed legal actions initiated under national or international laws designed for regulating anti-competitive behavior, anti-trust, or monopoly practices in 2022.

Environmental Performance

Products and solutions

Kemira is offering sustainable chemical solutions for water intensive industries and is providing best suited products, services and expertise to improve our customers' end product quality, process and resource efficiency. Kemira's products can help in reducing the need of energy and water, cut the amount of waste and emissions and optimize raw material use in customers' processes and end products. Besides increasing resource efficiency, our aim is to develop products and solutions that improve recycleability and biodegradability, to help customers accelerate circularity and meet their sustainability targets. In 2022 Kemira established the Positive Impact Portfolio sustainability program to systematically build further our product sustainability evaluation capabilities.

To better understand the impact of our customer offerings, we calculate how large part of our product revenue is improving resource efficiency in customers' applications. Our KPI is described as the share of revenue from products sold for use-phase resource efficiency. The calculation is performed by identifying and mapping Kemira's product groups that improve resource efficiency in different customer applications, and calculating the revenue of these products and comparing that to the entire revenue. The target is to ensure that at least 50% of our revenue is generated through products improving customers' resource efficiency. We have been able to improve the target from baseline 49% in 2016 to 53% in 2022.

Year	2022	2021	2020	2019	2018	2017	2016
Share of revenue from products sold improving customer resource efficiency	53%	54%	52%	53%	51%	50%	49%

Kemira New Product Development (NPD) process, described in section Product development, is also a big contributor in development of the sustainable products and solutions portfolio. During 2022, we started 14 (2021: 12) new product development projects, 86% of them aiming to improve customers' resource efficiency. At the same time, Kemira started commercialization of nine new product development projects all contributing to improve resource efficiency at customers. At the end of year 2022, Kemira had 401 (2021: 382) patent families, including 2,101 (2021: 1,972) granted patents and 1,026 (2021: 996) pending applications. During 2022, Kemira applied 34 (2021: 36) new patents.

Transition to renewable resources is one core element in Kemira's product portfolio strategy. This is advanced through our focus on renewable raw materials innovation and our trailblazing public target of increasing our biobased products revenue by 2030. Replacing fossil raw materials with more sustainable ones is advanced in many ways. The mass balance concept, which enables quick expansion towards biobased and sustainable products, having significantly lower carbon footprints compared to traditional products, is one of our approaches. This means that renewable raw materials can be utilized in existing production infrastructures creating identical product quality and performance in making conventional products. Kemira uses the ISCC PLUS* certification system for the mass-balance accreditation, because it is a globally widely recognized system and is also adopted by our suppliers and specific customers. Kemira produces certified biobased products in ISCC accredited manufacturing facilities in Austria, Italy and the UK, and globally supplies them to customers in water-intensive industries. In 2022 Kemira was the first company in the world to sell ISCC PLUS certified polyacrylamide (PAM) polymers.

*ISCC PLUS is a sustainability certification program for renewable raw materials for all markets and sectors without regulation

Materials

The renewable materials used include mainly starches, tall oil, and fatty acid derivatives.

The recycled input materials are industrial by-products and recycled materials from external partners. These materials include mainly inorganic materials such as scrap iron, ferrous sulfate and spent pickling liquor bath. Industrial by-products are mainly from smelters, as well as steel and metal manufacturing. Inorganic byproducts and recycled materials are mainly used in the production of inorganic coagulants, which are used in water treatment.

Materials	GRI disclosure	2022	2021	2020
Total raw materials used, million metric tons	**301-1**	**2.48**	**2.51**	**2.21**
Renewable raw materials, %	301-1	3.3	3.6	3.6
Renewable raw materials as a share of carbon-containing raw materials, %	301-1	19.7	21.3	15.8
Recycled raw materials, %	301-2	38.2*	37.7*	28.0
Carbon-containing raw materials, %		16.6	17.0	23.1

*Recycled materials % for the year of 2021 and 2022 are higher than previous years due to that more volume of spent pickling liquor bath is being reported.

Energy

ENERGY CONSUMPTION AND MANAGEMENT

Energy costs amount to approximately 12% (9% in 2021) of our total sourcing spend. By continually improving energy efficiency at manufacturing sites, we are consistently reducing our energy usage, emissions and associated costs.

In 2022, our operations in Finland accounted for 41% (42% in 2021) of our total energy consumption. The USA accounted for 31% (30% in 2021), and other countries accounted for the remaining 28% (28% in 2021).

A substantial portion of our energy management activities is focused on the most energy-intensive sites, which include seven sodium chlorate manufacturing plants in Finland, USA, Uruguay and Brazil. Electricity is our most important energy source, accounting for 70% (71% in 2021) of the total energy input. Sodium chlorate plants purchased 90% (90% in 2021) of the electricity, which is the main raw material in the chlorate manufacturing electrolysis process.

Kemira has its most significant energy consuming European sites certified (Äetsä, Joutseno and Helsingborg) according to the ISO 50001:2018 standard. Additionally the sites in San Giorgio and Fredrikstad are certified.

As an energy-intensive company, we strive to reduce our climate and environmental impact in energy purchases. Our most important measures in mitigating our climate impact can be found in the climate target section.

A summary of Kemira's energy consumption within and outside of the organization is the following table.

ENERGY BALANCE, GWh

	GRI disclosure	2022	2021	2020
Total fuel and purchased energy input		**4,492**	**4,932**	**4,692**
Consumed fuel as energy source		792	831	743
Non-renewable	302-1a	792	831	743
Renewable	302-1b	0	0	0
Purchased electricity	302-1c	3,157	3,517	3,301
Non-renewable		2,198	2,502	2,477
Renewable		959	1,014	825
Purchased heat and steam	302-1c	543	584	648
Non-renewable		330	310	283
Renewable		212	274	364
Total fuel and purchased energy input by source	302-1a, b	**4,491**	**4,932**	**4,692**
Non-renewable		3,320	3,644	3,503
Renewable		1,171	1,288	1,189
Total energy sold/delivered off-site		**506**	**535**	**471**
Heat[1] sold/delivered off-site	302-1d	426	453	390
Electricity sold/delivered off-site	302-1d	80	82	81
Total energy consumption[2]	302-1e	**3,986**	**4,397**	**4,221**
Change in total energy consumption[3]	302-4	-411	176	-142
Production volume, thousand metric tons		5,339	5,517	4,946
Energy intensity, GWh per thousand metric tons of production[4]	302-3	**0.75**	**0.80**	**0.85**

1. Sum of steam, district heat, condensate, and other heat delivered off-site.
2. The amount of fuel consumed plus purchased electricity and heat minus heat and electricity sold.
3. Comparison of total energy consumption to the previous year.
4. Kemira has calculated the energy intensity by dividing total energy consumption with the annual production volume. Energy intensity is strongly dependent on the types of production mix.

ENERGY EFFICIENCY ENHANCEMENT PROGRAM

During 2022 we continued implementing our E3plus (Energy Efficiency Enhancement) program established in 2010. The E3plus program aims to reduce the overall specific energy consumption, measured as kWh per tonne of product, at each of our manufacturing sites. The key focus areas of the E3plus program are:

- Continuing the global alignment of energy efficiency management across all Kemira sites
- Focused and thorough E3 Energy Reviews to identify improvement projects and support their implementation at our manufacturing sites
- Technical and economic evaluation of investment projects to improve energy efficiency
- Further development of the Kemira energy efficiency management system, improving energy management, and obtaining and maintaining ISO 50001:2018 certification in 5 selected manufacturing sites.

Our global Energy Management Team (EMT) coordinates, steers and supports energy management activities across all regions. Members of the EMT represent the top management of our manufacturing sites, as well as our global energy sourcing management.

Kemira participates in the voluntary national Energy Efficiency Agreement in Finland ("**Energiatehokkuussopimus**") for the period 2017–2025. This Agreement is a part of Finland's national ratification of the EU's response to the Paris Climate Agreement. The total savings reported to the National Energy Authority in Finland ("Energiavirasto") since 2017 are 122 GWh/a, equivalent to approximately 3.7 MEur/a.

Our energy efficiency measures and activities focus on sites which have the highest energy consumption. There are 15 sites that consume approximately 90% of the energy in Kemira, and contribute approximately 85% of the company Scope 1 and Scope 2 emissions. Site-specific energy efficiency targets are defined for the largest energy consuming sites, based on energy consumption baseline data, the findings of E3 Energy Reviews, and the availability of resources.

During 2022 energy savings were additionally achieved through the implementation of 61 (41 in 2021) projects across Kemira's operations, saving a total of 12,478 (28,228 in 2021) MWh/a of energy, equivalent to EUR 0.8 (1.2 in 2021) million savings. The cumulative cost savings of more than 610 (550 through 2021) projects implemented since the start of the E3plus program in 2010, now totals EUR 14.0 million (13.2 in 2021).

ENERGY CONSUMPTION OUTSIDE OF THE ORGANIZATION

Some of our sodium chlorate manufacturing sites provide energy in the form of byproduct fuel (hydrogen) to third-party organizations that use the fuel for manufacturing processes and energy generation activities. The downstream hydrogen consumption by the organizations outside of Kemira offsets the use of carbon-containing fuels for their industrial and energy generating activities, and therefore, offers potential for CO_2e emissions reductions for those organizations. Since the use of the hydrogen by the organizations does not result in CO_2e emissions, Kemira reports 0 for its Scope 3, Category 11 emissions. A summary of the energy consumed outside of Kemira is provided below.

HYDROGEN CONSUMPTION OUTSIDE OF KEMIRA, GWh

	2022	2021	2020
Hydrogen consumption outside of Kemira, GWh	262	189	249

KEMIRA ENERGY EFFICIENCY INDEX

The Kemira Energy Efficiency Index measures the ratio of energy use to production volumes normalized to a 2012 benchmark for our 15 large manufacturing sites covering approximately 90% of energy consumption. The baseline is 100 and a number less than that indicates an improvement. The figure for 2022 is the lowest in measurement history, i.e. energy efficiency has improved. The index is not affected by changes in production volumes but may be affected by the product mix.

KEMIRA ENERGY EFFICIENCY INDEX PERFORMANCE

2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
95.6	96.7	97.2	96.5	97.1	97.4	96.9	97.7	99.1	98.9	100

Greenhouse gas (GHG) emissions

DIRECT AND INDIRECT EMISSIONS SOURCES

Kemira's GHG emissions are primarily CO_2, and negligible emissions of methane (CH_4) and nitrous oxide (N_2O). Kemira estimates GHG emissions using factors in terms of CO_2e and does not specifically estimate and report mass emissions of CH_4 and N_2O since CO_2 comprises over 99% of CO_2e emissions.

The majority of the electricity used at our Kemira manufacturing sites is obtained from external providers. Many Kemira facilities consume steam and heat generated on-site.

Direct (Scope 1) GHG emissions from Kemira's manufacturing sites are from the following sources:

- Generation of steam, heat and electricity: these Scope 1 emissions result from the combustion of fuels such as natural gas, hydrogen, and fuel oil used by boilers and internal combustion engines, and these fuels and others such as propane, diesel, and gasoline used by mobile sources such as forklifts.
  - Our sodium chlorate sites use byproduct hydrogen gas in their boilers to offset the use of carbon-containing fuels.
- Emissions from physical or chemical processing of carbon-containing feedstock, raw materials and chemicals such as natural gas, sodium and calcium carbonate, and coke.
- Emissions from our transportation fleet in North America.

Indirect (Scope 2) GHG emissions consist of the CO_2e from the generation of purchased or acquired electricity, heating, and steam consumed by an organization. Our sites purchase or acquire electricity, heating, and steam resources from either the local municipal authority or private company, or from a separate manufacturing facility located within the same industrial complex.

Other indirect (Scope 3) GHG emissions are a consequence of Kemira's business activities but occur from sources not owned or controlled by our company.

GHG EMISSIONS (kt CO_2e) FROM MANUFACTURING SITES

	GRI disclosure	2022	2021	2020
Total GHG emissions[1]		**4,425**	**4,537**	**4,328**
Direct (Scope 1) GHG emissions[2a]	305-1	139	160	136
Biogenic Direct (Scope 1) GHG emissions[2b]	305-1c	0	0	0
Energy indirect (Scope 2) emissions: market-based[3]	305-2	677	696	749
Energy indirect (Scope 2) emissions: location-based		655	723*	845
Other indirect emissions: Scope 3[4]	305-3a	3,609	3,681*	3,443*
Other indirect emissions: Scope 3 Biogenic emissions	305-3c	0	0	0
Change in total GHG emissions	**305-5**	**-112**	**209***	-143*
Production volume, thousand metric tons		5,339	5,517	4,946
GHG emissions intensity, tCO_2e per metric tons of production[5]	**305-4**	**0.83**	**0.82**	**0.88**

* Updates to data were provided by sites during 2022 data collection.
1. Scope 1 + Scope 2 market-based + Scope 3.
2a. GHG emissions from sources that are owned or controlled by Kemira (Scope 1 of the WRI/WBCSD GHG Protocol). GHG emissions are calculated as CO_2e which includes CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, NF_3.
2b. GRI Standard specifies reporting of biogenic emissions reported starting in 2017.
3. GHG emissions from the generation of purchased electricity, steam and heat that is consumed by Kemira (revised Scope 2 of the WRI/WBCSD GHG Protocol). Market-based emissions are used for target setting and following progress. Location-based emissions are also shown, but these are not used for other indicators. The sources for the emission factors used are the IEA, the UK government's Department for Environment, Food and Rural Affairs (DEFRA), Motiva Ltd. and energy utility companies.
4. GHG emissions from Kemira's value chain (Scope 3 of WRI/ WBCSD GHG Protocol). Scope 3 emissions have changed due to an improvement in the calculation method for purchased goods and services. Kemira has implemented a volume-based approach for Categories 1 and 2 where factors are available.
5. Kemira has calculated the GHG emissions intensity as the ratio of total GHG emissions per production volume. Direct GHG emissions (Scope 1), indirect GHG emissions from energy consumption (Scope 2 market-based) and other indirect GHG emissions (Scope 3) are included.

Kemira operates a transportation fleet in North America to deliver products to customers and raw materials to our manufacturing sites. The GHG emissions associated with the fleet are not included in the table above or in our climate target for our manufacturing sites. Beginning in 2019, Kemira obtained reliable fuel consumption data from our suppliers to estimate Scope 1 emissions related to our North America transportation fleet. The table below summarizes the emissions estimated since 2019. Kemira will continue to report these Scope 1 emissions in addition to the Scope 1 emissions from our manufacturing operations.

GHG EMISSIONS FROM NORTH AMERICAN TRANSPORTATION FLEET

	2022	2021	2020
Thousand metric tons CO_2e	10.3	11.5	18.1

Other indirect (Scope 3) GHG emissions

Purchased goods and services (including capital goods) cover 80% (79% in 2021), and transportation and distribution emissions (upstream and downstream) 12% (13% in 2021) of our Scope 3 emissions. Fuel and energy related activities are 7% (7% in 2021) of overall Scope 3 emissions.

Kemira uses a hybrid approach of volume-based and spend-based data and emission factors to estimate emissions associated with purchased goods and services. Approximately three quarters of our total Scope 3 data is volume-based. This hybrid approach is considered to be more representative of our emissions profile because the influence of raw material costs fluctuations is eliminated and Scope 3 emissions are associated with the actual amounts of goods and services used in our production processes. Furthermore, this approach aligns with our ongoing collaboration with our value chain partners to obtain product-specific carbon footprints and life cycle assessments that are based on material consumption. In 2023, Kemira will launch a supplier-engagement program to collect product carbon footprint data ("primary data") from our suppliers to improve our Scope 3 emissions estimate process. The transition from secondary data to supplier-provided primary data will identify opportunities to reduce our Scope 3 emissions, establish our Scope 3 SBTi target, and support our strategies to decarbonize the lifecycle of our products.

Kemira continues to improve our transportation and distribution data collection and emissions methodologies, and has increased our collaboration with our business partners to improve the accuracy of the Scope 3 emissions estimates.

OTHER INDIRECT (SCOPE 3) GHG EMISSIONS BY CATEGORIES (kt CO_2e)

	GRI disclosure	2022	2021	2020
Total Scope 3 emissions	**305-3d**	**3,609**	**3,681^^**	**3,443^^**
1. Purchased goods and services		2,887	2,891^^	2,627^^
2. Capital goods*		*	*	*
3. Fuel and energy related activities		244	268	200
4. Upstream transportation and distribution^		288	312	260
5. Waste generated in operations		20	24	100
6. Business travel**		5	5	5
7. Employee commuting**		10	10	10
8. Upstream leased assets (leased offices)**		10	10	10
9. Downstream transportation and distribution^		144	161	230
11. Use of sold products		0	0	0
12. End-of-life treatment of sold products		1	1	1

* Emissions of Category 2: Capital goods are included in Category 1: Purchased goods and services.

** Categories 6–8 historically contribute less than 2% each year. 2019 - 2021 were assumed to be at the same level as historical years despite actual emissions likely to be lower due to changes in work practices related to COVID-19.

^ Calculation methodology is based on the GLEC framework methodology for downstream and internal movements paid by Kemira. Other logistics scenarios are calculated using the prior methodology.

^^ Calculation methodology for Categories 1 and 2 changed as described above, which results in changes to the total emissions. Specifically, Kemira updated the emissions factors used in its calculation to account for the location of the activity and adjustments to the published factors to account for physical properties of its materials such as concentration. For example, if the published factor is based on 100% concentration of a material, Kemira adjusted the factor to account for different concentrations used (such as a 50% concentration).

Category 11 emissions were estimated to be zero or close to zero, as Kemira does not sell combustible fuels, products that form GHG emissions during use, or products that contain GHG. The hydrogen provided to third-parties is zero-carbon fuel.

Category 12 covers all products sold. If a product is not known to have a new lifecycle, it is classified as waste.

The calculation is based on the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard and a supporting guidance document Guidance for Accounting & Reporting Corporate GHG Emissions in the Chemical Sector Value Chain. Scope 3 emissions have been calculated since 2012. GHG emission are calculated as CO_2e. The sources for the emission factors used include the guidance document for the Chemical Sector, the DEFRA, the IEA, Ecoinvent, CEFIC and ECTA. Data covers all of Kemira's production sites according to Kemira consolidation rules. The margin of error for Scope 3 calculations is +/- 20%.

NOTE: Category 10 Processing of sold products is not calculated because it cannot be reasonably tracked; Category 13 Downstream leased assets is not relevant to chemical sector; Category 14 Franchises is not relevant to chemical sector; Category 15 Investments: No information available.

CLIMATE TARGET

In 2022, Kemira updated our existing climate target as part our commitment to the SBTi. Our target reduction for our Scope 1 and Scope 2 market-based GHG emissions from our manufacturing sites was raised from 30% to 50% by 2030 compared to a 2018 baseline of 930 thousand metric tons CO_2e. Kemira is currently evaluating a quantitative reduction target for our Scope 3 emissions under SBTi. Our Scope 1+2 and Scope 3 targets will be submitted to SBTi for approval by June 2024. Our long-term ambition remains to be carbon neutral by 2045 for combined Scope 1 and Scope 2 market-based GHG emissions. Our long-term ambition will also be evaluated as part of our SBTi commitment.

Kemira's Scope 1 and Scope 2 market-based GHG emissions in 2022 were 816 (856 in 2021) thousand metric tons CO_2e. Assuming a linear decrease from the 2018 baseline of 930 thousand metric tons CO_2e to the targeted emission rate of 461 thousand metric tons CO_2e by 2030, Scope 1 and Scope 2 market-based emissions in 2022 would be approximately 774 thousand metric tons CO_2e. This corresponds to a 5.5% difference [(816-774)/774 x 100%] between actual 2022 emissions and the projected 2022 emissions from the 2018 base year using the SBTi methodology). Kemira's emissions in 2022 are slightly above the level expected to meet the updated 2030 climate target. However, as part our preparations to submit our SBTi for validation, Kemira has ongoing near-term projects which are expected to further reduce our emissions in line with the more ambitious target.

Kemira's short-term focus for achieving our climate target is energy efficiency projects (as discussed in the Energy Efficiency Enhancement Program - E3plus section) and power purchase agreements (PPAs) for our most energy intensive sites. Kemira also continues to evaluate zero-carbon fuel and feedstock projects for our largest natural gas consuming sites. During 2022, our largest manufacturing site (located in Sweden) renewed an electricity sourcing contract (October 2022 through December 2023) that includes Guarantees of Origin (GoO) from wind power for 50% of the site's sourced electricity consumption. This will reduce Scope 2 emissions from the site by approximately 13 thousand metric tons CO_2e per year, and the site will have 75% of its electricity consumption demand from zero emission sources.

Scope 3 emissions, and in particular, emissions from purchased goods and services, are the majority of Kemira GHG emissions. Therefore, engagement with our value chain partners will be one of the primary actions taken to reduce our Scope 3 emissions. Kemira uses resources such as the EcoVadis platform to assess the overall sustainability programs (including GHG emissions) of its suppliers. The efforts in early 2022 resulting in our June 2022 SBTi commitment included a review of our raw material suppliers and the cradle-to-gate emissions associated with their products. An inventory of emission factors and material trends over time was prepared to identify the most appropriate emissions data to use in our Scope 3 process, and to identify opportunities to improve our supplier engagement process.

Our portfolio of product carbon footprints (PCFs) continues to expand, allowing us to provide our global customers with up-to-date product climate impact information. For 2023, we look to expand the scope of our PCFs in response to increasing demand.

CLIMATE RISK SCENARIO ANALYSIS

In 2022, Kemira conducted an initial climate risk scenario analysis in accordance with the Task Force on Climate-related Financial Disclosures (TCFD) framework. The analysis evaluated Kemira's climate risk from a global company perspective, as well as a sampling of risk from a local perspective using three manufacturing sites (two sites in Europe and one site in the USA) and four business functions (Product Stewardship and Regulatory Affairs, Product Development, Supply Chain Management, and Sourcing). The analysis resulted in a process that can be used at all manufacturing sites and functions within Kemira over time to fully assess our climate risks as a company.

Kemira evaluated the climate-related transition and physical risks and opportunities that are most relevant to Kemira and its value chain in the short-term (2030); medium-term (2030–2050), and long-term (2050 and beyond). The most material risks considering both likelihood and financial impacts on a company basis are summarized below:

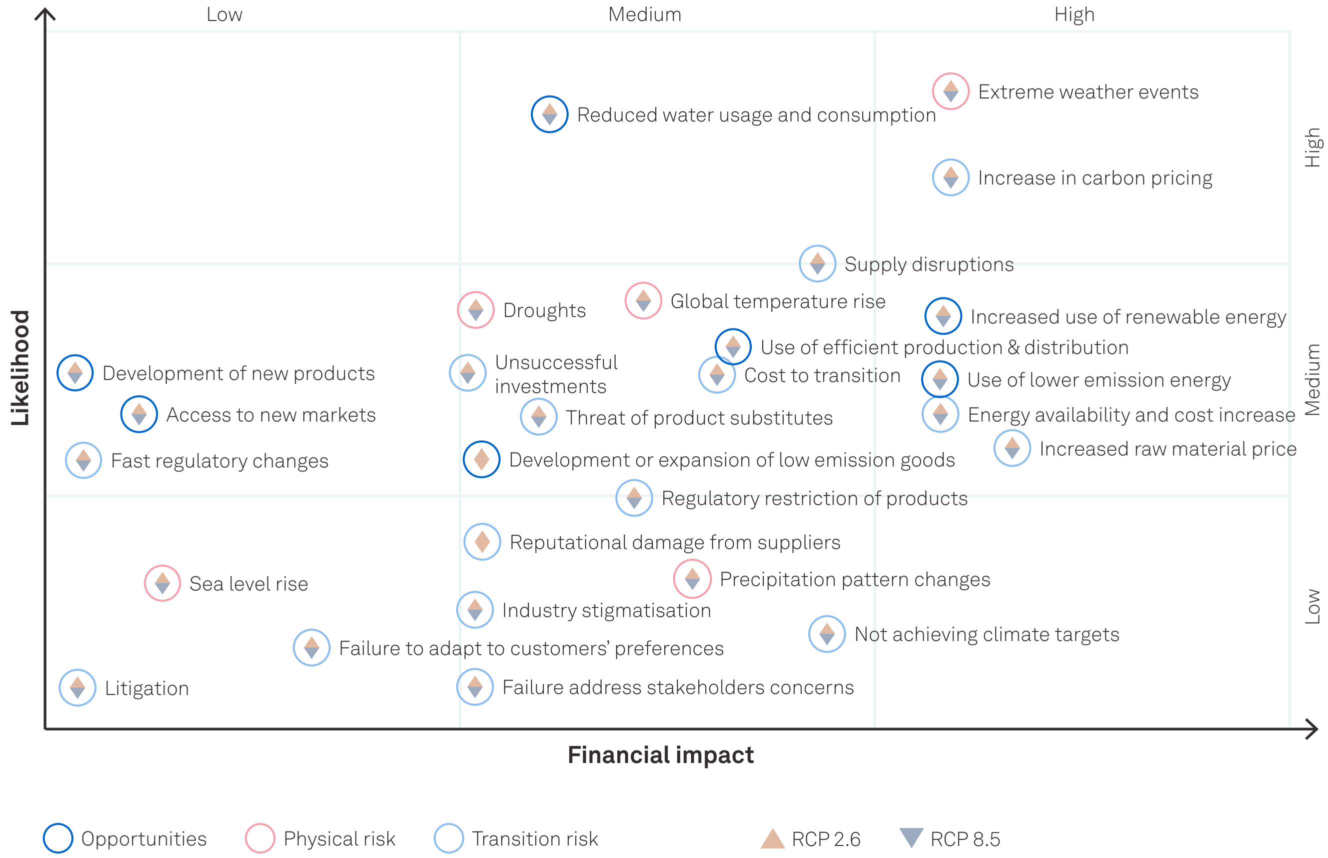
- Increases in carbon pricing (transition risk) due to legislation and global markets in response to a transition to low carbon economies.
- Extreme weather events (physical risk) such as hurricanes, floods, and extreme winters that impact transportation, sourcing, and site operations.

Transition risks are expected to impact operations in Europe sooner and more significantly than other areas of the world based on current and emerging regulations. Kemira's operations in the southeastern USA are particularly at risk to physical risks such as hurricanes, flooding, and droughts. A general increase in extreme weather events is expected across the globe.

Climate-related opportunities are associated with emerging markets such as textiles and wood fibers (renewable materials) and in response to more stringent regulations for water quality (a current key segment for Kemira).

The figure below presents the financial impacts and likelihood of risks over time identified in this analysis.

MATRIX DISPLAYS THE FINANCIAL IMPACT AND LIKELIHOOD OF RISKS OVER TIME, WITH THEIR RELEVANCE IN BOTH SCENARIOS*



* Matrix formulated based on overall data of three sites and four business functions.
Covers only short-term time (until 2030).

Other emissions to air

Kemira does not produce, import, or export ozone depleting substances (ODS). The use of ODS at Kemira sites (where they have not already been replaced by approved substitutes due to local regulations) is limited to comfort or process cooling applications. Since these applications use closed loop systems, emissions from ODS would only result from leaks. Kemira's preventive maintenance programs minimize the potential for leaks and implement corrective actions in the event a leak is discovered.

Kemira almost exclusively uses hydrogen and natural gas for its on-site steam and heat requirements. Mobile equipment are either electric or use fuels such as natural gas, propane, and low-sulfur diesel fuel. Therefore, Kemira's air emissions of NO_x, carbon monoxide, and SO_x from combustion processes are not a material topic for Kemira. Kemira's emissions of dust, acid gases, and volatile organic compounds (VOC) are associated with its material handling and manufacturing processes. These releases also are not a material topic for Kemira. Kemira reports these emissions for completeness.

Emissions are estimated based on direct measurements, published emissions factors, mass balance, or estimates based on similar operations or engineering.

AIR EMISSIONS OTHER THAN GHGS (T)

	GRI Disclosure	2022	2021	2020
NO_x	305-7a.i	170	168	163
SO_x	305-7a.ii	51	60	57
Persistent organic compounds (POP)	305-7a.iii	0	0	0
VOC	305-7a.iv	785	1,020	370
Hazardous air pollutants	305-7-a.v	135	114	11
Particulate matter (dust)	305-7a.vi	79	62	40
Carbon monoxide	305-7a.vii	187	226	Not calculated
Hydrochloric acid	305-7a.vii	116	144	Not calculated

Water

WATER MANAGEMENT

Kemira ensures that all its employees at all manufacturing sites have access to Water, Sanitation and Hygiene (WASH). Through our Sustainability and EHSQ Policy and Nature Stewardship program, we strive to minimize water consumption and minimize the negative impact of water discharge activities on the quality of receiving water bodies. Kemira's manufacturing processes require water primarily for use as cooling water and process water.

We are continuously evaluating opportunities to decrease water withdrawal, consumption, discharge, and associated impacts through water recycling and reuse, and process redesign and optimization. Where possible, water is recycled and/or reused at our sites to reduce water withdrawal, consumption, and discharge. Product portfolio is regularly assessed to identify opportunities to reduce freshwater use in products.

Wastewater and cooling water discharges at the manufacturing sites are regulated by environmental permits of the manufacturing sites and associated Environmental Impact Assessments (EIA), including the profile of the receiving waterbody. Wastewater generated from Kemira's manufacturing processes are primarily treated in third-party wastewater treatment plants prior to discharge to a waterbody. Cooling water does not usually require treatment prior to discharge.

Kemira uses the EcoVadis platform to assess sustainability of its suppliers. Water management is included as one criteria in EcoVadis platform. In EcoVadis, suppliers are requested to meet certain standards and continuously improve in the area of environment including environmental compliance, waste, air emissions, climate change, water and groundwater, wastewater, energy, nuisance (noise and odor), land use & biodiversity, soil and hazardous chemicals. Scope and results of 2022 EcoVadis assessment are presented in chapter Sustainability Assessments and Audits of Suppliers earlier in this report.

WATER TARGET

In 2021 Kemira introduced a new water target to improve our water management to Leadership level based on CDP Water Security scoring methodology by the end of 2025 (score A/A-). Kemira answered to CDP's Water Security full questionnaire for the first time in 2021 and achieved score B (Management level). The 2022 score remained as B (Management level) even if the scoring criteria was stringent. Based on scoring report Kemira's overall water management improved compared to 2021.

WATER RISK ASSESSMENT

Kemira updated its water risk assessment in spring 2022. On site level, identification, assessment and responding to water risks is included in the the sites' EHSQ Risk Assessment process. Site specific EHSQ Risk Assessments are audited on regular basis internally by Kemira's Global EHSQ function and externally by accredited ISO 14001 auditors. Environmental impacts and risks (including water-related impacts and risks) have been initially assessed as part of the Environmental Impact Assessments during the environmental permitting process of the sites. Permit compliance is supervised and controlled by the local environmental authorities by regular inspections and regular environmental reporting to the authorities. Environmental permits are revised and updated as required by local legislation and regulators. At global level, water related risks are included in the Global level Environmental Aspects and Impacts Assessment and EHSQ Risk Assessment which are updated and reviewed minimum every three years.

Water-related risks are further assessed by Global EHSQ function annually using WRI's Aqueduct tool to identify sites in water stress areas and WWF Risk Filter for overall basin risk and operational risk at manufacturing sites located in water stress areas. Kemira has 9 sites (14 % of the sites) located within water stressed areas (areas of "High" or "Extremely High" water stress - that is, areas in which more than 40% of available water is used by industry, household and agriculture). WRI Aqueduct identified that 3 Kemira's sites are in "High" and 6 sites are in "Extremely high" water stress areas. The scenario analysis ("Pessimistic") showed that by 2040, 8 sites would be in "High" and 7 sites would be in "Extremely high" water stress areas. The WWF Water Risk Filter showed that 8 Kemira's sites are in "High" overall basin risk areas and the scenario analysis ("Pessimistic") identified that by 2050, 13 sites would be in "High" and 4 sites would be in "Very high" overall basin risk areas, with no sites identified in "Extreme" overall basin risk areas. In both WRI Aqueduct and the WWF Water Risk Filter scenario analyses, the "Pessimistic" pathway was used to foresee the worst possible outcome. Kemira's goal however is to progress towards the "Optimistic" pathway instead by further developing its water management strategy aligned with the SDG Goal 6 to mitigate major negative water impacts in the future.

As part of Kemira's 2022 CDP Water Security disclosure, water-related risks with potential to have significant (>EUR 1 million) financial or strategic impact in site's business (3 to 6 years into the future) have been identified at some manufacturing sites. Considering the scenario assessments and based on internal data received from the sites, 21 sites were selected for a more detailed water risk assessment including interviews and/or operational risk assessment using WWF Water Risk Filter. No site specific substantive risks were identified within the timeframe of 3 to 6 years into the future considering mitigation measures at the sites. The substantive financial or strategic impact on Kemira's business is defined as financial implications above EUR 10 million.

WATER WITHDRAWAL, CONSUMPTION AND DISCHARGE TRENDS

Total water withdrawal decreased 9% compared to 2021 and 5% compared to 2020. The total water consumption decreased 5% compared to 2021 and 6% compared to 2020. The water withdrawal intensity (m^3 per metric tons of production) decreased 6% from 2021 and 12% from 2020. Most of the water withdrawal is used for cooling water purposes (92%). The total water discharges decreased 9% compared to 2021 and 5% compared to 2020. Most of the water discharge is cooling water and other water that requires no treatment (97%). Water withdrawal and discharges decreased mostly due to decrease of production and in particular decrease of water intensive products.

Kemira's goal is to continuously decrease freshwater use intensity. Freshwater use intensity has decreased by approximately 8% from 2021 and 17% from the baseline year 2019 due to process improvements and a decrease in the proportion of water intensive products. Freshwater use intensity is defined by Kemira as m^3 water withdrawn minus use of cooling water and produced water per metric ton of production.

WATER WITHDRAWAL AND FRESHWATER USE (MEGALITERS)

	2022	2021	2020
Process water withdrawal, total	6,364	7,001	7,147
Surface water withdrawal - Process	587	644	664
Groundwater withdrawal - Process	279	273	285
Seawater withdrawal - Process	0	0	0
Produced water - Process	69	75	67
Third party water withdrawal - Process	5,411	5,987	6,042
Rain water - Process	18	22	90
Cooling water withdrawal, total	76,376	83,454	79,974
Surface water withdrawal -Cooling	55,297	61,006	60,294
Groundwater withdrawal - Cooling	1,988	2,193	1,935
Seawater withdrawal - Cooling	18,060	19,113	16,667
Produced water - Cooling	97	85	77
Third party water withdrawal - Cooling	934	1,058	1,001
Rainwater - Cooling	0	0	0
Other water, total	232	420	348
Surface water withdrawal - Other	0	12	12
Groundwater withdrawal - Other	59	108	68
Seawater withdrawal - Other	0	0	0
Produced water - Other	0	0	0
Third party water withdrawal - Other	173	291	204
Rainwater - Other	1	9	65
Water withdrawal intensity, m^3 per metric ton of production	16	17	18
Freshwater use, m^3	6,509	7,315	7,275
Freshwater use intensity, m^3 per metric ton of production	1.2	1.3	1.5
Production volumes, thousands of metric tons	5,339	5,517	4,946

Freshwater use intensity is defined as m^3 water withdrawn minus use of cooling water and produced water per ton of production, i.e. surface water (process and other), groundwater (process and other) and third-party withdrawal (process and other) is included in the calculation of water use.

Other water includes water used in ancillary operations such as water used as potable water, sanitary water and cleaning and washing of premises used for ancillary operations such as outdoor areas outside of production, workshops, offices and toilets.

OVERVIEW OF WATER FLOWS (MEGALITERS)

		GRI disclosure	2022	2022	2021	2021	2020
			All areas	Areas with water stress	All areas	Areas with water stress	
Water withdrawal by sources, total		**303-3**	82,973	489	90,875	515	87,470
Surface water			55,902	1	61,693	0	61,125
Ground water			2,326	147	2,573	228	2,288
Seawater			18,060	0	19,113	0	16,667
Produced water			166	73	160	85	144
Total third-party water			6,518	268	7,336	201	7,247
Third-party water by source	Surface water		N/A	196	N/A	139	N/A
	Groundwater		N/A	72	N/A	62	N/A
	Seawater		N/A	0	N/A	0	N/A
Water discharges by destination, total		**303-4**	76,939	207	84,360	294	80,730*
Surface water			57,006	N/A	62,869	N/A	61,880
Ground water			0	N/A	0	N/A	0
Seawater			18,088	N/A	19,296	N/A	16,869
Total third-party water			1,845	N/A	2,194	N/A	1,981*
Third-party water sent for use to other organizations			2	N/A	3	N/A	7*
Water discharge by treatment	No treatment (mainly cooling water)		74,678	N/A	81,688	N/A	78,286
	Own treatment		416	N/A	478	N/A	463
Water consumption		**303-5**	6,178	282	6,515	221	6,740

* Updates to data were provided by sites during 2022 data collection.
A breakdown of volumes by freshwater (<1,000 mg/L Total Dissolved Solids) and seawater (>1,000 mg/L Total Dissolved Solids) is not provided since only one site uses seawater as cooling water and discharges the cooling water back to seawater after cooling.
Produced water as defined in GRI 303 is generated in Kemira's two tall oil plants in which water is extracted from raw material in process and water as steam condensate for steam from off-site source is categorized as produced water.
Water consumption consists of the water withdrawn and incorporated into products, evaporated, consumed by humans, or otherwise unusable by others such that it is not released back to surface water, groundwater, seawater, or a third-party.
Water discharges in 2022 include 144 megaliters of wastewater from off-site sources that is not included in calculation of water consumption.
Water storage is not a significant water-related impact at our manufacturing sites and therefore, is not reported in our disclosure.

Wastewater generated from Kemira's manufacturing processes are primarily treated in third-party wastewater treatment plants. 82% of Kemira's wastewater that is required to be treated is treated at third-party wastewater treatment plants with no data available on direct effluent to water bodies. 18% of treated water is treated at own treatment plants. Kemira's most significant direct emissions to waterbodies include BOD, COD, TDS and TSS discharges. COD and TSS emissions are primarily associated with two manufacturing sites that have on-site wastewater treatment plants, while TDS emissions mostly originate from one site with cooling water discharge to surface water. The overall effluent emissions are therefore minor at Kemira.

TOTAL DIRECT EFFLUENT EMISSIONS BY QUALITY (METRIC TONS)

	2022	2021	2020
Biochemical oxygen demand (BOD)	0.2	0.2	0.9
Chemical oxygen demand (COD)[1]	8.6	8.1	32.8
Total dissolved solids (TDS)[2]	15.1	14.8	27.2[4]
Total suspended solids (TSS)[3]	9.8	16.7	

1) Discharges from one biological wastewater treatment plant constitutes more than 80% of total COD and suspended solids discharges in Kemira. The decrease in discharge of COD between 2020 and 2021 is due to operational changes and therefore changes in the composition of the wastewater and thus lower oxygen content.
2) TDS effluent emissions originate mostly from one site with cooling water discharge to surface water.
3) TSS effluent emissions originate mostly from one site with on-site wastewater treatment.
4) For 2020, the data is only available for combined total solids.

Waste

WASTE MANAGEMENT

Through our Sustainability and EHSQ Policy and Nature Stewardship program, Kemira strives to minimize the amount of industrial and municipal waste generated through consistent material flow management and improvements to the efficiency of manufacturing processes. Waste in Kemira is disposed or recovered in compliance with statutory requirements.

Kemira's GRI inventory of direct wastes include seven waste categories. Most significant waste categories include chemical waste and wastewater. Some wastewater streams are defined as waste in local environmental permits and reported as waste to local environmental authorities and therefore also reported as waste as part of Kemira's sustainability reporting. Kemira is continuously working internally and together with its waste handling companies to decrease amount of waste directed to disposal by process optimization and finding recovery options for waste streams that are directed to disposal with focus on waste that is disposed on landfills and incinerated with no energy recovery. Wastewater classified as waste is mostly recovered by combination of wastewater treatment and incineration with energy recovery. Kemira has no own waste disposal, e.g., own active landfills for waste disposal. All waste is collected by third party waste handling companies that have permits to receive and manage waste. All waste is managed by third party companies in compliance with local regulations. This is ensured as part of sourcing of waste management services.

Significant waste generated upstream in Kemira's value chain include waste generated by raw material suppliers. Kemira uses EcoVadis platform to assess sustainability of its suppliers. Waste management is included as one criteria in EcoVadis platform. Scope and results of 2022 EcoVadis assessment are presented in chapter Sustainability Assessments and Audits of Supplier earlier in this report.

Waste generated downstream in Kemira's value chain include mostly products disposed of by Kemira's customers and packaging waste. Kemira operates in B2B business environment. Kemira's products are most often a small fraction of customers' products and some of Kemira's products are disposed or recovered as waste with customer waste. In I&W sector, Kemira's water treatment products are disposed or recovered after use depending on the client's application. In P&P sector, Kemira's products are mostly used in paper and cardboard products. Paper and cardboard waste is generally mostly recovered, either recycled or incinerated with energy recovery. Approximately 90% of Kemira's products transportation to customers is bulk transportation with in practice no packaging waste generated. Approximately 5% of products are transported to customers in Intermediate Bulk Containers (IBCs) that are mostly recycled. Approximately 5% of products are transported to customers in other packaging such as drums, bags and other packaging that are assumed to be mostly recovered, either recycled or incinerated with energy recovery, but no data on recovery and disposal method is available.

TOTAL WASTE GENERATION AND DISPOSAL

Waste data is collected by seven composition categories including chemical waste (filter cake, disposed products and other chemical waste), sludge, metallic waste, mineral waste from construction and demolition and other mineral waste, soils, wastewater and other waste. In recovery and disposal method definitions, Kemira follows local environmental permits.

Total waste generated in Kemira in 2022 was 107.7 thousand metric tons that is 8% less than in 2021 (117.0 thousand metric tons) and 28% less than in 2020 (150.2 thousand metric tons).

HAZARDOUS WASTE

Total hazardous waste generated in Kemira in 2022 was 24.7 thousand metric tons. Approximately 23% of Kemira's waste is hazardous waste. Volume of hazardous waste reduced significantly by approximately 5% compared to 2021 and by approximately 48% compared to 2020. The main reason for the significant reduction from 2021 to 2020 was cease of operation in December 2020 at a site that accounted for 47% of total hazardous waste generated in 2020 due to disposal of stormwater potentially impacted by acrylamide. Disposal of stormwater at the site as hazardous waste was done in accordance with local legislation and regulations. Approximately 40% of Kemira's total hazardous waste is diverted from disposal and approximately 60% is directed to disposal.

NON-HAZARDOUS WASTE

Total non-hazardous waste generated in Kemira in 2022 was 83.0 thousand metric tons. Approximately 77% of Kemira's waste is non-hazardous waste. The total amount of non-hazardous waste decreased by approximately 9% from 2021. This is primarily due to reduction in production and less non-production related demolition and soil waste. Approximately 14% of Kemira's non-hazardous waste is diverted from disposal and approximately 86% is directed to disposal.

WASTE COMPOSITION (THOUSAND METRIC TONS)

	GRI disclosure	2022			2021		
		Waste generated	Waste diverted from disposal	Waste directed to disposal	Waste generated	Waste diverted from disposal	Waste directed to disposal
Weight of waste, total	**306-3**	107.7	21.5	86.2	117.0	40.5	76.5
Chemical waste		32.5	6.8	25.8	33.6	8.8	24.9
Filter cake		15.5	2.8	12.8	19.6	5.2	14.4
Disposed products		0.7	0.2	0.4	0.8	0.2	0.6
Other chemical waste		16.3	3.8	12.5	13.2	3.3	9.9
Sludges		5.0	3.2	1.8	5.7	4.0	1.6
Metallic waste		0.5	0.5	0.0	0.4	0.4	0.0
Mineral waste from construction and demolition		1.5	1.5	0.0	1.6	1.6	0.0
Soils		6.6	6.5	0.1	5.9	1.1	4.7
Wastewater		55.2	0.6	54.7	62.4	21.8	40.6
Other waste		6.3	2.5	3.9	7.4	2.7	4.6

Wastes reported for the first time in accordance with GRI 306: Waste 2020 including reporting by waste category in 2021 and therefore waste composition not available for previous years.

WASTE DIVERTED FROM DISPOSAL BY RECOVERY OPERATION (THOUSAND METRIC TONS)

	GRI disclosure	2022	2021	2020
Weight of waste diverted from disposal, total	**306-4c**	21.5	40.5	44.1
Hazardous waste	**306-4b**	10.0	8.3	4.7
Preparation for reuse		0.0	0.0	0.0
Recycling		5.1	7.2	3.9
Other recovery operations		4.9	1.0	0.7
Non-hazardous waste	**306-4d**	11.5	32.3	39.4
Preparation for reuse		0.1	0.2	6.2
Recycling		7.6	27.7	7.1
Other recovery operations		3.8	4.3	26.1

WASTE DIRECTED TO DISPOSAL BY DISPOSAL OPERATION (THOUSAND METRIC TONS)

	GRI disclosure	2022	2021	2020
Weight of waste directed to disposal, total	**306-5c**	86.2	76.5	106.0
Hazardous waste	**306-4b**	14.7	17.5	42.9
Incineration (with energy recovery)		5.1	4.9	9.3
Incineration (without energy recovery)		0.4	0.8	1.4
Landfilling		1.6	1.6	1.9
Other disposal operations		7.6	10.3	30.5
Non-hazardous waste	**306-4d**	71.5	59.0	63.2
Incineration (with energy recovery)		53.2	41.4	35.9
Incineration (without energy recovery)		0.2	0.2	0.2
Landfilling		14.4	13.4	23.1
Other disposal operations		3.7	4.1	3.8

Waste disposal method was determined based on information in environmental permits and provided by waste disposal contractors.

All waste presented in tables above is either diverted from disposal or directed to disposal off-site. There was no onsite disposal in Kemira in 2022.

Weight of waste diverted from disposal decreased from 2021 mostly due to change of classification of a significant recycled waste fraction to by-product at one site in 2021.

PRODUCTION WASTE, WASTE TARGET AND RECOVERY RATE

Most of Kemira's waste is production waste. Other waste categories are non-production waste and disposed products that are defined as follows:

- Non-production waste:
  - Expired or outdated raw materials.
  - Contaminated soil or debris from a spill.
  - Construction and demolition waste, including waste (reusable and non-reusable) associated with plant or site closures.
  - Biomass from gardening and pruning activities.
  - Laboratory/warehouse cleanouts.
  - Non-routine tank/railcar cleaning wastes.
- Disposed products:
  - Kemira's products that have been disposed or recovered by third-party disposal company.

WASTE CATEGORIES (THOUSAND METRIC TONS)

	2022	2021	2020
Production waste	94.6 (88%)	103.1 (88%)	128.8 (86%)
Non-production waste	12.4 (11%)	13.1 (11%)	19.7 (13%)
Disposed Products	0.7 (1%)	0.8 (1%)	1.7 (1%)

Kemira's target is to reduce disposed production waste intensity by 15% by 2030. In the target we measure disposed production waste. It includes both hazardous and non-hazardous waste. It excludes waste that is recovered, e.g., via recycling, reuse and incineration with energy recovery. It is expressed as an intensity, metric tons of waste per thousand metric tons of production. Baseline is 2019 at 4.6 and target is 3.9 by 2030. The intensity in 2022 was 4.4, that is slightly more compared to 4.3 in 2021. The increase is mostly due to disposal of accumulated production waste from previous years at one site and increase of disposed production waste at two of our polymer sites associated with product portfolio and raw material changes. Kemira continues to identify opportunities and make actions to decrease disposed waste generation in cooperation with waste handling companies and using product line specific data. Calculation of the target is presented in the table below.

Kemira is following recovery rate of production waste. Recovery rate of production waste was decreased slightly from 2021 mostly due to change of classification of a significant recycled waste fraction to by-product at one site in 2021. Calculation of recovery rate of production waste is presented in the table below.

PRODUCTION WASTE BY TYPE AND DISPOSAL METHOD (THOUSAND METRIC TONS), WASTE TARGET AND RECOVERY RATE

	2022	2021	2020
Hazardous waste	16.9	20.7	42.1
Preparation for reuse	0.0	0.0	0.0
Recycling	5.0	6.9	3.8
Other recovery operations	0.9	1.0	0.7
Incineration (with energy recovery)	4.9	4.8	8.9
Incineration (without energy recovery)	0.3	0.7	1.3
Landfilling	1.5	1.5	0.8
Other disposal operations	4.4	5.8	26.6
Non-hazardous waste	77.7	82.4	86.7
Preparation for reuse	0.1	0.2	6.2
Recycling	4.5	26.4	3.9
Other recovery operations	2.4	2.8	26.0
Incineration (with energy recovery)	53.2	37.4	35.9
Incineration (without energy recovery)	0.1	0.1	0.1
Landfilling	13.8	11.5	10.7
Other disposal operations	3.7	3.9	3.8
Grand total	94.6	103.0	129.0
Total disposed production waste [3]	23.7	23.6	20.9
Recovery rate of production waste, % [2),3)]	75	77	80
Disposed production waste intensity (Kemira waste target) metric tons per metric tons of production [1),3)]	4.4	4.3	4.2
Production volumes, thousand metric tons	5,339	5,517	4,946

1) Incineration (without energy recovery), Landfilling and Other disposal operations are included in calculation of the waste target (disposed production waste intensity). Incineration (with energy recovery) is considered as recovery operation in the target calculation.

2) Preparation for reuse, Recycling, Other recovery operations and Incineration (with energy recovery) are considered as recovery operations in calculation of recovery rate of production waste.

3) The target calculation and recovery rate calculation excludes disposed waste at Fortier site that was closed in late 2020. Exclusion is 22.4 kt in 2020. At the time of setting the target it was known that the site will be closed and decided to be excluded from the target.

WASTE RECOVERED FROM LANDFILL

Kemira continues to recover raw material from a landfill at the manufacturing site of water treatment chemicals in Pori, Finland. The primary raw material in the process in process (ferrous sulphate) was supplied by a titanium dioxide plant in the same industrial park. However, the supplier's operations were discontinued following a fire in 2017. In response to the raw material supply interruption, Kemira identified a closed, on-site landfill as an alternate supply of ferrous sulphate. The end-of-waste criteria of the EU Waste Framework Directive was applied in the environmental permitting process to facilitate the reuse of a former waste. Since the landfill mining started, Kemira has utilized approximately 600,000 metric tons of ferric sulphate from the landfill as a raw material and there is additional capacity available for use. putting some 30 years of accumulated industrial by-product back into our circular economy. In 2022, in total approximately 182,000 metric tons of ferrous sulphate was recovered from the landfill.

WASTE GENERATED IN SITE CLOSURE PROJECTS

Kemira's sustainability reporting in accordance with GRI standards is limited to operating manufacturing sites. Kemira supports waste recovery and circular economy in its all operations. In addition to manufacturing sites, waste is generated in site closure projects. In 2022, the demolition project to demolish production buildings of a site closed in 2013 in Vaasa, Finland was completed. In total approximately 55,000 metric tons of waste including mostly concrete and bricks was generated during the demolition. Approximately from 40,000 to 45,000 metric tons of the concrete and brick waste will be recovered - approximately half at the site in upgrade of the onsite landfill and half off-site. Other recovered materials include materials such as metal wood and plastics.

Another site closure project is on-going at the manufacturing site in Pierre Bénite, France. Total demolition waste amount in 2022 was approximately 2,200 metric tons (mostly concrete and metal) and 25% could be recovered.

SIGNIFICANT SPILLS[1]

Kemira's definition of a significant spill includes a spill resulting in one or more of the following:

- A spill or leak of more than 1,000 kg of a hazardous chemical (those chemicals identified as hazardous or dangerous by federal, provincial, state or local regulations, or by internationally recognized protocols such as, United Nations dangerous goods classification or assigned a reportable quantity if spilled) outside of secondary containment or to the atmosphere.
- Requirement for immediate reporting of an environmental release/spill to a regulatory agency
- Substantial negative publicity

In 2022 there were 5 significant spills compared to 2 in 2021.

- All of the significant spills occurred at our manufacturing sites. Three incidents were in the USA; one incident was in Uruguay, and one incident was in Finland. The total volume of the significant spills at manufacturing plants was approximately 80 metric tons.

The significant spills did not have a permanent or significant impact on the environment beyond the remediated material. These spills were not reported in Kemira's Financial Statements.

1 The effluents-related content of the GRI Standard GRI 306: Effluents and Waste 2016 has been superseded by GRI Standard GRI 303: Water and Effluents 2018, and the waste-related content has been superseded by GRI 306: Waste 2020. The spills-related content in GRI 306: Effluents and Waste 2016 remains in effect.

TRANSPORT OF HAZARDOUS WASTE

In 2022, approximately 24,700 metric tons of hazardous waste were transported by, or on behalf of Kemira, to external suppliers not owned by Kemira. Hazardous waste was not imported or treated by Kemira in 2022.

One of our sites in South America does not have a treatment or disposal option within the country for some of its hazardous wastes. Therefore, it must be shipped to the EU for disposal. In 2022, there were approximately 27 metric tons of hazardous waste exported from South America to Europe for disposal. No hazardous waste between EU countries was exported. In total, less than 1% of the hazardous waste generated in 2022 (less than 1% in 2021) by Kemira was shipped internationally.

Biodiversity

In 2022, we continued with assessment of Kemira's direct nature-related risks, as well as impacts and dependencies on biodiversity as part of our Nature Stewardship program. We revised the 2021 assessment that identified Kemira's operational sites locations in relation to protected areas and areas of biodiversity importance using the same Integrated Biodiversity Assessment Tool (IBAT). Based on the revision, the majority of Kemira's operational sites (53) are not considered to be located in, or adjacent to, protected areas or areas of biodiversity importance. The location of the Helsingborg site was re-evaluated and based on the reassessment, the site was added to the list of manufacturing sites in relation to protected areas or areas of high biodiversity value.

We used WWF's Biodiversity Risk Filter (BRF) to identify which physical risk categories and indicators are the most relevant for Kemira. The results of the risk filter portfolio and impacts and dependencies evaluation will be used for further biodiversity assessment scoping at Kemira for both direct operations and the suppliers. The initial screening showed Kemira's sites which, based on their location and chemical industry specifics, have the highest risk of direct pressures on biodiversity. Overall, out of 63 Kemira's sites, 3 sites (all within the same industrial area) have high risk score, 35 sites have medium risk score and 25 sites have low risk score. The analysis also showed that pollution is Kemira's most relevant impact indicator with the highest risk scores among the listed direct pressures on biodiversity.

Kemira's manufacturing sites are located in industrial zones and have environmental permits. Based on the environmental impact assessments conducted as part of the environmental permitting of the sites, Kemira's manufacturing sites do not have a direct substantial impact on biodiversity that adversely affect the integrity of a geographic area or change its ecological features and functions, and are not considered to have a direct material impact on the IUCN Red List of Threatened Species. We continue to assess possible direct and indirect impacts of our operations and throughout the value chain as the GRI guidance and recommendations change.

At the end of 2021, Kemira joined a Biodiversity ad-hoc group organized and lead by the Chemical Industry Federation of Finland. The group is the collaboration of several leading Finnish chemical companies. In 2022, the group contributed to the development of the Finnish Chemical Industry Biodiversity goal: Nature Positive, Climate Neutral Chemistry 2045 which includes a Roadmap 2030. The goal was approved by the Chemical Industry Federation board, which is also represented by Kemira's CEO.

MANUFACTURING SITES IN RELATION TO PROTECTED AREAS OR AREAS OF HIGH BIODIVERSITY VALUE

Geographic location	Type of operation	Position in relation to the protected area or area of high biodiversity value	Size of operational site, ha	Biodiversity value of the protected area or area of high biodiversity value
Fray Bentos, Uruguay	Manufacturing	In the area[1]	7.0	Important Bird and Biodiversity Area - Terrestrial, Freshwater
Vancouver, Canada	Manufacturing	In the area	0.5	Important Bird and Biodiversity Area - Terrestrial, Marine
Helsingborg, Sweden	Manufacturing	Adjacent	116.2	Nature Reserve - Marine
Pori, Finland	Manufacturing	1) Contains portions[2] 2) Adjacent[3]	54.9	1) Important Bird and Biodiversity Area - Terrestrial, Marine 2) Special Protection Area (Birds Directive) - Marine
Krems, Austria	Manufacturing	Adjacent	2.2	1) Important Bird and Biodiversity Area -Terrestrial 2) Special Protection Area (Birds Directive) - Terrestrial
Ostroleka, Poland	Manufacturing	Adjacent	0.4	1) Important Bird and Biodiversity Area - Terrestrial 2) Special Protection Area (Birds Directive) - Terrestrial
Police, Poland	Manufacturing	Adjacent	3.0	Site of Community Importance (Habitats Directive) - Terrestrial
Teesport, UK	Manufacturing	Adjacent	8.1	1) Special Protection Area (Birds Directive) - Marine 2) Site Of Special Scientific Interest (Gb) - Marine
Washougal, USA	Manufacturing	Adjacent	4.5	National Wildlife Refuge - Terrestrial
Wroclaw, Poland	Manufacturing	Adjacent	4.7	Site of Community Importance (Habitats Directive) - Terrestrial

1) "In the area" means the entire area of the manufacturing site is within the protected area or area of high biodiversity value.
2) "Contains portions" means some part of the protected area or area of high biodiversity value lies in the area of the manufacturing site.
3) "Adjacent" is defined by Kemira as a maximum distance of 300 meters from the manufacturing site. The definition is subject to modification in accordance with the updated GRI guidelines.

Environmental compliance

Kemira's integrated management system is a set of standards, procedures, and practices to achieve environmental goals through continual planning, implementation, evaluation, and review of environmental performance. One of the primary environmental goals of Kemira's management system is compliance with legal requirements. Kemira has identified its legal compliance obligations and implements an Auditing Standard to verify conformance. Kemira regularly conducts EHSQ compliance audits at manufacturing sites, research and development laboratories, and offices. Management system audits are performed on a periodic cycle (typically every 3 years) by Kemira's independent internal auditing team and external bodies. The audits focus on certain elements within the management system based on the risks and opportunities impacting the site, business segment, or Kemira as a whole at the time of the audit. To supplement this audit sampling approach, verification of legal compliance is provided annually as part of the data collection and reporting processes. Kemira's robust integrated management system requires all sites to report non-compliance to the group's Global EHSQ Team using our incident reporting program (Synergi Life).

Kemira received five fines or financial penalties related to a one-time non-compliance with environmental, health, and safety laws and/or regulations in 2022 The five fines (three in China; one in the USA; one in Korea) totaled approximately 11,000 EUR (ranging from approximately 350 EUR to approximately 5500 EUR) and any corrective actions required by the authorities were completed. Kemira does not consider these fines or penalties to be significant based on the criteria used in other sustainability reporting platforms (e.g., fines of at least 10,000 EUR) or based on disclosures of other companies in the chemical industry.

Kemira documented 15 non-compliance incidents as part of its management system processes. These isolated incidents did not result in a significant impact on the environmental, employees, or community, nor did they result in a sanction or other action from an environmental authority that would be considered significant. Any corrective actions required from these incidents were completed.

Social Performance

Employment

At the end of 2022, Kemira employed 4,902 people (4,926 in 2021). The employee distribution by region shows that 50% (51%) of Kemira's total workforce were employed in EMEA, and 31% (30%) in the Americas. The number of employees has decreased by 24 (compared to an increase of 5 during 2021). Most of the employees work with permanent and full-time employment contract. Share of temporary contracts as well as part-time workers has been stable. Workers who are legally recognized as self-employed, or individuals other than the ones in Kemira's payroll are not counted in these numbers.

INFORMATION ON EMPLOYEES AND OTHER WORKERS

TOTAL NUMBER OF EMPLOYEES

	2022	2021	2020
Total number of employees*	4,902	4,926	4,921
Female, %	27%	26%	26%
Male, %	73%	74%	74%
White collar, %	59%	59%	59%
Blue collar, %	41%	41%	41%

* At year end. Workers who are legally recognized as self-employed, or individuals other than the ones in Kemira's payroll are not counted on these numbers.

TOTAL NUMBER OF EMPLOYEES BY EMPLOYMENT CONTRACT (PERMANENT AND TEMPORARY), BY GENDER

	2022	2021	2020
Total number of employees	4,902	4,926	4,921
Total permanent	4,817	4,846	4,819
Total fixed term*	85	80	102
Female total	1,305	1,291	1,280
Permanent	1,270	1,257	1,228
Fixed term*	35	34	52
Male total	3,597	3,635	3,641
Permanent	3,547	3,589	3,591
Fixed term*	50	46	50

*Fixed term meaning temporary employment contract

TOTAL NUMBER OF EMPLOYEES BY EMPLOYMENT CONTRACT (PERMANENT AND TEMPORARY), BY REGION

	2022	2021	%, 2022	%, 2021
Total number of employees	4,902	4,926		
Americas	1,525	1,487	31%	30%
APAC	931	923	19%	19%
EMEA	2,446	2,516	50%	51%
Permanent total	4,817	4,846	98%	98%
Americas	1,520	1,486	32%	31%
APAC	931	923	19%	19%
EMEA	2,366	2,437	49%	50%

A temporary (fixed-term) employment contract is a type of employment used mainly in EMEA, atypical for Americas and APAC. In 2022, there were 85 employees (1.7%) with temporary contract (80; 1.6% in 2021).

TOTAL NUMBER OF EMPLOYEES BY EMPLOYMENT TYPE (FULL-TIME AND PART-TIME), BY GENDER

	2022	2021	2020
Total employees	4,902	4,926	4,921
Total full-time	4,829	4,845	4,832
Total part-time	73	81	89
Female total	1,305	1,291	1,280
Full-time	1,250	1,230	1,215
Part-time	55	61	65
Male total	3,597	3,635	3,641
Full-time	3,579	3,615	3,617
Part-time	18	20	24

The total number of part-time workers is low and for this reason we have not considered it relevant to report those per regions.

COLLECTIVE BARGAINING AGREEMENTS

The collective bargaining agreements are measured for 'significant locations of operations' referring to countries with 10 or more employees. In Kemira's case, there are 24 such countries and altogether these countries represent 99% of all employees.

In 2022, 2,329 (48%) of Kemira employees globally were covered by collective bargaining agreements (2,366; 48% in 2021). Working conditions and terms of employment of those employees who are not covered by collective agreement, are defined based on company policy, local labor law and legislation.

TOTAL NUMBER AND RATE OF NEW EMPLOYEE HIRES DURING THE REPORTING PERIOD, BY AGE GROUP, GENDER AND REGION

	Number of new hires			% of new hires		
	2022	2021	2020	2022	2021	2020
Total new hires	626	526	411			
New hires by age group						
<30	259	220	184	41%	42%	45%
30–50	295	247	177	47%	47%	43%
>50	72	59	50	12%	11%	12%
New hires by gender	626	526	411			
Females	192	146	131	31%	28%	32%
Males	434	380	280	69%	72%	68%
New hires by region	626	526	411			
APAC	65	56	28	10%	11%	7%
EMEA	312	275	255	50%	52%	62%
Americas	249	195	128	40%	37%	31%

TOTAL NUMBER AND RATE OF EMPLOYEE TURNOVER DURING THE REPORTING PERIOD, BY AGE GROUP, GENDER AND REGION

	Turnover			Turnover, %		
	2022	2021	2020	2022	2021	2020
Total turnover	541	403	429	11.0%	8.2%	8.7%
Turnover by age group						
<30	71	58	50	14.1%	12.4%	10.0%
30–50	304	200	193	10.7%	6.8%	6.6%
>50	166	145	186	10.7%	9.4%	12.5%
Turnover by gender	541	403	429			
Females	141	90	95	10.8%	7.0%	7.4%
Males	400	313	334	11.1%	8.6%	9.2%
Turnover by region	541	403	429			
APAC	57	56	53	6.1%	6.1%	5.7%
EMEA	277	173	145	11.3%	6.9%	5.7%
Americas	207	174	231	13.6%	11.7%	15.7%

The total turnover is based on permanent workforce.

WORKERS, WHO ARE NOT EMPLOYEES (CONTINGENT WORKFORCE)

Contingent workforce are non-Kemira employees, who are employed by a 3rd party partner but perform their work for Kemira. The amount of contingent workers in comparison to the Kemira headcount was 8.2% in 2022 (9.2% in 2021). Typically, contingent workforce provide temporary resourcing mechanism with specified skills and competences, substitution or balance seasonal workload fluctuation.

In addition, Kemira is using external service providers (contractors) which work at Kemira locations. These services cover, for example cleaning, maintenance work and consultancy services. We do not record the number of people but follow the contractor hours as this information is included in the workplace safety indicator TRIF. In 2022, there was approximately 2.5 million hours which equals to about 1,330 FTE (Full Time Equivalents) when assuming 7.5 hours per day and 250 working days per year.

	2022	2021	2020
Total number of contingent workers	403	453	410
Manufacturing	88	106	94
Sales and Field Service	151	182	150
Other professional and office work	164	165	166

Labor/Management relations

ANNUAL TOTAL REMUNERATION DEVELOPMENT

Kemira is a global company with operations and employees in multiple countries, and the market remuneration level differ significantly between these countries. To ensure the alignment of the interests of the CEO and the shareholders, the weighting of variable remuneration, and especially long-term incentive plans, in the CEO's total remuneration opportunity is substantial.

The table below sets out the remuneration paid during the respective year, considering that a portion of that remuneration may have been earned during the previous year.

Annual total remuneration development	2022	2021	2020
CEO total remuneration*	€1,453,573	€1,537,148	€1,713,058
CEO total remuneration development YoY	95	90	
Average total remuneration for all employees**	€65,294	€56,254	€58,370
Average total remuneration development YoY	116	96	
Ratio CEO total remuneration vs average total remuneration for all employees	22	27	29
Ratio development YoY	82	94	

* Paid annual base salary, benefits, defined contribution pension, short- and long-term incentives.
** Employee wages and salaries including accrued short-term incentives, excluding side costs, excluding CEO total remuneration.

BENEFITS PROVIDED TO FULL-TIME EMPLOYEES THAT ARE NOT PROVIDED TO TEMPORARY OR PART-TIME EMPLOYEES

The benefit programs at Kemira differ depending on regional and country specific practices and the programs have been stable across recent years without major changes to the practices. In most countries, the same benefits are offered to full-time and part-time employees and for temporary employees hired directly by Kemira, if the temporary contract exceeds a certain length.

Benefit practices are country specific and typically do not vary between locations and operations. Some exceptions apply, for example some countries offer additional insurance and/or retirement benefits for permanent full-time employees.

MINIMUM NOTICE PERIODS REGARDING OPERATIONAL CHANGES

As stated in our Code of Conduct, all sites are obliged to follow local legislation, regulations and other agreements regarding labor practices, including notice periods. Minimum notice periods are defined in laws or in collective agreements, and are followed in each country accordingly. The time period for the consultation process relating to operational changes varies by country and region, starting from 14 days for smaller changes to up to six months in some countries and for major changes, varying between one to two months in most countries.

Workplace safety

High-performing Environmental, Health, Safety and Quality (EHSQ) management is crucial to our business. We are committed to ensuring safe and responsible working conditions for everyone working for and with Kemira. Our approach is to manufacture and deliver our products and services safely, and to protect our nearby communities. We are building an interdependent safety culture which is driving us towards zero harm in all of our activities. We are continuously striving to improve our ways of working to ensure the safety of our people and working environments. All our work is guided by regulations and external requirements, our Sustainability and EHSQ policy, respective standards and operating practices.

Safety is the foundation for all our operations, and includes all aspects; people safety, environmental safety, process safety, chemical safety, transportation safety and asset integrity. With competent employees and contractors we take effective measures to eliminate hazards, reduce risks and prevent incidents. We communicate openly and honestly, and promote active participation of employees and key stakeholders.

We understand incidents in our operations may have negative consequences for our people, environment and third parties working for us at Kemira sites, or locations where Kemira is present if we fail to manage risks linked to our operations.

Occupational health and safety

Kemira reports its occupational safety performance indicator as Total Recordable Injuries (TRI) which includes permanent injuries and fatalities, lost time incidents, restricted work cases and medical treatment cases covering Kemira employees and contractors working at Kemira own and customer sites. TRI Frequency (TRIF) is measured as Total Recordable Injuries per million working hours.

Kemira uses external service providers (contractors) which work at Kemira locations. These services cover for example maintenance, repair, turnaround, major renovation or specialty work at a Kemira site. We follow the contractor hours as this information is included in the workplace safety indicator TRIF. Third party transportation companies, whether onsite or offsite, are excluded and incidental facility services such as janitorial work, food and drink services, laundry, delivery or other supply/resupply services. In 2022, there were approximately 2.5 million hours which equals to about 1,330 FTE (Full Time Equivalents) when assuming 7.5 hours per day and 250 working days per year.

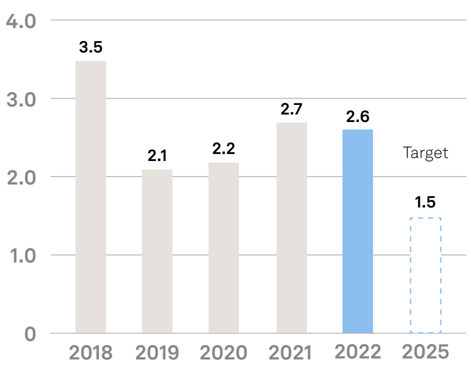
Our safety performance stayed at the same level in 2022 compared with the performance in 2021. 44 out of 62 sites had zero incidents in 2022. Total number of TRIs in 2022 (2021) was 36 (36) and TRIF was 2.6 (2.7). The overall ratio of contractors' TRIs to total number of TRIs increased from 0.22 to 0.36 when compared with previous year. The first quarter of 2022 was exceptionally challenging. In Q1, we saw an increasing incident trend and Q1 TRIF was 4.1. In response, a global Safety Stand Down was organized at all of our manufacturing site and systematic permit-to-work training was continued. We also invited all our employees to join the Internal Labour Organization's (ILO) Safety Day by asking them to share a picture or drawing that illustrated what safety meant to them. In the autumn, we launched the "Choose Safety – Every Day" campaign with three internal safety videos. Although we were not able to reach our 2022 TRIF target 1.9, our safety performance stabilized and is comparable to equivalent industrial safety performance levels. To achieve a world class target (<2.0) Kemira will continue to focus on people behavioral choices, last minute risk assessments, correct personal protective equipment and general safety awareness. We will work hard to meet our 2023 target of TRIF 1.9.

No fatalities have occurred with Kemira employees or contractors since 2005. The number of Lost Time Incidents (LTIs) remained at the same level as in 2021. Unfortunately, we had one permanent finger injury with a field work employee at a customer location. They were carrying out equipment troubleshooting together with external engineering contractor. While holding and inspecting the valve, the air pressure was accidentally switched on and the sudden pressure closed the valve on the employee's finger, causing a partial amputation of one finger. The incident was reported to authorities according to local reporting requirements and the employee has returned to work doing one's normal work.

Kemira continued to put effort in protecting employees, contractors, drivers and their families from the COVID-19 pandemic, especially in the first quarter. We followed a Careful Return approach with the local COVID-19 management as we transitioned to a Hybrid Work Model.

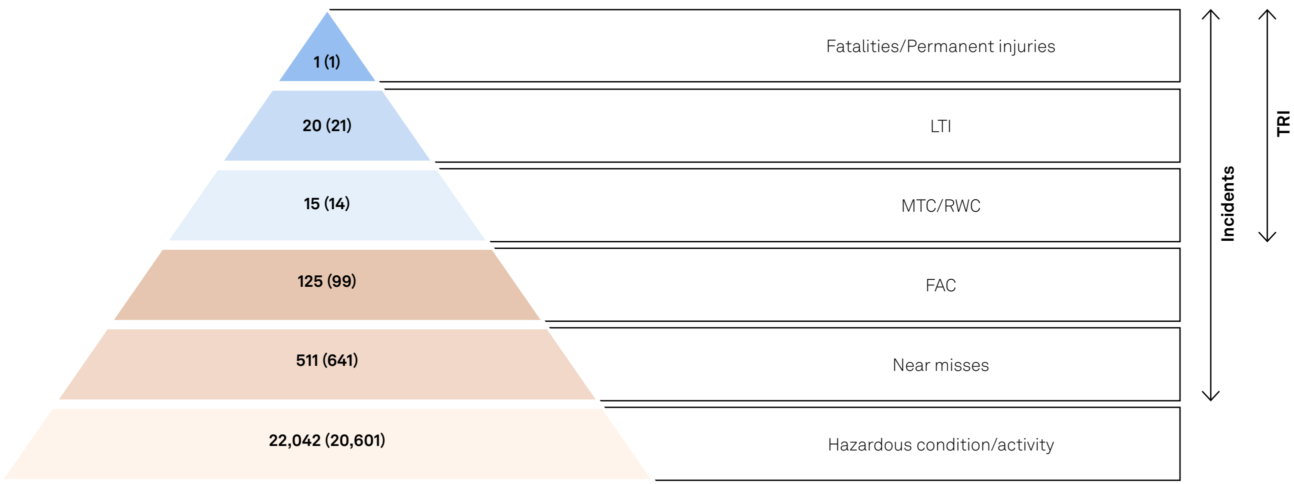
The Behavior Based Safety (BBS) program was continued in 2022. Kemira employees performed over 325,000 individual BBS observations included in 15,674 surveys in 2022. The employee engagement and proactive identification of at-risk behaviors stayed at a good level. We continued our project to refresh our BBS program. As a part of this project we developed a new digitized platform to report observations and initiated a pilot program to test the effectiveness of the program. Our target is to widen the number of observers to further develop our safe ways of working and also increasing safety awareness in the organization. We strongly believe behavior, last minute risk assessments, and robust Permit-to-Work process are crucial factors to achieve our safety targets.

OUR SAFETY PERFORMANCE (TRIF)



TRIF: Total Recordable Injury Frequency per million hours

PERSONAL INJURIES PYRAMID 2022 (2021)



Incident classification	Definition
Permanent injury	A work-related injury leads to damage that will indefinitely restrict the employment or other normal activities of an individual.
Lost Time Incidents (LTI)	A work-related injury or illness, suffered by a Kemira employee or contractor resulting in at least one full day of time away from work (this does not to include the day of the injury), as determined by a physician or other licensed health care professional.
Medical Treatment Case (MTC)	Any work-related injury or illness that requires professional medical treatment or a prescription medication. Medical Treatment means beyond first aid level medical attention.
Restricted Work Case (RWC)	A work-related injury or illness that requires the employee to have restricted work, or transfer to another job for at least one full day, as determined by a physician or other licensed health care professional.
Total Recordable Injury (TRI)	TRI is the sum of Fatalities, LTI, RWC, and MTC.
First Aid Case (FAC)	First aid refers to a work related minor injury or illness which can be treated by a first responder or equivalent and does not require a professional physician or paramedic medical attention.
Near Miss	An undesired event in the work environment that under different circumstances could have resulted in harm to people.
Hazardous Condition/Activity	Leading safety indicator reflecting environmental or behavior related hazards at the workplace.

Kemira's commercial sales representatives and field customer service personnel perform many types of work scopes at customer locations. Depending on the product line and customer requirements they can perform tasks such as equipment installation and upkeeping, chemical dosings, test trials, process sampling and analyzing, and inventory management at the customer facility. In 2022, we further developed our tools to identify and document the work related hazards and their controls. In addition, we increased organizational awareness of health and safety requirements and we released new global Standard Operating Procedures. Commercial Sales Representatives completed more than 1,200 job hazard assessments in our online application.

In 2022, Kemira continued systematically reporting process safety incidents (RPSI) based on the ICCA definition. Additionally, we enhanced the investigation of the more serious cases to include assessment of corrective action efficacy, based on the hierarchy of controls. This is done through a rating scheme presented in the specific guideline that assists investigators of EHSQ related incidents findings in deciding if the actions proposed are powerful enough to prevent re-occurrence. We also undertook a training program focused on two major elements of process safety, contractor management and permit to work. Lastly, we renewed our training on Life Saving Rules.

As part of our competence development program an EHSQ Learning Path was piloted for Field Work personnel in the Americas. Learnings were launched via the Kemira internal learning management system, MyKem, covering all critical EHSQ Standards. In addition, another optional learning path was launched, covering many task specific safety trainings. The goal of the trainings was to increase awareness and competency, developing a a good understanding of Kemira risk management methods. Based on the pilot feedback we will create a global or regional plan(-s) for 2023.

The number of Near Miss reports (511), which under different circumstances could have resulted in harm to people, were slightly lower level compared with the previous year (641). The number of Near Misses may have decreased due to Hybrid Work Model, however their number may increase when all Safety Observations and Near Miss cases are reviewed, classified and closed. Based on previous years' statistic a 10% increase is expected in the final 2022 Near Miss total.

One of our important leading safety indicators is Hazardous Conditions/Activities reporting which reflects environmental or behavior related hazards at the workplace. The number of reported Hazardous Conditions/Activities increased and the outcome was 22,042 in 2022 which equals to 4.5 per Kemira employee. The proactive identification of Hazardous Conditions/Activities helps us to identify weak points in our safety management system, and is an example of continuously improving our ways of working and work environment.

Transportation safety overall performance continued to improve compared to the last two years 2021 and 2022. The Kemira Global transportation incident KPI rate is currently less than 1 incident per 10,000 deliveries. Proactive communication and excellent co-operation with the Manufacturing sites, Logistics and PSRA together with ongoing transportation safety audits have contributed to a better performance. New safety programs introduced during the last 1–2 years, for example, the Load Securement Procedure and the Global Sample Shipping Procedure have been tracked to stabilize these processes and to improve safety. Continued support for the sites, Logistics and PSRA regarding transportation related activities and compliance assurance of implemented standards and procedures will help to achieve our goals for 2023.

Unfortunately one major transportation incident occurred in Q4/2022 in EMEA region which resulted in a leak of Hydrochloric acid. The necessary chemical resistance between the product and the tank material wasn't provided. Thanks to the excellent support of local fire brigades in combination with the Kemira incident management, the situation was brought under control very quickly. The gaps identified during the following root-cause analysis have been closed immediately to avoid similar incidents in the future.

TOTAL RECORDABLE INJURIES

	2022	2021	2020
Total TRI	**36***	**36**	**31***
Kemira employees	23	28	21
Contractors working at Kemira site	13	8	10
Regional TRI			
APAC	1	3	1
EMEA	19	21	15
Americas	15	12	14
TRI Frequency			
Global TRIF	2.6	2.7	2.2
Kemira employees	2.0	2.5	1.9
Contractors working at Kemira site	5.2	3.6	3.3
Regional TRIF			
APAC	0.3	1.0	0.3
EMEA	3.5	4.0	2.6
Americas	3.8	3.3	3.4

*Global Functions 1 TRI

LOST TIME INCIDENTS

	2022	2021	2020
Total LTI	**21**	**22**	**19**
Kemira employees	15	17	14
Contractors working at Kemira site	6	5	5
Regional LTI			
APAC	1	0	0
EMEA	13	16	12
Americas	7	6	7
LTI Frequency			
Global LTI	1.5	1.6	1.4
Regional LTI			
APAC	0.3	0.0	0.0
EMEA	2.4	3.0	2.1
Americas	1.5	1.6	1.7

Training and education

AVERAGE HOURS OF LEARNING PER YEAR PER EMPLOYEE

Kemira continued in 2022 to advance towards its aims to capture all training, education and employee development related hours in the learning management system (LMS). So far, leadership development activities, regional and global competence development and vocational training programs and many local programs are recorded in the LMS. However, some remaining training and development activities are still recorded locally and not covered in these numbers.

Learning hours registered in the system for larger countries in 2022 are:

Country	2022	2021
Finland	5,089	6,427
UK	3,245	4,719
Sweden	4,685	4,327
USA	6,936	7,444
Netherlands	4,014	4,565
China	18,370	31,578
Poland	3,684	3,838

There were variations in some of the biggest countries. The decrease in learning hours globally is partially due to the cycle of recurring mandatory eLearning courses and balancing back to the level before the pandemic.

The globally registered average hours of learning for employees do not differ significantly by gender or white/blue collar distribution in 2022.

PROGRAMS FOR UPGRADING EMPLOYEE SKILLS AND TRANSITION ASSISTANCE PROGRAMS

Kemira provides each employee with access to the relevant competence development programs and structured learning opportunities to support upgrading of employee skills through on-the-job learning programs (including generic and job-specific competence development), buddy/coaching/ mentoring programs and traditional methods like classroom and digital learning.

The scope includes:

- Future competency programs, sustainability and data & analytics, EHSQ / safety culture.
- Leadership development (internal and external) programs.
- Professional & technical competence development programs up-skilling and re-skilling.
- Statutory or compliance related programs.

All of these programs are available based on the position, skills/ competence level and career aspirations. With the exception of leadership development programs and other external cost-based programs (pre-approval required), employees can typically enroll and complete the self-paced learning programs available through our LMS (Learning Management System).

Examples of global and regional programs offered during 2022 are listed below:

- Code of Conduct (renewed training launched in November 2022), Anti-corruption, Speak Up, Information Security Awareness and other compliance programs delivered mainly through eLearning.
- Data & analytics and digitalization: Introduction to Data & Analytics at Kemira, Kemira as a Data-Driven Company, Case Studies of Digital Products and Services.
- Sustainability: Introduction to Sustainability at Kemira, Kemira as a Sustainability-Focused Company. First module of the Selling Sustainability training (Introduction to Biobased Products) launched in 2022.
- Learning Solutions for Commercial and Manufacturing roles as part of professional competence development included Value Selling, Negotiation, Insight, Innovation & Creativity, Adaptability, Strategic Thinking, Account Development and Ownership delivered as co-created self-paced eLearning and virtually. New trainings Enterprise Intelligence, SMART Manufacturing, Embracing Transformation and Financial Acumen launched in 2022.
- EHSQ related programs including Sustainability and EHSQ Policy (renewed training launched in May 2022), EHSQ Life Saving Rules and standards and competence development with EHSQ Culture, Risk Management and Root Cause Analysis.
- Project Management Fundamentals and Agile & Scrum Fundamentals.
- Leadership training programs incl. awareness training for all people managers and HR community on the new Leadership Principles.
- High Impact Virtual Experience leadership development workshops made available to all people managers, identified talents and HR.

Kemira also provides transition assistance programs where relevant, with bigger changes to facilitate the continued employability and management of career endings resulting from retirements or termination of employment. These have included:

- Identifying new job opportunities and offering respective training.
- Severance pay.
- Career planning and out-placement/job placement services.

PERCENTAGE OF EMPLOYEES RECEIVING REGULAR PERFORMANCE AND CAREER DEVELOPMENT REVIEWS

Our global performance and development discussion (PDD) process covers all permanent employees, both white collar and blue collar, who are not absent for an extended time period because of leave, for example. Temporary employees' inclusion in the PDD process is evaluated case-by-case, depending on the length of the contract. During 2022, the implementation of the digital PDD process for blue collars has been expanded to include further countries. However, the adaption rate dropped due to organizational changes and turnover.

PERCENTAGE OF TOTAL EMPLOYEES BY GENDER AND BY EMPLOYEE CATEGORY WHO RECEIVED A REGULAR PERFORMANCE AND CAREER DEVELOPMENT REVIEW DURING THE REPORTING PERIOD

Performance and Development Discussion (PDD)	Number			%		
	2022	2021	2020	2022	2021	2020
Total permanent employees not absent*	4,820	4,827	4,757			
Employees covered in Global PDD process	4,282	4,567	4,383	89%	95%	92%
Female	1,242	1,189	1,129	98%	98%	97%
Male	3,040	3,378	3,254	86%	93%	91%
White collars	2,822	2,771	2,701	99%	98%	99%
Blue collars	1,460	1,796	1,682	74%	90%	83%

*All permanent employees, who are not absent for an extended time period, because of leaves, for example, are covered by global performance and development discussion process

Diversity and equal opportunity

At Kemira, we aspire to build a team and culture that fosters diversity and inclusion. We believe that diversity is one of the greatest contributors to our success. A truly diverse and inclusive culture builds our value as an employer of choice and as the first choice for our customers.

In 2022, we prioritized our Diversity & Inclusion (D&I) roadmap to move us closer to our target – reach top 10% cross-industry norm for diversity and inclusion by 2025. Our D&I index score improved by 2 points since 2021. Our Diversity & Inclusion statement was published during the year and it provides the ground for the Why, the What and the How when talking about diversity and inclusion based on our Code of Conduct.

DIVERSITY OF GOVERNANCE BODIES AND EMPLOYEES

As stated in our Code of Conduct, we respect the diversity, talent and abilities of others. We at Kemira define ‘diversity’ as all the unique characteristics that make up each of us: personality, lifestyle, work experience, ethnicity, religion, gender, sexual orientation, age, national origin, ability and other characteristics. We focus our efforts to attract, develop and retain a workforce that is diverse, and to ensure an inclusive work environment that embraces the strength of our differences. We do not discriminate or treat employees or job applicants unfairly in matters that involve recruiting, hiring, training, promoting, compensation or any other term or condition of employment.

The number of females in executive positions was 31% in 2022, (Directors and above) and has remained on the same level as in 2021 (31%).

PERCENTAGE OF INDIVIDUALS WITHIN THE ORGANIZATION'S GOVERNANCE BODIES IN EACH OF THE FOLLOWING DIVERSITY CATEGORIES: GENDER, AGE GROUP, OTHER INDICATORS OF DIVERSITY WHERE RELEVANT

	Total			%		
	2022	2021	2020	2022	2021	2020
Management Board						
Total	8	8	8			
Female	1	1	1	13%	13%	13%
Male	7	7	7	88%	88%	88%
By age group						
<30	0	0	0	—%	—%	—%
30–50	0	1	1	—%	13%	13%
>50	8	7	7	100%	88%	88%
Board of Directors						
Total	8	7	7			
Female	3	1	3	38%	14%	43%
Male	5	6	4	63%	86%	57%
By age group						
<30	0	0	0	—%	—%	—%
30–50	2	1	1	25%	14%	14%
>50	6	6	6	75%	86%	86%

PERCENTAGE OF EMPLOYEES PER EMPLOYEE CATEGORY IN EACH OF THE FOLLOWING DIVERSITY CATEGORIES: GENDER, AGE GROUP, OTHER INDICATORS OF DIVERSITY WHERE RELEVANT

	Total			%		
	2022	2021	2020	2022	2021	2020
Total employees	4,902	4,926	4,921	100%	100%	100%
<30	502	466	501	10%	9%	10%
30–50	2,842	2,924	2,930	58%	59%	60%
>50	1,558	1,536	1,490	32%	31%	30%
Female	1,305	1,291	1,280	27%	26%	26%
<30	150	144	158	11%	11%	12%
30–50	856	870	851	66%	67%	66%
>50	299	277	271	23%	21%	21%
Male	3,597	3,635	3,641	73%	74%	74%
<30	352	322	343	10%	9%	9%
30–50	1,986	2,054	2,079	55%	57%	57%
>50	1,259	1,259	1,219	35%	35%	33%

RATIO OF BASIC SALARY AND REMUNERATION OF WOMEN TO MEN

Kemira operates a global job structure that is applied to all white-collar employees. The job structure describes job families and the respective job roles with required qualifications and main responsibilities. The job structure links to job grades, which define the salary range and the incentive opportunity for a specific job role. The job grades and salary data information allow Kemira to evaluate, analyze and implement equal remuneration. The main factors impacting the base salary level are the country of employment and location, the job grade of the position, and local requirements related to equity. Other impacting factors include the experience, tenure and performance of the employee as well as country-specific statutory increases and merit increase opportunities. Incentive payouts are based on measured achievement for pre-defined targets on the company, unit and individual levels. The Disclosure 405-2a describes the ratio of basic salary when considering country of employment and location, and the job grade of the position. Other remuneration elements are not recorded globally and thus not reported.

RATIO OF THE BASIC SALARY AND REMUNERATION OF WOMEN TO MEN FOR EACH EMPLOYEE CATEGORY, BY SIGNIFICANT LOCATIONS OF OPERATION

Country	Women to men pay ratio 2022	Women to men pay ratio 2021	Women to men pay ratio 2020	White collar headcount 2022
Austria	89%	87%	87%	47
Brazil	94%	94%	91%	134
Canada	94%	89%	89%	129
China	86%	90%	90%	289
Finland	91%	91%	92%	569
Germany	94%	96%	97%	81
Italy	95%	92%	93%	62
South Korea *	93%			49
Netherlands	100%	88%	88%	82
Poland	94%	98%	96%	318
Spain	94%	93%	91%	53
Sweden	98%	100%	95%	138
United Kingdom	96%	95%	94%	91
United States	93%	93%	92%	562
Total for largest countries	93%	93%	92%	2,604

*South Korea new on list for consideration of large countries.

Freedom of association and collective bargaining

OPERATIONS AND SUPPLIERS IN WHICH THE RIGHT TO FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING MAY BE AT RISK

Kemira respects the freedom of association and collective bargaining as stated in our Code of Conduct, and through our commitment to the United Nations Global Compact. We expect our suppliers to respect these same principles and commit to the Code of Conduct for Business Partners. All of our Suppliers (engaged with an SAP Purchase Order) receive a written reference to CoC-BP as part of the Kemira general terms of purchase on the back of the Purchase Order.

To increase Kemira employees' awareness of their rights regarding freedom of association and collective bargaining, we provide regular training on our Code of Conduct.

In 2022, Kemira did not identify any violations of freedom of association or collective bargaining in our own operations, and no evidence has been found to indicate that suppliers would be restricting their employees' opportunities to exercise freedom of association and collective bargaining based on sustainability assessments of our key suppliers, representing approximately 38% of our total spend.

For additional information, see the Integrity section for details of our Code of Conduct training and Ethics and Compliance hotline. Details of the numbers of employees covered by collective bargaining agreements are given in Employment section.

Human rights

Our Code of Conduct and Code of Conduct for Business Partners set the standard for our human rights approach. In our code we state that we are committed to the principles of The Universal Declaration of Human Rights and the core conventions of the International Labour Organization (ILO) and the United Nations' Global Compact, and we expect our suppliers and business partners to share these principles. Further we work by the United Nations Guiding Principles which require companies to conduct due diligence to protect and respect human rights. We have a public statement for slavery and human trafficking, where our approach to human rights issues is outlined more in detail.

We expect ourselves and business partners to respect fundamental human rights, treat people with dignity, decency and respect, avoid any kind of harassment, discrimination, intimidation, oppression and exploitation, never use any form of forced or child labor, protect employee health and safety, respect freedom of association and collective bargaining, respect the privacy of personal information and pay compensation to employees that complies with applicable wage laws.

A group level Human Rights Impact Assessment was updated in 2021 to identify human rights impacts throughout Kemira operations and value chain. The assessment methodology was based on the United Nations Guiding Principles on Business and Human Rights and the OECD Due Diligence Guidance. The results of the assessment have been further analyzed during 2022 and implementation of findings will continue going towards 2023. In 2022 Kemira performed a minimum safeguards self assessment in relation to the EU Taxonomy reporting. The conclusion from this assessment is that Kemira meets on group level the EU Taxonomy minimum safeguards of most recognized human rights guidelines and guiding principles. We continue the development of the minimum safeguards management in line with our integrated management system implementation.

To create room for discussion and improve human rights related processes, Kemira has established a Human Rights Council in 2022. The council consists of representatives from relevant functions in the company, covering Environment, Health, Safety and Quality (EHSQ), Global Sourcing, Human Resources, Ethics and Compliance and Corporate Sustainability.

In previous years, our human rights focus has been on increasing overall awareness of human rights related themes throughout the organization and improving the processes and due diligence based on findings in our latest assessment. Main means to increase awareness relate to regular and compulsory training on the Code of Conduct for all employees and since 2015, a basic training on human rights for white collar employees responsible for business relationships. Since 2015 all new hires have participated in this training as part of their induction program. Human rights are evaluated in scope of supplier ethical audits conducted by external audits (following the SMETA protocol).

KEY ACTIVITIES IN 2022:

- Continued the global 90-day onboarding program for new hires (white collars) that automatically assigns online courses on Code of Conduct and Human Rights and Business. By the end of 2022, 77% of white collar new hires have completed the basic training on Human Rights and Business as part of their onboarding program.
- All relevant sales team members are trained on third party due diligence for potential new business partners and a new process is introduced to further develop our third-party risk management.
- In relation to workplace safety, we further developed our safety culture through the Behavior Based Safety Culture program, target setting, training and communications measure. More information can be found in the Occupational Health and Safety section.
- For product safety we focus on product lifecycle management. For more information, see section Product Stewardship section.
- More information of supplier assessments and audits For more can be found in the supplier Management section.
- Diversity & Inclusion roadmap roll-out has been active in 2022, there has been two networks established, the KemPride and the Kemira Womens networks. More information about this topic can be found in the Kemira **Annual Review 2022**.
- Evaluation of identified high risks has been done and development items are in place for child and forced labor.

Customer health and safety

ASSESSMENT OF THE HEALTH AND SAFETY IMPACT OF PRODUCT AND SERVICE CATEGORIES

According to Kemira's product stewardship policy, we are acting:

- to comply with all applicable chemical regulatory requirements in the countries where we either manufacture and/or sell chemicals covering raw materials, intermediates, processing aids and products
- to make hazard assessments covering regulatory compliance, human health, and safety, as well as environmental protection aspects, as part of the Product Lifecycle Management processes throughout products' lifecycle from development to termination
- to maintain data related to chemical products and substances including raw materials is managed in ERP and is linked to Product Lifecycle Management tool/process
- to proactively identify and manage chemical risks and concerns to build management action plans for the identified unacceptable risks to human health, safety or environment; covering all substances from raw materials to products
- to share information with our stakeholders about the health and safety aspects of products and to ensure that our customers can safely use our products.

Kemira complies with all laws and regulations relating to chemicals and trade. Kemira does not sell any banned products. We continuously screen substances that are covered by any regulatory restrictions, or subject to substitution requirements imposed by non-regulatory stakeholders. We proactively work to mitigate health, safety, environmental and image-related risks.

PERCENTAGE OF SIGNIFICANT PRODUCT AND SERVICE CATEGORIES FOR WHICH HEALTH AND SAFETY IMPACTS ARE ASSESSED FOR IMPROVEMENT

At the end of 2022, 100% (21 out of 21) of the identified 21 SVHC (Substances of Very High Concern) substances had a management plan approved by the Product lifecycle management team.

INCIDENTS OF NON-COMPLIANCE CONCERNING THE HEALTH AND SAFETY IMPACT OF PRODUCTS AND SERVICES

We are not aware of any fine, penalty or warning for noncompliance with regulations and voluntary codes regarding our products or services in 2022.

Marketing and labeling

REQUIREMENTS FOR PRODUCT AND SERVICE INFORMATION AND LABELING

Kemira's product portfolio consists of seven major product lines and approximately 1,334 different products. All of these products are duly documented and labeled according to legal requirements, including the identification of their hazardous components and information on their safe use. Kemira provides Safety Data Sheets (SDS) for all products, independent of the product safety classification, even if in most jurisdictions Safety Data Sheets are mandatory only for hazardous products. Our IT system for Product Lifecycle Management enables us to prepare SDSs and labels in alignment with the latest regulatory data requirements and in the official languages of the countries where our products are manufactured, stored or sold. In EU member states, the information requirements are stated under REACH regulations with regard to substance properties, exposure, use and risk management measures, and the chemical safety assessment. Registered uses will also be communicated via the updated extended SDSs for downstream users.
In addition to the information provided on product labels and Safety Data Sheets, more detailed information about products and their raw material ingredients can be provided on request.

In 2022, the Kemira Product Stewardship & Regulatory Affairs team responded to 4,634 (6,721 in 2021) requests concerning product safety and/or regulatory questions. The response time for those requests is one of our internal key performance indicators (KPIs).

INCIDENTS OF NON-COMPLIANCE CONCERNING PRODUCT AND SERVICE INFORMATION AND LABELING

Our customer complaints management process handles complaints by recording the complaint, investigation, root cause and corrective action determination and implementation and communication with the customers. During the process complaints are classified with a complaint reason from a predefined list. The process and system in use can exclude those complaints that Kemira has met the agreed requirements with the customers. All complaints are actively monitored, evaluated and corrected as required by the quality management system in use at Kemira.

Non-compliance related to product and service information usually refers to insufficient information on the label.

During 2022, a total of 50 customer complaints were recorded relating to labeling or product information, of which 28 cases were in the EMEA region, 19 in the Americas, and 3 in the APAC region. All cases have been investigated and needed corrective actions have been implemented.

During 2022, no incidents of non-compliance with regulations resulting in any fine, penalty or warning were reported within Kemira's operations.

Socioeconomic compliance

NON-COMPLIANCE WITH LAWS AND REGULATIONS IN THE SOCIAL AND ECONOMIC AREA

We are not aware of any significant fine or non-monetary sanction for noncompliance with laws or regulations in the social and economic area in 2022.

PRODUCT AND SERVICE INFORMATION PROVIDED

Topic	Product and service information provided by Kemira
The sourcing of components of the product or service	Only if requested by customers.
Content, particularly with regard to substances that might produce an environmental or social impact	As required by law, always in SDS and on the labels. Additional information about chemicals in our products for voluntary certification/ compliance schemes such as eco-labeling is also provided to customers upon request and when applicable.
Safe use of the product or service	Safe use of a product or service is communicated in the SDSs and on the labels. Registered uses will be communicated via the extended SDSs. Additional information about the use, dosage and application is provided to customers when applicable.
Disposal of the product and environmental/ social impacts	When legally required, disposal of a product and environmental/social impact are communicated in the SDSs and on the labels.

Public policy and membership in associations

POLITICAL CONTRIBUTIONS

The Kemira Code of Conduct, Kemira Group Sponsorship and Donation policy and the Kemira Group Gifts, Entertainment and Anti-bribery Policy, prohibit any financial support to politicians, political parties or political organizations. No financial or any in-kind political contributions paid by Kemira have come to Kemira's attention during 2022.

MEMBERSHIP IN ASSOCIATIONS

Kemira is a member of Cefic, the European Chemical Industry Council, and Kemianteollisuus ry, which is a national chemical industry association in Finland.

The organization and its reporting practices

Organizational details and activities

In the **Financial Statements** section of the Annual Report a list of group subsidiaries and investments in associates can be found. In the referred section Kemira's legal entities are listed and thus also countries of operation.

Below is a short description of downstream entities and relevant business relations. Kemira has divided it's business in two segments Pulp & Paper and Industry & Water. There has not been any significant changes in Kemira's sector, value chain or business relationships during 2022. More information on Kemira's main business segments can be found in the **Annual Report** and on the **kemira.com** homepage.

PULP & PAPER

The Pulp & Paper segment combines best-in-class application expertise, the latest technologies for advanced process management and a complete chemistry portfolio to serve our customers in the forest industry across different grades from pulp to board, tissue, specialty papers as well as graphical and printing papers. We help customers improve their sustainability, product quality, process and resource efficiency. Our focus is on growth areas in fiber-based applications and renewable materials, such as packaging board and dispersion barrier coatings.

INDUSTRY & WATER

The Industry & Water business segment enables water intensive industries and municipal water and wastewater treatment operators improve their process and resource efficiency. Our chemistry is used for optimizing all stages of the water cycle – enabling clean water and sanitation as stated in UN SDG 6. In oil and gas applications we enable reduced water and energy use for more efficient well management and improved oil sands tailings treatment. Our focus on the water intensive industries continues and we are constantly evaluating new opportunities for growth within this sector.

Entities included in the sustainability reporting

SIGNIFICANT CHANGES TO THE ORGANIZATION AND ITS SUPPLY CHAIN

At the end of the year 2022, Kemira had 62 (63 in 2021) manufacturing sites of which 62 were included in the environmental reporting scope, and 62 in the auditing scope of our integrated management system. There were no significant changes in the company structure, size or ownership. Kemira offices and other non-manufacturing sites are not included in the environmental reporting, as they do not represent a material share of our environmental related processes.

DEFINING REPORT CONTENT AND TOPIC BOUNDARIES

When defining the relative importance of material topics for reporting purpose we have taken into account our economic, environmental and social impact, stakeholder expectations, our purpose and strategy, and our commitments to the Code of Conduct, United Nations Global Compact, SDGs and Responsible Care® program. According to the GRI 1 Foundation standard, the principles for defining the report content were applied when assessing material topics and boundaries.

Reporting period, frequency and contact point

REPORTING PERIOD

The reporting period is from January 1 to December 31, 2022.

DATE OF MOST RECENT REPORT

Kemira's most recent Annual Report including non-financial information (GRI disclosures) was published on February 17, 2022.

REPORTING CYCLE

Kemira's Annual Report is published yearly, by calendar year. The Annual Report consists of Annual Review, Sustainability Report, Corporate Governance Statement (including Remuneration Report) and Financial Statements.

CONTACT POINT FOR QUESTIONS REGARDING THE REPORT

The contact point for questions is Kemira Communications and Corporate Sustainability. Contact details are available at **kemira.com**.

CLAIMS OF REPORTING IN ACCORDANCE WITH THE GRI STANDARDS

- The report is prepared in accordance with the latest GRI standards, now updated based on the new GRI Universal Standards (2021). The latest versions of the topical standards have been used where applicable.
- Communication on Progress (COP) of the United Nations Global Compact at Global Compact Active level by using the GRI-standards reporting principles.

Restatements of information

- The percentage of ESG investors (33% in 2021) was revised with better calculation methodology. The real percentage for 2021 was 21%.
- GHG emissions data has been updated. For Scope 2 there have been changes in the IEA database and also historical figures have been updated based on those. For Scope 3 emissions a more precise methodology has been used with updated database data for raw materials. Also in this case historical data has been updated.
- In the Remuneration report 2021, the short-term incentives based on performance period 2021 for the Deputy CEO were reported at the level of EUR 54,374 whereas the actual paid in March 2022 was EUR 53,374.

External assurance report

EXTERNAL ASSURANCE

The corporate sustainability information presented in the Annual Report are externally assured by an independent third party. Information on the organization's policy and current practice with regard to external assurance can be found in the Assurance statement.

Independent accountant's assurance report

To the Management of Kemira Oyj.

SCOPE

We have been engaged by Kemira Oyj (hereafter Kemira) to perform a 'limited assurance engagement,' as defined by International Standards on Assurance Engagements, hereafter referred to as the engagement, to report on Kemira's Annual Review 2022's pages 18–35, Sustainability Report 2022, and the taxonomy KPIs in Financial Statements 2022's pages 136–140, (the "Subject Matter") for the period 1.1.–31.12.2022.

CRITERIA APPLIED BY KEMIRA

In preparing the Subject Matter, Kemira applied the Global Reporting Initiative Sustainability Reporting Standards and Kemira's own internal reporting principles (Criteria). As a result, the subject matter information may not be suitable for another purpose.

KEMIRA'S RESPONSIBILITIES

Kemira's management is responsible for selecting the Criteria, and for presenting the Subject Matter in accordance with that Criteria, in all material respects. This responsibility includes establishing and maintaining internal controls, maintaining adequate records and making estimates that are relevant to the preparation of the subject matter, such that it is free from material misstatement, whether due to fraud or error.

ERNST & YOUNG'S RESPONSIBILITIES

Our responsibility is to express a conclusion on the presentation of the Subject Matter based on the evidence we have obtained.

We conducted our engagement in accordance with the International Standard for Assurance Engagements Other Than Audits or Reviews of Historical Financial Information ('ISAE 3000'), and the terms of reference for this engagement as agreed with Kemira on 20.6.2022. Those standards require that we plan and perform our engagement to obtain limited assurance about whether, in all material respects, the Subject Matter is presented in accordance with the Criteria, and to issue a report. The nature, timing, and extent of the procedures selected depend on our judgment, including an assessment of the risk of material misstatement, whether due to fraud or error.

We believe that the evidence obtained is sufficient and appropriate to provide a basis for our limited assurance conclusions.

OUR INDEPENDENCE AND QUALITY CONTROL

We have maintained our independence and confirm that we have met the requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, and have the required competencies and experience to conduct this assurance engagement.

Ernst & Young also applies International Standard on Quality Control 1, Quality Control for Firms that Perform Audits and Reviews of Financial Statements, and Other Assurance and Related Services Engagements, 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.

DESCRIPTION OF PROCEDURES PERFORMED

Procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. Our procedures were designed to obtain a limited level of assurance on which to base our conclusion and do not provide all the evidence that would be required to provide a reasonable level of assurance.

Although we considered the effectiveness of management's internal controls when determining the nature and extent of our procedures, our assurance engagement was not designed to provide assurance on internal controls. Our procedures did not include testing controls or performing procedures relating to checking aggregation or calculation of data within IT systems.

EU Taxonomy regulation is in nature changing and interpretation as well as market practice develops constantly. Therefore, taxonomy reporting is subject to uncertainty and interpretation, and current assumptions might need to be revised in the following years.

A limited assurance engagement consists of making enquiries, primarily of persons responsible for preparing the Annual Review 2022's pages 18–35, Sustainability Report 2022, and the taxonomy KPIs in Financial Statements 2022's pages 136–140, and related information, and applying analytical and other appropriate procedures.

Our procedures included:

a. An update of our knowledge and understanding of Kemira's material sustainability reporting topics, organization and activities,
b. An assessment of suitability and application of the reporting principles regarding the stakeholders' needs for information,
c. Interviews with senior management to understand Kemira's corporate responsibility leadership,
d. Interviews with personnel responsible for gathering and consolidation of the corporate responsibility information to understand the systems, processes and controls related to gathering and consolidating the information,
e. Assessing corporate responsibility data from internal and external sources and checking the data to reporting information on a sample basis to check the accuracy of the data,
f. Performing recalculation of reported information and evaluating the correctness of underlying data and narrative disclosures,
g. Site visit to Äetsä and virtual site visit to Eastover site where we assessed reporting practices.

We also performed such other procedures as we considered necessary in the circumstances.

CONCLUSION

Based on our procedures and the evidence obtained, we are not aware of any material modifications that should be made to Annual Review 2022's pages 18–35, Sustainability Report 2022, and the taxonomy KPIs in Financial Statements 2022's pages 136–140, for the period 1.1.–31.12.2022, in order for it to be in accordance with the Criteria.

Helsinki, 13.2.2023

Ernst & Young Oy
Authorized Public Accountant Firm

Mikko Rytilahti
Authorized Public Accountant

Nathalie Clément
Leader of Climate Change and Sustainability Services, EY Finland

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GRI STANDARD	DISCLOSURE	PAGE NUMBER(S)	DOCUMENT	UNITED NATIONS GLOBAL COMPACT
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Corporate Governance 2022

Corporate Governance Statement 2022

Introduction

Kemira Oyj's corporate governance is based on the Articles of Association, the Finnish Companies Act and Nasdaq Helsinki Ltd.'s rules and regulations on listed companies. Kemira complies with the Finnish Corporate Governance Code, which is publicly available at **cgfinland.fi**.

This statement is presented separately from the annual report by the Board of Directors. Kemira's Audit Committee has reviewed the Corporate Governance Statement. The Company's Auditor, Ernst & Young Oy, has verified that the statement has been issued and that the description of the main features of the internal control and risk management related to the financial reporting process included in the statement is consistent with the Financial Statements.

Governance bodies

The General Meeting of Shareholders, the Board of Directors and the Managing Director are responsible for Kemira's governance and operations. Their tasks are defined based on the Finnish Companies Act and Kemira's Articles of Association.

GENERAL MEETING OF SHAREHOLDERS

Kemira Oyj's General Meeting of Shareholders is the Company's highest decision-making body, and it is held at least once a year. The Annual General Meeting (AGM) must be held each year by the end of May. The AGM decides on matters within its competence under the Companies Act and the Articles of Association, such as the adoption of the financial statements and the dividend payout, the discharge from liability of Board members, Managing Director and his Deputy, the election of Chair, Vice Chair and other members of the Board of Directors and their remuneration, and the election of the auditor and the auditor's fees.

Notice to the General Meeting shall be released on the Company's website no earlier than two months and no later than three weeks before the meeting, however, at least nine days before the record date of the meeting. Additionally, if so decided by the Board of Directors, the Company may publish the notice to the General Meeting in one nationwide newspaper.

Kemira Oyj's Annual General Meeting was held in Helsinki on March 24, 2022. Due to the coronavirus pandemic the shareholders and their proxy representatives could participate in the meeting only by voting in advance, by submitting counterproposals and/or by asking questions in advance. The Board of Directors had decided upon the exceptional arrangements for the Annual General Meeting based on the Act 375/2021 promulgated by the Finnish Parliament and in order to protect the health and safety of the shareholders, employees and other stakeholders of the company. A total of 429 shareholders had registered for the meeting either in person, by legal representative or by proxy, and a total of 101,979,696 shares and votes were represented at the meeting.

The documents related to the AGM are available on Kemira's website **kemira.com** > Company > Investors > Corporate governance > Annual General Meeting.

NOMINATION BOARD

The 2012 Annual General Meeting decided to establish a Nomination Board consisting of the shareholders or the representatives of the shareholders to prepare annually a proposal for the next AGM concerning the composition and remuneration of the Board of Directors. The Nomination Board consists of the representatives of the four largest shareholders of Kemira Oyj based on the situation on May 31 preceding the AGM, and the Chair of Kemira Oyj's Board of Directors acts as an expert member. The members of the

Nomination Board shall elect a Chair at the first meeting of the Board. The Group General Counsel acts as the Secretary of the Nomination Board.

The Nomination Board has a Charter approved by the General Meeting that defines more precisely the process to elect its members and Chair as well as its tasks and meeting routines. The Charter is publicly available on the company's website. According to its Charter, the Nomination Board will meet at least two times a year, with authority to convene additional meetings, as circumstances require. The members present at the meeting shall constitute a quorum if at least three of the members are present at the meeting.

As of May 31, 2022 the members of the Nomination Board are Ville Kivelä, Chief Investment Officer, Oras Invest Oy; Pauli Anttila, Investment Director, Solidium Oy; Lisa Beauvilain, Head of ESG & Sustainability, Executive Director, Impax Asset Management plc; Annika Ekman, Head of Direct Equity Investments, Ilmarinen Mutual Pension Insurance Company; and Matti Kähkönen, Chair of Kemira's Board of Directors as an expert member. Ville Kivelä is the Chair of the Nomination Board and Group General Counsel Jukka Hakkila acts as the Secretary of the Nomination Board. Between January 1 and May 31, the members of the Nomination Board were Ville Kivelä, Reima Rytsölä, Pauli Anttila, Annika Ekman and Jari Paasikivi.

The Nomination Board met six times in 2022 with an attendance rate of 90%. Each member's participation in the Nomination Board meetings was as follows:

Name	Participation in meetings	Participation percentage
Anttila, Pauli	6/6	100%
Beauvilain, Lisa	5/5	100%
Ekman, Annika	6/6	100%
Kivelä, Ville	3/6	50%
Kähkönen, Matti	5/5	100%
Paasikivi, Jari	1/1	100%
Rytsölä, Reima	1/1	100%
Total	27/30	90%

BOARD OF DIRECTORS

Composition

The AGM elects the Chair, Vice Chair and other members of the Board of Directors. In accordance with the Articles of Association, the Board of Directors comprises 4–8 members. On March 24, 2022, the Annual General Meeting elected eight members to the Board of Directors. The AGM re-elected Wolfgang Büchele, Shirley Cunningham, Werner Fuhrmann, Matti Kähkönen, Timo Lappalainen and Kristian Pullola to the Board of Directors. Annika Paasikivi and Tina Sejersgård Fanø were elected as new members to the Board. Matti Kähkönen was elected the Board's Chair and Annika Paasikivi was elected the Vice Chair. Group General Counsel Jukka Hakkila acts as the Secretary of the Board of Directors. Between January 1 and March 24, 2022 the Board members were Wolfgang Büchele, Shirley Cunningham, Werner Fuhrmann, Timo Lappalainen, Matti Kähkönen, Jari Paasikivi, and Kristian Pullola.

All of the Board members are independent of the Company. When assessing the independence of the Board members, the Board has taken into consideration that Wolfgang Büchele has been either a member of the Board of Directors or the Managing Director for more than 10 years consecutively as of April 8, 2019. The Board of Directors has not identified any reason why Wolfgang Büchele should not be considered independent of the company. The Board members are also independent of significant shareholders of the Company except for the Vice Chair Annika Paasikivi. She is the Managing Director of Oras Invest Oy and Oras Invest Oy owns over 10% of Kemira Oyj's shares.

The personal information concerning the members of the Board of Directors can be found in the section Group Management and their holdings can be found under the heading Insiders.

Principles concerning the diversity of the Board of Directors

The Board of Directors has adopted the following principles and targets concerning the diversity of the Board of Directors. When designing the composition of the Board of Directors, the Nomination Board of the company assesses the Board composition from the viewpoint of the company's current and future business needs, while taking into account the diversity of the Board. The diversity of the Board of Directors will be assessed from various viewpoints. Kemira's Board of Directors shall have sufficient and complementary experience and expertise in the key industries and markets relevant to Kemira's business. In addition, an essential element is the personal characteristics of the members and their diversity. The company's aim is that the Board of Directors represent diverse expertise in different industries and markets, diverse professional and educational backgrounds, diverse age distribution and both genders. The objective is that both genders are represented in the Board by at least two members.

The current Board of Directors of the company complies with the company's diversity targets. Versatile expertise from various industries and markets is represented in the Board of Directors, as well as various professional and educational backgrounds. There are five male and three female directors.

Tasks and duties

According to the Articles of Association, the Board of Directors is tasked with duties within its competence under the Companies Act. It has drawn up a written Charter defining its key duties and procedures. The Charter is publicly available on the company's **website**. The following is a description of the essential contents of the Charter.

The Board of Directors is in charge of corporate governance and the due organization of the Company's operations. It decides on convening and prepares the agenda for the shareholders' general meeting and ensures the practical implementation of decisions taken thereby. The Board of Directors decides on authorizations for representing the Company. The Board of Directors' key duties include matters which, in view of the scope and type of the Company's operations, are uncommon or involve wide-ranging effects. These include establishing the Company's long-term goals and the main strategies for achieving them, approving the annual business plans and budget, defining and approving corporate policies in key management control areas, approving the Company's organizational structure and appointing the Managing Director, his Deputy and members of the Management Board. The Board of Directors approves the Company's capital investment and lease commitment policy and major investments, acquisitions and divestments. It also approves the group treasury policy and major long-term loans and guarantees issued by the Company. The Board's duties include ensuring that the Company has adequate planning, information and control systems and resources for monitoring results and managing risks in operations. The Board of Directors monitors and evaluates the performance of Managing Director, his Deputy and members of the Management Board and decides upon their remuneration and benefits. The Board's duty is to ensure continuation of the business operations by succession planning for key persons. The Board defines and approves the main principles for the incentive bonus systems within the Company, the Company's values, sustainability targets and the Code of Conduct. The Board of Directors also manages other tasks within its competence under the Companies Act. It is responsible for the due organization of the supervision of the Company's accounting and asset-liability management. The Board of Directors sees to it that the Company's financial statements give a true and fair view of the Company's affairs and that the consolidated financial statements are prepared under the International Financial Reporting Standards (IFRS) and the parent company's financial statements under the acts and regulations in force in Finland (FAS).

The Board of Directors' meetings discuss the Company's profit performance at a monthly level. The Board of Directors discusses the Company's audit with the auditor. The Board of Directors evaluates its performance and working methods on an annual basis. According to the Charter of the Board of Directors, the Board must convene regularly and at least eight times a year. The Board of Directors has a quorum when more than half of the directors are present. The opinion which has been supported by more than half of those present shall become the decision or, in the event of votes being equal, the opinion with which the Chair concurs.

In 2022, the Board of Directors met nine times. The average attendance rate at the meetings was 96%. Each director's attendance in the meetings was as follows:

Name	Participation in meetings	Participation percentage
Büchele, Wolfgang	8/9	89%
Cunningham, Shirley	9/9	100%
Fanø, Tina Sejersgård	6/8	75%
Fuhrmann, Werner	9/9	100%
Kähkönen, Matti	9/9	100%
Lappalainen, Timo	9/9	100%
Paasikivi, Annika	8/8	100%
Paasikivi, Jari	1/1	100%
Pullola, Kristian	9/9	100%
Total	68/71	96%

BOARD COMMITTEES

Kemira Oyj's Board of Directors has appointed two committees: the Audit Committee and the Personnel and Remuneration Committee.

Audit Committee

The Audit Committee works in accordance with its Charter confirmed by the Board of Directors. The Charter is publicly available on the Company's **website**. It is tasked to assist the Board of Directors in fulfilling its oversight responsibilities for the financial reporting process, the system of internal control, the internal and external audit process and Kemira's process for monitoring compliance with laws and regulations and the Kemira Code of Conduct.

The Committee reports to the Board on each meeting. The Audit Committee consists of four members of the Board of Directors. The majority of the members shall be independent of the company and at least one member shall be independent of significant shareholders. According to its Charter, the Audit Committee shall convene at least four times a year. The Audit Committee has a quorum when at least three members are present in the meeting.

After the 2022 AGM, the Board elected Timo Lappalainen as the Chair of the Audit Committee and Werner Fuhrmann, Annika Paasikivi and Kristian Pullola as members of the Committee. Timo Lappalainen, Werner Fuhrmann and Kristian Pullola are independent of the company and its significant shareholders, and Annika Paasikivi is independent of the company, but not of its significant shareholders. Between January 1 and March 24, 2022 the Committee members were Timo Lappalainen, Kristian Pullola and Jari Paasikivi.

The Audit Committee met five times in 2022 with an attendance rate of 95%. Each member's attendance in the Audit Committee meetings was as follows:

Name	Participation in meetings	Participation percentage
Fuhrmann, Werner	3/4	75%
Lappalainen, Timo	5/5	100%
Paasikivi, Annika	4/4	100%
Paasikivi, Jari	4/4	100%
Pullola, Kristian	5/5	100%
Total	18/19	95%

Personnel and Remuneration Committee

The Personnel and Remuneration Committee works according to its Charter confirmed by the Board of Directors. The Charter is publicly available on the company's **website**. The Committee assists the Board of Directors by preparation of matters related to compensation and the appointment of Managing Director, his Deputy and the members of the Management Board, and by preparation of matters pertaining to the compensation systems and long-term incentive plans of the Company. The Committee also monitors succession planning of the senior management and the senior management's performance evaluation. The Committee plans matters pertaining to the development of the organization and reviews the Remuneration Report of the Company. The Committee reports to the Board of Directors on each meeting.

The Committee consists of four members, the majority of which shall be independent of the Company. According to its Charter, the Committee shall convene at least twice a year. The members present at the meeting shall constitute a quorum if at least three of the members are present at the meeting.

After the 2022 AGM, the Board elected Matti Kähkönen as the Chair of the Personnel and Remuneration Committee and Wolfgang Büchele, Shirley Cunningham and Timo Lappalainen as the members of the Personnel and Remuneration Committee. All Committee members are independent of the company. Between January 1 and March 24, 2022 the Committee members were Timo Lappalainen, Jari Paasikivi and Matti Kähkönen.

In 2022, the Personnel and Remuneration Committee met six times. The attendance rate at the meetings was 96%. Each member's attendance in the Personnel and Remuneration Committee meetings was as follows:

Name	Participation in meetings	Participation percentage
Büchele, Wolfgang	5/5	100%
Cunningham, Shirley	4/5	80%
Kähkönen, Matti	6/6	100%
Lappalainen, Timo	6/6	100%
Paasikivi, Jari	1/1	100%
Total	22/23	96%

MANAGING DIRECTOR

The Board of Directors appoints the Managing Director and the Managing Director's Deputy. Under the Articles of Association, the Managing Director is responsible for managing and developing the Company in accordance with the instructions and regulations issued by the Board of Directors, ensuring that the Company's interests are served by the subsidiaries and associated companies under its ownership, and implementing the decisions taken by the Board of Directors. The Managing Director reports to the Board on financial affairs, the business environment and other significant issues. The Managing Director is the Chair of Kemira's Management Board.

Kemira Oyj's Managing Director is President and CEO Jari Rosendal, and the Deputy Managing Director is Group General Counsel Jukka Hakkila. The Managing Director and the Managing Director's Deputy, including their related parties, are not involved in any substantial business relationships with the Company.

The personal information concerning the Managing Director and the Managing Director's Deputy is set forth under the section Group Management and their holdings can be found in the section Insiders. The financial benefits related to the Managing Director's and Deputy Managing Director's employment relationships are described in the **Remuneration Report**.

MANAGEMENT BOARD

The Management Board is a non-statutory management body consisting of the operative management of the Company. It is responsible for securing the long-term strategic development of the Company.

Kemira's Management Board consists of Managing Director Jari Rosendal (President and CEO), Petri Castrén (CFO), Matthew R. Pixton (CTO), Esa-Matti Puputti (EVP, Operational Excellence & Sustainability), Antti Salminen (President, Pulp & Paper as of August 15, 2022, until then President, Industry & Water), Eeva Salonen (EVP, HR) and Wido Waelput (President, Industry & Water, Interim, as of September 1, 2022). In addition, during the year Kim Poulsen was President, Pulp & Paper until May 18, 2022. The Managing Director is the Chair of the Management Board and the Group General Counsel acts as its Secretary.

The personal information of the Management Board members is presented in the section Group Management and their holdings can be found in the section Insiders. The decision-making process and main principles of remuneration of the members of the Management Board, other than the Managing Director, are described on the Company's **website**.

OPERATIVE ORGANIZATION

Kemira has organized its business into two customer based segments. The Pulp & Paper segment focuses on serving customers in the pulp and paper industry and the Industry & Water segment focuses on serving customers in the municipal and industrial water treatment as well as oil, gas and mining industries. The segments have a strategic leadership role as they formulate their respective business strategies and guide the strategy implementation within the segment. Operational business responsibilities as well as the Profit & Loss responsibility belong to each of the segments.

The segments are guided by policies and guidelines defined by global functions. Global functions are responsible for developing policies, processes, guidelines and tools related to their respective functional areas on a global basis. Such policies and processes are complied with throughout the Company. Functions also have representatives in each geographic region. Regional functions ensure that the global policies are implemented and adhered to in the regions. They are also responsible for supporting the business locally in the region.

Geographically Kemira's operations are divided into three business regions: Europe, Middle East and Africa (EMEA), Americas and Asia Pacific (APAC). The Region Heads provide operational support and co-ordination within the region and steer all regional development projects.

Internal control

Kemira maintains an internal control system to ensure the effectiveness and efficiency of its operations, including the reliability of financial and operational reporting and compliance with the applicable regulations, policies and practices. Internal control is an integral part of all of Kemira's operations and covers all levels of the Group. The entire Group personnel are responsible for internal control and managers monitor its effectiveness as part of operative management.

Kemira's corporate values, Code of Conduct and Group level policies and procedures guide the corporate governance and internal control in the Group. The internal policies and the Kemira Code of Conduct have been communicated to all Group staff. The Group also provides training concerning the main policies for people who need to know such policies. The Code of Conduct is trained to all employees. Every employee has the right and duty to report any violations of the law, the Code of Conduct or Group policies. The main components of internal control are the management and organizational culture, risk assessment, control activities, reporting and communication, as well as monitoring and auditing.

Insiders

Kemira Oyj complies with EU Market Abuse Regulation, Finnish Securities Market Act, the rules and regulations issued by the European Securities and Markets Authority (ESMA) and Finnish Financial Supervision Authority (Fin-FSA) as well as the Guidelines for the Insiders of Listed Companies issued by Nasdaq Helsinki Ltd. The company has identified the persons and vice-persons responsible for the various areas of insider administration within the company, including among others compliance in general, decision-making on publishing of insider information and on delaying the publication, maintaining the insider list, overseeing the compliance with the trading restriction as well as the publication of transactions made by the persons discharging managerial responsibilities and their closely associated persons involving stocks and other financial instruments relating to Kemira.

The company has determined, as required by the Market Abuse Regulation, that the persons discharging managerial responsibilities within the company include the Board of Directors, the Managing Director (President & CEO), Management Board as well as the secretary of Board of Directors and Management Board. The persons discharging managerial responsibilities are responsible for identifying their closely associated persons and to disclose the same to Kemira. Kemira discloses by way of stock exchange release all transactions made by the persons discharging managerial responsibilities and their closely associated persons and companies involving stocks and other financial instruments relating to Kemira, as required by the Market Abuse Regulation.

According to the law, a person discharging managerial responsibilities must not make transactions with stocks or other financial instruments of a listed company during a period of 30 days preceding the publications of the interim or annual financial report of a listed company. Kemira applies a similar 30 days trade restriction to those of Kemira Group employees who are involved in the preparation or publication of the interim or annual financial report and who have access to group level unpublished financial information.

Kemira Oyj's insider list is maintained by the legal department of the company. The attached table lays out the number of stocks owned by the persons discharging managerial responsibilities in Kemira Oyj, and by companies under their control, on December 31, 2022.

SHAREHOLDINGS OF BOARD OF DIRECTORS AND MANAGEMENT BOARD ON DEC 31, 2022

BOARD OF DIRECTORS

Name	Position	Kemira Oyj shares
Kähkönen, Matti	Chair of the Board of Directors	15,492
Paasikivi, Annika	Vice Chair of the Board of Directors	2,707
Büchele, Wolfgang	Member of the Board of Directors	15,583
Cunningham, Shirley	Member of the Board of Directors	8,744
Fanø, Tina Sejersgård	Member of the Board of Directors	1,680
Fuhrmann, Werner	Member of the Board of Directors	4,560
Lappalainen, Timo	Member of the Board of Directors	15,215
Pullola, Kristian	Member of the Board of Directors	2,951
Total		66,932

MANAGEMENT BOARD

Name	Position	Kemira Oyj shares
Rosendal, Jari	Chief Executive Officer (President & CEO)	169,069
Castrén, Petri	Member of the Management Board	46,240
Pixton, Matthew	Member of the Management Board	25,332
Puputti, Esa-Matti	Member of the Management Board	37,131
Salminen, Antti	Member of the Management Board	57,916
Salonen, Eeva	Member of the Management Board	63,720
Waelput, Wido	Member of the Management Board, Interim	7,176
Hakkila, Jukka	Other person discharging managerial responsibilities	94,987
Total		501,571

Internal Audit

Kemira Group's Internal Audit function provides independent appraisal and assurance for the review of operations within the Group in order to support the management and the Board of Directors in fulfilling their oversight responsibilities. The purpose is to evaluate and contribute to the improvement of risk management, control and governance systems in the Group. The purpose, authority and responsibilities of the unit are defined in the Kemira Internal Audit Charter approved by the Audit Committee.

Internal auditors have complete and unrestricted access to all Kemira activities. Internal Audit is free to determine the scope of internal auditing, the ways of performing its work and communicating its results.

Internal Audit reports to the Audit Committee and administratively to the Group General Counsel. Internal Audit reports all of its observations to the responsible management and to the auditor. In addition, Internal Audit reports regularly the most essential and material observations to the Audit Committee in connection with the Audit Committee's meetings. Furthermore, the Internal Audit has a direct and unrestricted access to discuss with the Chair of the Audit Committee.

Audit

Under the Articles of Association, the General Meeting elects an audit firm certified by the Auditor Oversight, a department of the Finnish Patent and Registration Office as the Company's auditor. The audit firm appoints the Principal Auditor, who is an Authorized Public Accountant certified by the Auditor Oversight, a department of the Finnish Patent and Registration Office. The auditor's term of office continues until the next Annual General Meeting after the Auditor's election.

The 2022 Annual General Meeting re-elected Ernst & Young Ltd. as the Company's auditor, with Mikko Rytilahti, APA, acting as the Principal Auditor. In 2022, the audit fee paid globally to the audit firm Ernst & Young totaled EUR 1.6 million. In addition, a total of EUR 0.3 million was paid as fees for tax services and EUR 0.1 million as fees for other services.

Control and risk management systems pertaining to the financial reporting process

Kemira's Board of Directors defines the main principles of risk management and approves the Group's risk management policy. The business segments and functions are responsible for identifying, assessing and managing risks involved in their activities. The Group's Risk Management function coordinates and supports risk management. Kemira's internal control system covers all Group operations, including financial reporting. The internal control activities are carried out in all organizational levels as part of the Group's daily operations. A more detailed description of risks and risk management can be found in Board of Directors Review and on the Company's website at **kemira.com** > Company > Investors > Corporate governance > Internal Control and Risk management. A general description of Kemira's internal control system can be found above under the heading Internal control.

The following describes how Kemira's internal control and risk control work in connection with the financial reporting process to ensure that the financial reports published by the Company give essentially correct information of the Company's financial situation.

ROLES AND RESPONSIBILITIES

Kemira's Board of Directors ensures that the Company has sufficient resources for risk management and control, and that the control has been arranged appropriately and that the financial statements provide correct and sufficient information of the Company. The Board of Directors is assisted by the Audit Committee in these tasks. The Managing Director handles the Company's everyday management in accordance with instructions and regulations from the Board of Directors. The Managing Director is responsible for the Company accounting being lawful and that assets are managed reliably.

The CFO is responsible for the general control system of financial reporting. The areas of responsibility between financial administration of the Group and the regions have been defined precisely. Group level financial functions support, monitor, instruct and offer training to the financial organizations of the regions. Group level financial functions are also responsible for the Group's financial reporting and support segment controllers in analyzing business processes. Financial organization in the regions is responsible for the functionality of the accounting processes and correctness of figures in their region. Controlling in segments operates under the segments' business management and analyzes and supports the business processes.

The Group's IT function has a significant role both in financial reporting and internal control, as reporting and many control measures, such as process monitoring are based on IT solutions.

The Internal Audit function including its tasks and areas of responsibility are described more specifically above under the heading Internal Audit.

RISK MANAGEMENT

The Group's financial administration is responsible for managing risks related to financial reporting. The risks are identified, assessed and managed in connection with the Group's general risk management process and separately as part of financial administration's own operating processes. The Group's financial administration assesses risks it has recognized related to financial reporting. The aim of the risk assessment is to identify and assess the most significant threats affecting the financial reporting, to define which function or process the risks are associated with, and to determine how the risks would affect the Group's financial reporting if they were to materialise. The Group's financial administration and Risk Management are responsible for ensuring that the risks are reassessed regularly.

FINANCIAL REPORTING AND CONTROL

The internal control and risk management systems pertaining to the financial reporting process have been designed so that sufficient certainty on the reliability of the financial reporting can be obtained and that the financial statements have been prepared in accordance with the applicable laws and regulations. Kemira complies with the international standards for financial statements (IFRS) which are applicable in the EU and other requirements of the listed companies. Kemira Group policies and procedures define in detail the processes and principles of accounting and financial reporting to be applied in all Group companies.

The purpose of the policies and procedures is to ensure the reliability of financial reporting. The Group has a uniform and comprehensive Enterprise Resources Planning (ERP) system that ensures fast and reliable access to data. Subsidiaries report their figures from the ERP system to the Group, using a uniform Group reporting system. The financial organizations of the Group, segments and regions check the correctness of the figures in the Group reporting system in accordance with the responsibility areas described above. Proper control of financial administration, financial reporting and accounting processes is a basic requirement for the reliability of financial reporting. The Group financial administration has determined the appropriate control functions, the objectives of each control function and how the effectiveness of the control functions is monitored and checked based on a risk analysis it performs. The control functions are described in the above mentioned risk documentation, and financial administration is responsible for their practical implementation.

Financial reporting control is performed either continuously as part of the transactions of the company's monitoring processes, such as purchasing and sales processes, or alternatively monthly or annually as part of the reporting process.

COMMUNICATION

By well-functioning internal control environment Kemira aims at securing the timeliness, correctness and transparency of the company's internal and external communication. The most essential guidelines and regulations concerning the financial reporting, internal control and risk management, such as the guidelines regarding the principles of preparation of the financial statements and financial reporting, are available to all employees in the group intranet. Kemira's financial administration regularly arranges trainings regarding internal control and financial reporting as well as using the relevant tools.

MONITORING

The functionality of internal control, risk management and reporting systems is constantly monitored as part of daily management of the Company. Each segment, function and region are responsible for implementing internal control, its efficiency and reliability of reporting within their area of responsibility. The Group financial administration monitors the functionality and reliability of the financial reporting process and principles at Group level. The financial reporting processes are also monitored by the Internal Audit function.

Principles for related party transactions

The Board of Directors of the Company has approved a policy regarding related party transactions. The policy sets forth the Company's process for the monitoring, assessment, and decision-making of related party transactions, as well as public disclosure of information about related parties and related party transactions. The purpose of the policy is to prevent a related party from taking undue advantage of its position and to provide adequate protection for the interests of the Company and its shareholders. The policy aims to ensure that related party transactions are decided without a conflict of interest, do not affect shareholders' value or the company's profit negatively, and are made transparently.

The Board of Directors have decided that the following persons are related parties of Kemira: Members of the Board of Directors, the Managing Director and his deputy, other members of the Management Board, and such other employees belonging to the management of Kemira Group who have influence in making financial and operational decisions in Kemira Group and who have been considered to be related parties by the Group General Counsel, and close family members of the persons mentioned above. Related party entities include entities of Kemira Group, entities controlled by a related party, and Pension Fund Neliapila. The legal department of the Company maintains an up-to-date register of the Company's related parties.

All proposed related party transactions must be disclosed to the Company's legal department in advance, except for certain customary transactions such as remuneration paid in accordance with the company's remuneration practices, and transactions having a value not exceeding EUR 5,000. The Company's legal department, assisted by the Finance & Accounting department, assesses whether a proposed related party transaction is made within the ordinary course of Kemira's business and whether it is made on customary commercial terms. Related party transactions which are made either outside the ordinary course of business of Kemira's or on other than customary commercial terms must be approved in advance by the Board of Directors. The Company's Finance & Accounting department also monitors transactions made with the related parties within the framework of its own controlling and monitoring system.

The Board of Directors, the Managing Director, and the General Meeting will take into account and comply with the disqualification rules set forth in the applicable laws when considering and deciding on related party transactions.
In accordance with the applicable laws and the Rules of Exchange, the Company publicly discloses related party transactions which are material from the shareholders' perspective and have been entered into either outside of the ordinary course of business or on other than customary commercial terms.

Board of Directors

MATTI KÄHKÖNEN

b. 1956

- Finnish citizen
- M.Sc. (Eng.)
- Chair of the Board, Chair of the Personnel and Remuneration Committee
- Independent of the Company and its significant shareholders
- Board professional

ANNIKA PAASIKIVI

b. 1975

- Finnish citizen
- M.Sc. (Pol.), BA (Int. Bus.)
- Vice Chair of the Board, member of the Audit Committee
- Independent of the Company, but not of its significant shareholders
- Main occupation President & CEO of Oras Invest Oy, which owns over 10% of Kemira's shares

WOLFGANG BÜCHELE

b. 1959

- German citizen
- Dr. rer.nat.
- Member of the Board, member of the Personnel and Remuneration Committee
- Independent of the Company and its significant shareholders
- Main occupation Exyte GmbH, CEO and Chairman of the Board

SHIRLEY CUNNINGHAM

b. 1960

- United Kingdom and United States of America citizen
- MBA
- Member of the Board, member of the Personnel and Remuneration Committee
- Independent of the Company and its significant shareholders
- Board professional

TINA SEJERSGÅRD FANØ

b. 1969

- Danish citizen
- M.Sc. (Eng), BA, (Phil. & Edu.)
- Member of the Board
- Independent of the Company and its significant shareholders
- Main occupation Novozymes A/S, Executive Vice President, Agriculture & Industrial Biosolutions

WERNER FUHRMANN

b. 1953

- German citizen
- M.Sc. (Econ.)
- Member of the Board, member of the Audit Committee
- Independent of the Company and its significant shareholders
- Board professional

Further information on the Board of Directors and the Management Board is available at **kemira.com**.

TIMO LAPPALAINEN

b. 1962
- Finnish citizen
- M.Sc. (Eng.)
- Member of the Board, Chair of the Audit Committee, member of the Personnel and Remuneration Committee
- Independent of the Company and its significant shareholders
- Main occupation Orion Corporation, Senior Advisor to the Board

KRISTIAN PULLOLA

b. 1973
- Finnish citizen
- M.Sc. (Econ.)
- Member of the Board and the Audit Committee
- Independent of the Company and its significant shareholders
- Main occupation Finnair Oyj, Chief Financial Officer

Members of the Board of Directors until March 24, 2022

JARI PAASIKIVI

b. 1954
- Finnish citizen
- M.Sc. (Econ.)
- Chairman of the Board, member of the Audit Committee, chairman of the Personnel and Remuneration Committee
- Independent of the Company, but not of its significant shareholders
- Chairman of the Board of the Directors of Oras Invest Oy, which owns over 10% of Kemira Oyj's shares

Further information on the Board of Directors and the Management Board is available at **kemira.com**.

Group Management

Managing Director, Deputy Managing Director and members of the Management Board

JARI ROSENDAL

b. 1965
- M.Sc. (Eng.)
- President & CEO
- Managing Director of Kemira Oyj, Chair of the Management Board

PETRI CASTRÉN

b. 1962
- LL.M., MBA
- Chief Financial Officer

JUKKA HAKKILA

b. 1960
- LL.M.
- Group General Counsel
- Deputy Managing Director, secretary of the Board of Directors and the Management Board

MATTHEW R. PIXTON

b. 1964
- Ph.D. (Chem. Eng.)
- CTO

ESA-MATTI PUPUTTI

b. 1959
- Lic. Tech. (Eng)
- Executive Vice President, Operational Excellence & Sustainability

ANTTI SALMINEN

b. 1971
- Ph.D. (Eng.)
- President, Pulp & Paper as of August 15, 2022; until then, President, Industry & Water

EEVA SALONEN

b. 1960
- M.A. (Edu.)
- Executive Vice President, Human Resources

WIDO WAELPUT

b. 1959
- B.A. (Econ.)
- President, Industry & Water, Interim, as of September 1, 2022

Members of the Group Management until May 18, 2022

KIM POULSEN

b. 1966
- M.Sc. (Econ.)
- President, Pulp & Paper until May 18, 2022

Remuneration Report 2022

The Remuneration Report describes the remuneration of Kemira Governing Bodies, i.e., the Board of Directors, the President & CEO and the Deputy CEO of Kemira Oyj, for the financial year 2022 as required by the Finnish Securities Market Act, the Finnish Limited Liability Companies Act and the Finnish Corporate Governance Code 2020 issued by the Securities Markets Association.

The report is divided into the following sections:
- Pay-for-performance during the preceding five years
- Remuneration of the Board of Directors for the preceding financial year
- Remuneration of the CEO and Deputy CEO for the preceding financial year.

Letter from the Chair of the Board and Personnel and Remuneration Committee

Dear Shareholders,

I am pleased to present Kemira's Remuneration Report for the financial year 2022. The year 2022 was record-high despite a volatile operating environment. Kemira's revenue reached EUR 3.6 billion following strong organic revenue growth. Operative EBITDA reached a level of EUR 572 million during the year. Overall, 2022 was the best year in Kemira's history in terms of financial performance.

In 2023 Kemira will continue to execute its sustainable profitable growth strategy. The strategic priorities are reflected in the incentive programs: in addition to financial targets, the long-term incentive plan performance period 2023–2025 consists of two sustainability targets, namely Kemira CO_2 emission reduction from Scope 1 & 2 and revenue growth of biobased products.

In 2020, the Remuneration Policy for the Governing Bodies of Kemira Oyj ("Policy") was approved by the Board and confirmed at the Annual General Meeting. The Policy provides a framework for the remuneration principles and practices of the Board and of the CEO of Kemira. Kemira follows a total remuneration approach built around the principles of pay-for-performance, competitive market driven remuneration and effective communication.

The Annual General Meeting 2022 approved the Remuneration Report 2021 in the advisory voting. In 2022, the remuneration of the Board and CEO followed the Policy and no deviations have been made nor have any clawbacks of remunerations taken place. Kemira will continue to follow its remuneration principles which aim to align the interests of the CEO, the operative management, employees and shareholders.

MATTI KÄHKÖNEN
Chair of the Board and the Personnel and Remuneration Committee

PAY-FOR-PERFORMANCE DURING THE PRECEDING FIVE YEARS

Kemira is a global company with operations and employees in multiple countries, and the market remuneration levels differ significantly between these countries. To ensure the alignment of the interests of the CEO and the shareholders, the weighting of variable remuneration, and especially long-term incentive plans, in the CEO's total remuneration opportunity is substantial, whereas the employee remuneration is less volatile as a smaller portion of total remuneration is made up of variable remuneration.

The Board members do not participate in any incentive plans and thus the remuneration of the Board is more stable in nature.

The table sets out the remuneration paid during the respective year, considering that a portion of that remuneration may have been earned during the previous year.

The CEO's actual paid remuneration is well aligned with the company's performance development as visualized in the graphs. Kemira has placed increased focus on profitable growth since 2020. Over the long-term Kemira has become a fundamentally stronger company following numerous actions to improve the company's profitability. The operative EBITDA has grown from EUR 323 million in 2018 to EUR 572 million in 2022.

Annual fee of Board member, EUR	2018	2019	2020	2021	2022
Chair	80,000	92,000	92,000	92,000	110,000
Vice Chair and Chair of the Audit Committee	49,000	55,000	55,000	55,000	65,000
Other members	39,000	44,000	44,000	44,000	50,000
CEO total remuneration*	1,021,520	1,109,879	1,713,058	1,537,148	1,453,573
Average of Group employees remuneration**	57,101	59,235	58,370	56,254	65,294
Average headcount***	4,809	5,019	5,037	4,947	4,935
Operative EBITDA M€****	323	410	435	426	572

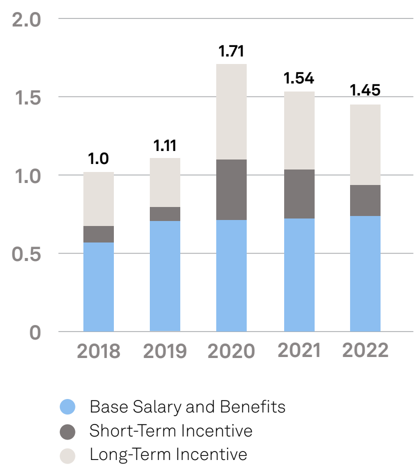
*Paid annual base salary, tax value of benefits, defined contribution pension, short- and long-term incentives.

**Average employee wages and salaries including accrued short-term incentives, excluding side costs, excluding CEO total remuneration.

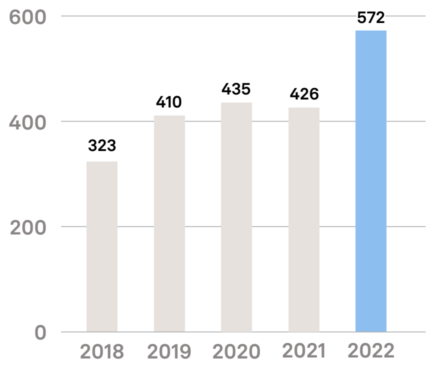
***Average headcount excluding CEO.

****IFRS16 including as of 2019.

CEO REMUNERATION
EUR MILLION



KEMIRA OPERATIVE EBITDA
EUR MILLION



REMUNERATION OF THE BOARD OF DIRECTORS FOR THE PRECEDING FINANCIAL YEAR

As stated in the Policy, the Annual General Meeting may at its discretion decide to remunerate the Board with one or more types of remuneration, such as cash and shares. According to the decisions made in the Annual General Meeting 2022, the members of the Board of Directors are paid an annual fee and a fee per meeting. The members of the Board of Directors are not eligible for the short-term bonus plan or the long-term share incentive plan, or supplementary pension plans of Kemira Oyj.

The annual fees are as follows:

- the Chair will receive EUR 110,000 per year
- the Vice Chair and the Chair of the Audit Committee EUR 65,000 per year
- the other members EUR 50,000 per year.

A fee payable for each meeting of the Board of Directors and the Board Committees will be paid based on the method and place of the meeting (previously based on the participant's country of residence) as follows:

- EUR 600 for each meeting remotely participated or in the member's country of residence
- EUR 1,200 for each meeting participated on the same continent of the member's country of residence
- EUR 2,400 for each meeting participated on a different continent than the member's country of residence.

The meeting fees are to be paid in cash. Travel expenses are reimbursed according to Kemira's travel policy. In addition, the Annual General Meeting 2022 decided that the annual fee shall be paid as a combination of the company's shares and cash in such a manner that 40% of the annual fee is paid with Kemira shares owned by the company or, if this is not possible, Kemira shares acquired from the securities market, and 60% is paid in cash. The Annual General Meeting decided that the shares will be transferred to the members of the Board of Directors within two weeks after the release of Kemira's interim report January 1–March 31, 2022. The shares were transferred on May 10, 2022.

In the financial year 2022, the following fees were paid to the members of the Board. No other fees or remuneration were paid to any member of the Board.

Board of Directors	Annual fee, EUR	Remuneration for Board and committee meetings, EUR	Total 2022, EUR
Kähkönen, Matti	110,000	9,600	119,600
Paasikivi, Annika	65,000	6,600	71,600
Lappalainen, Timo	65,000	12,600	77,600
Büchele, Wolfgang	50,000	9,600	59,600
Cunningham, Shirley	50,000	12,600	62,600
Fanø, Tina Sejersgård	50,000	4,200	54,200
Fuhrmann, Werner	50,000	9,600	59,600
Pullola, Kristian	50,000	9,000	59,000
Paasikivi, Jari*	0	3,600	3,600
Total			567,400

*Paasikivi, Jari was Member of the Board of Directors until March 24, 2022.

REMUNERATION OF THE CEO AND THE DEPUTY CEO FOR THE PRECEDING FINANCIAL YEAR

As stated in the Policy, the remuneration of the CEO might comprise base salary and benefits, performance-based incentive plans, supplementary pensions, insurances and other one time payments.

In 2022, the remuneration of the CEO comprised base salary and benefits, short-term bonus plan, long-term share incentive plans, insurances and a supplementary pension. In 2022 the total remuneration paid to CEO Jari Rosendal amounted to EUR 1,453,573, including the base salary and benefits, defined contribution pension plan, short-term bonus based on the 2021 performance period of EUR 199,528 and long-term share incentive based on the three-year performance period 2019–2021 of 18,920 shares, value of EUR 515,424 including the cash portion of the reward.

CEO AND DEPUTY CEO SHORT-TERM INCENTIVE CRITERIA IN 2021

- Group Operative Cash Flow after investing activities
- Group Operative EBIT in EUR
- Group Organic Revenue growth in EUR
- Group Safety KPI
- Role Specific KPI

CEO AND DEPUTY CEO SHORT-TERM INCENTIVE CRITERIA IN 2022 AND 2023

- Group Operative Cash Flow after investing activities
- Group Operative EBIT in EUR
- Group Organic Revenue growth in EUR
- Group Safety KPI
- Role Specific KPI

	Annual base salary, benefits and supplementary pension, EUR	Short-term bonus plan, EUR	Long-term share incentive plan*, EUR	Total 2022, EUR
CEO, Jari Rosendal**	738,620	199,528	515,424	1,453,573
Deputy CEO, Jukka Hakkila***	190,930	53,374	180,398	424,703

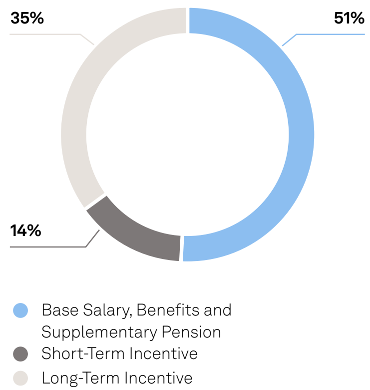
Individual figures presented in the table have been rounded to the nearest exact figure. Therefore, the sum of the individual figures may deviate from the total figure.

*Including cash portion of the reward intended for taxes.

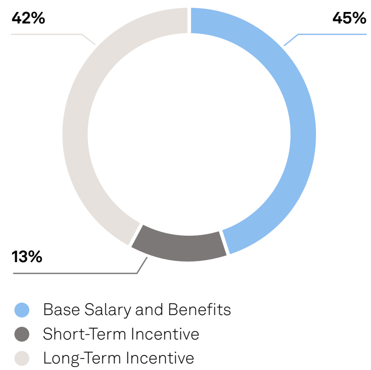
**CEO annual base salary including annual base salary, tax value of phone and car benefits and supplementary pension defined contribution pension plan.

***Deputy CEO annual base salary including annual base salary and tax value of phone. Due to the secondary nature of the Deputy CEO position, the company does not pay remuneration for holding this position. The deputy receives the remuneration that he receives based on his primary position (Group General Counsel) in the company's organization. No supplementary pension is offered to the Deputy CEO.

CEO REMUNERATION SPLIT IN 2022



DEPUTY CEO REMUNERATION SPLIT IN 2022



REMUNERATION ELEMENT	CEO REMUNERATION	DEPUTY CEO REMUNERATION
Base Salary and Benefits	The annual base salary was EUR 615,549 including car and mobile phone benefit.	The annual base salary was EUR 190,930 including mobile phone benefit.
Supplementary Pension	The supplementary pension was defined as 20% of annual base salary. In 2022 the value of the defined contribution pension plan was EUR 123,071. The retirement age of the President & CEO is 63 years.	No supplementary pension was offered to the Deputy CEO.
Short-Term Incentives (STI) The objective of the short-term bonus plans is to drive the annual objectives and priorities of the company, ensuring alignment with the company strategy and the shareholders' interests.	**Performance period 2021** The maximum STI opportunity was 70% of the annual base salary. No changes have been made to the maximum STI opportunity in 2021. The total weighted outcome of the performance criterion was 49%. The performance criterion and amounts are shown in the table on page 126. **Performance period 2022 and due payment** The maximum STI opportunity is 80% of the annual base salary. The maximum STI opportunity for 2022 has been increased by 10%-units compared to 2021. The performance criterion is shown in the table on page 126. The total weighted outcome of the performance criterion is 92%. Due short-term incentives based on performance period 2022 is EUR 434,174 and will be paid in 2023.	**Performance period 2021** The maximum STI opportunity was 60% of the annual base salary. No changes have been made to the maximum STI opportunity in 2021. The total weighted outcome of the performance criterion was 50%. The performance criterion and amounts are shown in the table on page 126. **Performance period 2022 and due payment** The maximum STI opportunity is 60% of the annual base salary. No changes have been made to the maximum STI opportunity in 2022. The performance criterion is shown in the table on page 126. The total weighted outcome of the performance criterion is 91%. Due short-term incentives based on performance period 2022 is EUR 100,114 and will be paid in 2023.
Long-Term Incentives (LTI) For more details of the LTI programs see kemira.com	**Performance period 2019-2021** The maximum reward opportunity for the LTI 2019–2021 performance period for the CEO was 22,000 shares and a cash portion intended to cover taxes and the tax-related costs arising from the reward. The performance criterion was 2019–2021 Average Intrinsic Value, and the outcome of the reward was 86%, reflecting 18,920 number of shares. The reward, including the cash portion, was paid in March 2022. **Performance period 2020** The maximum reward opportunity for the LTI 2020 performance period for the CEO was 22,000 shares and a cash portion intended to cover taxes and the tax-related costs arising from the reward. The performance criterion in 2020 was Intrinsic Value, the outcome of the reward was 68% reflecting 14,960 number of shares. The reward, including the cash portion, was paid in March 2021. The shares paid as reward may not be transferred during the two-year restriction period following the performance period. For the reward paid out in 2021, the restriction period ended on December 31, 2022. **Performance period 2020–2022 and due payment** The maximum reward opportunity for the LTI 2020–2022 performance period for the CEO is 22,000 shares and a cash portion intended to cover taxes and the tax-related costs arising from the reward. The 2020–2022 reward opportunity is 50% of the typical annual reward opportunity due to gradual shift from one-year performance periods to three-year performance periods. The performance criteria are 2020–2022 Average Intrinsic Value and 2020–2022 Average Organic Revenue Growth % p.a. The outcome of the reward is 100% reflecting 22,000 number of shares. The reward will be paid in 2023.	**Performance period 2019-2021** The maximum reward opportunity for the LTI 2019–2021 performance period for the Deputy CEO was 7,700 shares and a cash portion intended to cover taxes and the tax-related costs arising from the reward. The performance criterion was 2019–2021 Average Intrinsic Value, and the outcome of the reward was 86%, reflecting 6,622 number of shares. The reward, including the cash portion, was paid in March 2022. **Performance period 2020** The maximum reward opportunity for the LTI 2020 performance period for the Deputy CEO was 7,700 shares and a cash portion intended to cover taxes and the tax-related costs arising from the reward. The performance criterion in 2020 was Intrinsic Value, the outcome of the reward was 68% reflecting 5,236 number of shares. The reward, including the cash portion, was paid in March 2021. The shares paid as reward may not be transferred during the two-year restriction period following the performance period. For the reward paid out in 2021, the restriction period ended on December 31, 2022. **Performance period 2020–2022 and due payment** The maximum reward opportunity for the LTI 2020–2022 performance period for the Deputy CEO is 7,700 shares and a cash portion intended to cover taxes and the tax-related costs arising from the reward. The 2020–2022 reward opportunity is 50% of the typical annual reward opportunity due to gradual shift from one-year performance periods to three-year performance periods. The performance criteria are 2020–2022 Average Intrinsic Value and 2020–2022 Average Organic Revenue Growth % p.a. The outcome of the reward is 100% reflecting 7,700 number of shares. The reward will be paid in 2023.

<table>
<tr><th>REMUNERATION ELEMENT</th><th>CEO REMUNERATION</th><th>DEPUTY CEO REMUNERATION</th></tr>
<tr><td></td><td>Ongoing LTI Plans:
The maximum reward opportunity for the ongoing LTI 2021–2023 performance period for the CEO is 44,000 shares and a cash portion intended to cover taxes and the tax-related costs arising from the reward. The performance criteria are 2021–2023 Average Intrinsic Value and 2021–2023 Average Organic Revenue Growth % p.a. The possible reward is paid in 2024.
The maximum reward opportunity for the ongoing LTI 2022–2024 performance period for the CEO is 44,000 shares and a cash portion intended to cover taxes and the tax-related costs arising from the reward. The performance criteria are 2022–2024 Average Intrinsic Value and 2022–2024 Average Organic Revenue Growth % p.a. The possible reward is paid in 2025.
The maximum reward opportunity for the ongoing LTI 2023–2025 performance period for the CEO is 44,000 shares and a cash portion intended to cover taxes and the tax-related costs arising from the reward. The performance criteria are Average Return on Capital Employed % (ROCE-%) p.a., Average Organic Revenue Growth % p.a., Kemira CO_2 emission reduction from Scope 1 & 2 by 2025, and Revenue Growth of Biobased products by 2025. The possible reward is paid in 2026.</td><td>Ongoing LTI Plans:
The maximum reward opportunity for the ongoing LTI 2021–2023 performance period for the Deputy CEO is 15,400 shares and a cash portion intended to cover taxes and the tax-related costs arising from the reward. The performance criteria are 2021–2023 Average Intrinsic Value and 2021–2023 Average Organic Revenue Growth % p.a. The possible reward is paid in 2024.
The maximum reward opportunity for the ongoing LTI 2022–2024 performance period for the Deputy CEO is 15,400 shares and a cash portion intended to cover taxes and the tax-related costs arising from the reward. The performance criteria are 2022–2024 Average Intrinsic Value and 2022–2024 Average Organic Revenue Growth % p.a. The possible reward is paid in 2025.
The maximum reward opportunity for the ongoing LTI 2023–2025 performance period for the Deputy CEO is 15,400 shares and a cash portion intended to cover taxes and the tax-related costs arising from the reward. The performance criteria are Average Return on Capital Employed % (ROCE-%) p.a., Average Organic Revenue Growth % p.a., Kemira CO_2 emission reduction from Scope 1 & 2 by 2025, and Revenue Growth of Biobased products by 2025. The possible reward is paid in 2026.</td></tr>
<tr><td>Termination</td><td>A mutual termination notice period of 6 months applies to the CEO. He is entitled to a severance pay of 12 months' salary in addition to the salary earned during the notice period, in case the company terminates his service.</td><td>A mutual termination notice period of 6 months applies to the Deputy CEO. He is entitled to a severance pay of 6 months' salary in addition to the salary earned during the notice period, in case the company terminates his service.</td></tr>
<tr><td>Insurance</td><td>The CEO is entitled to insurances such as life and permanent disability, private accident, business travel, and directors’ and officers’ liability insurance. The CEO participates in the company sickness fund.</td><td>The Deputy CEO is entitled to insurances such as life and permanent disability, private accident, business travel, and directors’ and officers’ liability insurance. The Deputy CEO participates in the company sickness fund.</td></tr>
</table>

Kemira

Financial Statements 2022

Financial Statements 2022

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○ **PART OF THE AUDITED FINANCIAL STATEMENTS 2022**

This is a voluntarily published Financial Statements and Board of Directors' review 2022 in pdf format which does not meet the disclosure requirement in the Securities Markets Act (AML 7:5§). Kemira's official Financial Statements and Board of Directors' review 2022, and the Financial Statements and Board of Directors' review 2022 in accordance with ESEF regulations are available at **www.kemira.com**.

Board of Directors' Review 2022

In 2022, Kemira Group's revenue increased by 33% to a record-high: EUR 3,569.6 million (2,674.4). Revenue in local currencies, excluding acquisitions and divestments, increased by 27% due to higher sales prices, particularly in energy-intensive pulp and bleaching chemicals, including caustic soda.

Operative EBITDA increased by 34% to a record-high: EUR 571.6 million (425.5) following improvement in both segments. The operative EBITDA margin increased to 16.0% (15.9%) following actions to mitigate impacts from strong inflation. EBITDA increased by 50% to EUR 558.8 million (373.2). The differences between operative and reported figures are explained by items affecting comparability, which were mainly related to an expected loss from the divestment of most of our colorants business, Kemira's exit from Russia and a manufacturing unit sale to a customer. Operative EBIT increased by 60% to EUR 361.6 million (225.4). EBIT increased by 104% to EUR 347.6 million (170.1).

Cash flow from operating activities was EUR 400.3 million (220.2).

EPS, diluted increased by 114% to EUR 1.50 (0.70).

The Board of Directors proposes to the Annual General Meeting 2023 a cash dividend of EUR 0.62 per share (0.58), totaling EUR 95 million (89). It is proposed that the dividend be paid in two installments.

KEY FIGURES AND RATIOS

EUR million	2022	2021	2020
Revenue	3,569.6	2,674.4	2,427.2
Operative EBITDA	571.6	425.5	435.1
Operative EBITDA, %	16.0	15.9	17.9
EBITDA	558.8	373.2	413.2
EBITDA, %	15.7	14.0	17.0
Operative EBIT	361.6	225.4	237.7
Operative EBIT, %	10.1	8.4	9.8
EBIT	347.6	170.1	215.9
EBIT, %	9.7	6.4	8.9
Net profit for the period	239.7	115.2	138.0
Earnings per share, diluted, EUR	1.50	0.70	0.86

EUR million	2022	2021	2020
Capital employed*	2,238.0	1,995.0	1,964.9
Operative ROCE*, %	16.2	11.3	12.1
ROCE*, %	15.5	8.5	11.0
Cash flow from operating activities	400.3	220.2	374.7
Capital expenditure excl. acquisition	197.9	168.8	195.6
Capital expenditure	197.9	169.8	198.2
Cash flow after investing activities	222.3	57.3	173.3
Equity ratio, % at period-end	46.2	42.8	43.2
Equity per share, EUR	10.89	8.68	7.80
Gearing, % at period-end	45.8	63.3	63.0
Personnel (average)	4,936	4,947	5,038

*12-month rolling average (ROCE, % based on the EBIT)

Unless otherwise stated, all comparisons in this report are made to the corresponding period in 2021.

Kemira provides certain financial performance measures (alternative performance measures) that are not defined by IFRS. Kemira believes that alternative performance measures followed by capital markets and Kemira management, such as revenue growth in local currencies, excluding acquisitions and divestments (=organic growth), EBITDA, operative EBITDA, operative EBIT, cash flow after investing activities, and gearing, provide useful information about Kemira's comparable business performance and financial position. Selected alternative performance measures are also used as performance criteria in remuneration.

Kemira's alternative performance measures should not be viewed in isolation from the equivalent IFRS measures, and alternative performance measures should be read in conjunction with the most directly comparable IFRS measures. Definitions of the alternative performance measures can be found in the definitions of the key figures in this report, as well as at www.kemira.com > Investors > Financial information. All the figures in this report have been individually rounded, and consequently the sum of the individual figures may deviate slightly from the total figure presented.

In addition to the above key figures and ratios, other key figures which are describing the Group's financial performance are presented in the Other financial information section under Group key figures.

FINANCIAL PERFORMANCE IN 2022

Revenue increased by 33%. Revenue in local currencies, excluding acquisitions and divestments, increased by 27% This was due to higher sales prices in both segments and across geographic regions, particularly in energy-intensive pulp and bleaching chemicals. Sales volumes decreased following a decline in sales volumes in Pulp & Paper. In Industry & Water, sales volumes increased.

Revenue	2022 EUR, million	2021 EUR, million	Δ%	Organic growth*, %	Currency impact, %	Acq. & div. impact, %
Pulp & Paper	2,027.7	1,559.6	+30	+24	+6	0
Industry & Water	1,541.9	1,114.8	+38	+31	+8	0
Total	3,569.6	2,674.4	+33	+27	+7	0

*Revenue growth in local currencies, excluding acquisitions and divestments

Geographically, the revenue split was as follows: EMEA (Europe, Middle East, Africa) 51% (51%), the Americas 40% (38%), and Asia Pacific 9% (11%).

Operative EBITDA increased by 34% to EUR 571.6 million (425.5). Operative EBITDA improved in both segments, particularly in Pulp & Paper driven by higher market prices for energy-intensive pulp and bleaching chemicals, including caustic soda. The operative EBITDA margin improved to 16.0%.

Variance analysis, EUR million	Jan–Dec
Operative EBITDA, 2021	425.5
Sales volumes	-48.9
Sales prices	+851.1
Variable costs	-611.8
Fixed costs	-72.1
Currency exchange	+25.3
Others	+2.5
Operative EBITDA, 2022	571.6

Operative EBITDA	2022 EUR, million	2021 EUR, million	Δ%	2022 %-margin	2021 %-margin
Pulp & Paper	348.0	244.7	+42	17.2	15.7
Industry & Water	223.7	180.8	+24	14.5	16.2
Total	571.6	425.5	+34	16.0	15.9

EBITDA increased by 50% to EUR 558.8 million (373.2). The difference between it and operative EBITDA is explained by items affecting comparability. **Items affecting comparability** were mainly related to an expected loss from the divestment of most of our colorants business, environmental provisions, Kemira's exit from Russia, and a manufacturing unit sale to a customer. Items affecting comparability in the comparison period mainly consisted of a provision caused by the expected underutilization of a single-asset energy company in Pori, Finland majority owned by Kemira via Pohjolan Voima, a damage claim settlement with CDC, provisions related to site closures, and restructuring.

Items affecting comparability, EUR million	2022	2021
Within EBITDA	-12.8	-52.4
Pulp & Paper	-11.4	-46.5
Industry & Water	-1.4	-5.9
Within depreciation, amortization and impairments	-1.2	-3.0
Pulp & Paper	-1.2	-0.1
Industry & Water	0.0	-2.9
Total items affecting comparability in EBIT	-14.0	-55.4

Depreciation, amortization, and impairments increased to EUR 211.2 million (203.1), including the EUR 9.4 million (12.1) amortization of purchase price allocation.

Operative EBIT increased by 60% compared to the previous year. **EBIT** increased by 104%, and the difference between the two is explained by items affecting comparability, which were mainly related to an divestment of most of our colorants business, environmental provisions, Kemira's exit from Russia, and a manufacturing unit sale to a customer. Items affecting comparability in the comparison period are described above in the EBITDA section.

Net finance costs totaled EUR -39.4 million (-26.7). The comparison period included a gain of EUR 5.6 million arising from bond liability management. **Income taxes** were EUR -68.5 million (-28.2), with the reported tax rate being 22% (20%). **Net profit** for the period increased by 108% mainly due to higher EBIT.

FINANCIAL POSITION AND CASH FLOW

Cash flow from operating activities in January-December 2022 increased to EUR 400.3 million (220.2) mainly due to higher net profit for the period. Net working capital increased compared to the previous year due to higher inventories and receivables following higher raw material prices and strong revenue growth. However, during Q4 2022, net working capital decreased significantly. During Q1 2022, Kemira's supplementary pension fund in Finland, Neliapila, returned excess capital totaling EUR 10 million to Kemira. Cash flow after investing activities was EUR 222.3 million (57.3).

At the end of the period, interest-bearing liabilities totaled EUR 1,021.8 million (992.2), including lease liabilities of EUR 148.9 million (136.8). The average interest rate of the Group's interest-bearing loan portfolio (excluding leases) was 2.4% (1.7%), and the duration was 22 months (29). Fixed-rate loans accounted for 83% (80%) of net interest-bearing liabilities, including lease liabilities.

Short-term liabilities maturing in the next 12 months amounted to EUR 183.7 million. On December 31, 2022, cash and cash equivalents totaled EUR 250.6 million (142.4). The Group has a EUR 400 million undrawn committed credit facility maturing in 2026. During the last quarter, Kemira signed bilateral loan agreements of EUR 180 million replacing bilateral loan agreements of EUR 150 million that would have otherwise matured in 2023. New loan agreements mature in 2025 and 2027.

At the end of the period, Kemira Group's net debt was EUR 771.2 million (849.8), including lease liabilities. The equity ratio was 46% (43%), while gearing was 46% (63%).

The value of Kemira's shares in Pohjolan Voima and Teollisuuden Voima were increased by EUR 123 million during 2022 mainly due to higher electricity prices. The value of electricity derivatives increased by EUR 47 million during 2022.

Kemira is exposed to transaction and translation currency risks. The Group's most significant transaction currency risks arise from the Chinese renminbi, the Canadian dollar, the US dollar and the Swedish krona. At the end of the year, the Chinese renmimbi denominated exchange rate risk against the euro had an equivalent value of approximately EUR 86 million, of which 68% was hedged on an average basis. The Canadian dollar's denominated exchange rate risk against the euro had an equivalent value of approximately EUR 56 million, of which 52% was hedged on an average basis. The US dollar denominated exchange change risk against EUR was approximately EUR 54 million, of which 68% was hedged on an average basis. The Swedish krona denominated exchange rate risk against EUR had an equivalent value of approximately EUR 36 million, of which 64% was hedged on an average basis. In addition, Kemira is exposed to smaller transaction risks against EUR mainly in relation to the Korean won, Polish zloty, Norwegian krona, and the Danish krona; and against the US dollar mainly in relation to the Canadian dollar and the Brazilian real with the annual exposure in those currencies being approximately EUR 131 million.

As Kemira's consolidated financial statements are compiled in euros, Kemira is also subject to a currency translation risk to the extent to which the income statement and balance sheet items of subsidiaries located outside the euro area are reported in a currency other than the euro. The most significant translation exposures derive from the US dollar and the Canadian dollar. The strengthening of currencies against the euro would increase Kemira's revenue and EBITDA through a translation effect.

CAPITAL EXPENDITURE

In January-December 2022, capital expenditure excluding acquisitions increased by 17% to EUR 197.9 million (168.8). Capital expenditure (capex) can be broken down as follows: expansion capex 22% (15%), improvement capex 29% (29%), and maintenance capex 49% (55%).

RESEARCH AND DEVELOPMENT

In January–December 2022, total research and development expenses were EUR 33.4 million (28.3), representing 0.9% (1.1%) of the Group's revenue.

Kemira's research and development is an enabler of growth and further differentiation. New product launches contribute to the efficiency and sustainability of customer processes as well as improved profitability. Both Kemira's future market position and profitability depend on the company's ability to understand and meet current and future customer needs and market trends, as well as on its ability to innovate differentiated products and applications.

At the end of 2022, Kemira had 401 (382) patent families, including 2,101 (1,972) granted patents, and 1,026 (996) pending applications. During 2022, Kemira applied for 34 (36) new patents and started 14 new product development projects, 86% of them aiming to improve customers' resource efficiency. At the same time, Kemira started commercialization of nine new product development projects all contributing to improve resource efficiency in customer processes.

HUMAN RESOURCES

At the end of the period, Kemira Group had 4,902 employees (4,926). Kemira had 756 (766) employees in Finland, 1,690 (1,750) employees elsewhere in EMEA, 1,525 (1,487) in the Americas, and 931 (923) in APAC.

NON-FINANCIAL INFORMATION

DISCLOSURE OF NON-FINANCIAL INFORMATION

Kemira discloses key non-financial information in this section according to the requirements in the EU Directive and Finnish Accounting Act. More information on the non-financial and sustainability matters is provided in the Annual Review's Overview section and in the Sustainability Report. The non-financial disclosures are based on the latest Global Reporting Initiative disclosures, which are prepared in accordance with the latest GRI standards and are externally assured by an independent third-party. Kemira's most relevant risks are described separately in the risk section on page 148.

OVERVIEW OF KEMIRA'S BUSINESS

Kemira is a global leader in sustainable chemical solutions for water intensive industries and provides best suited products and expertise to improve our customers' product quality, process and resource efficiency. Kemira has two business areas: Pulp & Paper and Industry & Water. Kemira has operations in around 40 countries and had 62 manufacturing facilities at the end of 2022. In Pulp & Paper, Kemira offers chemical solutions for bleaching, packaging and printing and writing products. Main product categories in Pulp & Paper are bleaching chemicals, sizing and strength chemicals, various process chemicals and polymers. In Industry & Water, Kemira offers chemical solutions for municipal and industrial water treatment as well as the energy industry. Main product categories in Industry & Water are coagulants and polymers.

Profitable sustainable growth is Kemira's strategic priority. Sustainability is a key driver for Kemira's strategy and long-term success as Kemira's customers are increasingly asking for sustainable products. Kemira provides its customers with solutions that help to improve the resource efficiency of the customers' operations. In 2022, 53% of Kemira's revenue came from products that improve customer resource efficiency. Biodegradability and recyclability are increasingly important themes for Kemira's customers. As a result, renewable (e.g. biobased) products are expected to be a key component for Kemira's growth. Kemira's biobased strategy is covered in more detail in the Annual Review. More information on Kemira's value creation model can be found on page 8 of the **Annual Review**.

CORPORATE SUSTAINABILITY PRIORITIES

Kemira has systematic procedures in place to evaluate and address the economic, environmental, and social impacts of its own operations and business relationships. Our sustainability work is based on day-to-day responsible practices in all our operations.
Our corporate sustainability priorities are based on the most material impacts across our business model; on the increasing expectations of our customers, investors, and other stakeholders; and on our commitment to the Kemira Code of Conduct and internationally agreed sustainability principles. Kemira is a signatory of the United Nations Global Compact, and our sustainability work is guided by the UN Sustainable Development Goals (SDGs). Kemira is also committed to operating according to the principles of Responsible Care®, a voluntary commitment created by the global chemical industry to drive continuous improvement and achieve excellence in environmental, health and safety, and security performance.

Kemira's sustainability work focuses on five themes, which cover the most material topics and their impact: Safety, People, Water, Circularity, and Climate. Kemira measures progress in the priority areas through group-level key performance indicators (KPI) and targets that are approved by the Board of Directors. The relevant management processes relating to material corporate sustainability issues are continuously developed and implemented as part of our integrated management system, which is externally certified against ISO 9001:2015 for Quality, ISO 14001:2015 for Environment, and ISO 45001:2018 for Occupational Health and

Safety. Kemira also regularly reviews its stakeholders expectations and concerns regarding sustainability. The latest materiality analysis was conducted in 2021. The results and process are described in more detail on pages 42–44 of **Kemira's sustainability report**.

MANAGEMENT OF CORPORATE SUSTAINABILITY

Sustainability is a key element of Kemira's strategy. Work on sustainability is led by Director Sustainability, who reports to EVP, Operational Excellence and Sustainability. The sustainability work is governed by a Sustainability Steering Team, which develops Kemira's ambition level in sustainability and steers the work of sustainability programs. The team has a range of participants from strategy to business and manufacturing representatives, including Management Board members. The Board of Directors oversees the implementation of strategy as well as reviews risks, including environmental and social matters. In 2022, the Board of Directors decided to include sustainability-related targets, reduction of Scope 1 and Scope 2 emissions and development of Kemira's biobased revenue, as key performance indicators in the new performance period 2023-2025 of Kemira's long-term incentive plan.

MATERIAL TOPICS

More information on sustainability at Kemira and the outcome of Kemira's sustainability targets in 2022 can be found on page 141.

Environmental and climate-related matters

Kemira's latest materiality assessment was conducted in 2021. Based on the analysis, Kemira has identified topics related to climate, circularity, water and safety as its environmental sustainability focus areas.

In climate, we continuously strive to reduce our environmental impact. In 2022, Kemira committed to the Science-Based Targets Initiative (SBTi) and simultaneously updated its climate target. Kemira is committed to reducing its combined Scope 1 and Scope 2 emissions by 50% by 2030, from a 2018 baseline of 930 000 tons CO2e. This target is in line with limiting global warming to 1.5°C, which is currently the most ambitious criteria for setting climate change mitigation targets. Kemira's long-term ambition is to be carbon neutral by 2045 for combined Scope 1 and 2 emissions. As part of its SBTi commitment, Kemira also committed to developing a quantified near-term Scope 3 target within the timeframe set by the Science Based Target initiative framework. Kemira will submit these updated targets to be validated by the SBTi when they are finalized, in early 2024 at the latest. Kemira is working actively with its suppliers to find ways to reduce Scope 3 emissions.

In water, we work to mitigate water-related risks and grasp water-related opportunities. Kemira operates in businesses that use a lot of water and water is a common denominator for Kemira's both segments. Water is a key strategic theme for Kemira as Kemira wants to grow in water treatment in the coming years. In terms of Kemira's operations, Kemira aims to continuously improve its freshwater use intensity in its operations. Our sustainability target as of 2022 is to reach Leadership level in CDP Water Security rating by the end of 2025. In terms of circularity, we aim to reduce waste and increase the use of renewable raw materials. Our sustainability target is to reduce disposed production waste intensity by 15% by 2030 from 2019 baseline level. In 2020, we introduced a new group-level KPI to increase our revenue from biobased products and solutions from EUR 100 million to 500 EUR million by 2030. In conjunction with revenue target, Kemira is working to increase the share of renewable ja recycled raw materials of its used raw materials. This will allow Kemira to reduce pressure on natural resources, and support our customers in moving away from fossil-based raw materials.

Social and employment-related matters

Kemira has identified people and safety as its social sustainability focus areas. Ensuring workplace safety is a key priority in all our operations. High people, process, and environmental safety performance is fundamental to our business and to our customers. Our target in safety is to improve TRIF (total recordable injury frequency per million working hours for Kemira's employees and contractors) to 1.5 by 2025 and to 1.1 by 2030. Also fostering a strong company culture and commitment of our employees are important success factors for our business. In people, our target is to reach the top 10% cross-industry norm for Diversity & Inclusion by 2025.

Respect for human rights

Our Code of Conduct is the foundation for how we conduct business at Kemira. In our code we state that we are committed to the principles of The Universal Declaration of Human Rights and the core conventions of the International Labour Organization (ILO) and the United Nations' Global Compact, and we expect our suppliers and business partners to share these principles. Further we work by the United Nations Guiding Principles which require companies to conduct due diligence to protect and respect human rights. We have a public statement for slavery and human trafficking, where our approach to human rights issues is outlined more in detail. Kemira's Code of Conduct for Business Partners (CoC-BP), supported by Kemira Sustainability and EHSQ Policy, set out principles for responsible business conduct, respect for human rights and provision of appropriate working conditions, and environmental responsibility. Kemira's latest Human Rights Impact Assessment was conducted in 2021 to identify human rights impacts throughout Kemira operations and value chain. Kemira has a Human Rights Council that oversees and develops Kemira's human rights related processes. More information on Kemira's approach to human rights is available in **Kemira's sustainability report**.

Anti-corruption and bribery

Kemira's anti-corruption principles are included in the Code of Conduct. Kemira does not tolerate improper or corrupt payments made either directly or indirectly to a customer, government official or third party, including facilitation payments, improper gifts, entertainment, gratuities, favors, donations or any other improper transfer of value. We engage only reputable sales representatives and other third parties who share the same commitment. Code of Conduct training is mandatory for all our employees, and there are advisory, monitoring and reporting procedures in place to ensure full compliance with the Code. We maintain an ethics and compliance Whistleblowing line for employees to enable them to report potential violations of the Code of Conduct or any other concerns. Mandatory anti-bribery training is provided for selected groups of personnel who need to have a comprehensive understanding of Kemira's anti-corruption principles. Awareness of anti-corruption matters is delivered through our Code of Conduct training to all employees. Kemira has conducted an ethics and compliance risk assessment to evaluate corruption-related and bribery-related risks in its operations. There were no confirmed incidents of corruption in 2022.

EU TAXONOMY

The European Union's target is to reduce net greenhouse gas emissions to zero by 2050. In order to reduce greenhouse gas emissions and to better engage the private sector in the green transition, the EU has introduced the EU taxonomy, a common classification system to define environmentally sustainable economic activities. The aim of the taxonomy is to classify economic activities based on their contribution to six environmental objectives 1) climate change mitigation, 2) climate change adaptation, 3) sustainable use and protection of water and marine resources, 4) transition to a circular economy, 5) pollution prevention and control, and 6) protection and restoration of biodiversity and ecosystems. The EU taxonomy is still developing and it does not include all six environmental objectives nor cover all economic activities. The taxonomy's first two objectives, climate change mitigation and adaptation, cover economic activities that are the most emission-intensive and /or have the largest ability to contribute to climate change mitigation and adaptation. In 2022, companies are required to disclose what proportion of their turnover, capital expenditure (CapEx) and operating expenditure (OpEx) are eligible and aligned according to the EU taxonomy's first two environmental objectives: climate change mitigation and climate change adaptation. *

The manufacturing sector, which Kemira is considered to be part of, is largely out of scope of the current legislation. Currently it mainly includes the manufacturing of basic materials and chemicals such as chlorine, soda ash and hydrogen. Kemira on the other hand mostly produces specialty chemicals and therefore its current eligibility and alignment figures are low. The chemical sector, Kemira included, is expected to be more broadly included in objectives 3–6.

ACCOUNTING PRINCIPLES

EU taxonomy requires the disclosure of three financial indicators: turnover, capital expenditure (CapEx) and operating expenditure (OpEx). These indicators are defined by the EU taxonomy and the definitions differ from the IFRS-definitions of CapEx and OpEx, which are used elsewhere in Kemira's financial reporting. Kemira has calculated the KPIs based on the definitions by the EU taxonomy and has taken a conservative approach when interpreting the EU Taxonomy Regulation. The EU taxonomy also requires companies to disclose how they have avoided double counting of their economic activities. Kemira avoided double-counting by ensuring that turnover, CapEx and OpEx were only allocated once to the taxonomy activities and only to one environmental objective – climate change mitigation.

KEMIRA'S TAXONOMY-ELIGIBLE AND TAXONOMY-ALIGNED ECONOMIC ACTIVITIES (PLEASE SEE TABLES ON FOLLOWING PAGES FOR A MORE DETAILED BREAKDOWN)

Key Performance Indicator	Total turnover (MEUR)	Share of taxonomy-eligible economic activities (%)	Share of taxonomy non-eligible economic activities (%)	Share of taxonomy aligned economic activities (%)	Share of taxonomy non-aligned economic activities (%)
Turnover	3569.6	0	100	0	100
Capital expenditure (CapEx) as per definition of the EU Taxonomy	243.5	0	100	0	100
Operating expenditure (OpEx) as per definition of the EU Taxonomy	106.3	0	100	0	100

Turnover in EU Taxonomy equals revenue in Kemira's financial reporting. Capex as per definition of the EU taxonomy equals Kemira's reported capital expenditure added with additions into right-of-use assets. Opex as per definition of the EU taxonomy equals direct R&D and maintenance expenditure. Please refer to the Financial Statements note 2.1 for more information on revenue, 3 for capital expenditure and 2.2 for operating expenditure.

Turnover. Kemira's eligible turnover mainly consisted of industrial by-products, such as hydrogen and waste heat that is sold for district heating. Kemira's waste heat turnover is taxonomy-aligned, while hydrogen turnover is not taxonomy-aligned due to the lack of life-cycle-assessments in a form required in the EU Taxonomy Regulation.

Capital expenditure. Kemira had no revenue-related CapEx as the taxonomy-eligible turnover consisted of industrial by-products for which Kemira does not specifically spend CapEx. In terms of individually sustainable CapEx**, Kemira spent EUR 1.2 million CapEx in electric vehicles in 2022.

Operating expenditure. Kemira had no revenue-related OpEx as the taxonomy-eligible turnover consisted of industrial by-products for which Kemira does not specifically spend OpEx. Based on Kemira's analysis, individually sustainable OpEx** was not material in 2022.

*Taxonomy-eligibility means that an activity is classified in the taxonomy, which is an indication that it might have a substantial contribution to one of the six environmental objectives of the taxonomy. Taxonomy-aligned means that an activity is environmentally sustainable, according to the EU taxonomy criteria. Economic activities are considered to be aligned according to the EU taxonomy when they:

- Make a substantial contribution to one of the six objectives mentioned above and they comply with certain technical screening criteria
- Do no significant harm (DNSH) to the achievement of any other objective of the EU taxonomy
- Comply with minimum safeguards for human rights, taxation, corruption and fair competition

Kemira has assessed its eligible revenue based on the above categories to determine whether the taxonomy-eligible activities are also taxonomy-aligned activities. In 2022, Kemira performed a minimum safeguards self-assessment in relation to the EU Taxonomy reporting in the fields on human rights, taxation, corruption and fair competition. The conclusion from this assessment is that Kemira meets the EU Taxonomy minimum safeguards on a group level.

**Individually sustainable CapEx / OpEx refers to CapEx / OpEx that enables an economic activity to be conducted in a low-carbon manner or to reduce greenhouse gas emissions.

TURNOVER

				Substantial contribution criteria						DNSH criteria ('Does Not Significantly Harm')										
Economic activities (1)	Code(s) (2)	Absolute turnover (3)	Proportion of turnover (4)	Climate change mitigation (5)	Climate change adaptation (6)	Water and marine resources (7)	Circular economy (8)	Pollution (9)	Biodiversity and ecosystems (10)	Climate change mitigation (11)	Climate change adaptation (12)	Water and marine resources (13)	Circular economy (14)	Pollution (15)	Biodiversity and ecosystems (16)	Minimum safeguards (17)	Taxonomy-aligned proportion of turnover, year 2022 (18)	Taxonomy- aligned proportion of turnover, year 2021 (19)	Category (enabling activity or) (20)	Category '(transitional activity)' (21)
		MEUR	%	%	%	%	%	%	%	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)																				
4.25 Production of heat/cool from waste heat	D35.30	8.1	0.2%	100%	0%						Y	Y	Y	Y	Y	Y	0.2%			
Turnover of environmentally sustainable activities (Taxonomy Aligned (A.1)		**8.1**	**0.2%**	**100%**	**0%**												**0.2%**			
A.2. Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																				
3.10 Manufacture of hydrogen	C20.11	4.8	0.1%																	
Turnover of taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)(A.2)		**4.8**	**0.1%**																	
Total (A.1 + A.2)		**12.9**	**0.4%**																	
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																				
Turnover of Taxonomy-non-eligible activities (B)		3,556.7	99.6%																	
Total (A + B)		**3,569.6**	**100.0%**																	

CAPEX

				Substantial contribution criteria						DNSH criteria ('Does Not Significantly Harm')										
Economic activities (1)	Code(s) (2)	Absolute CapEx (3)	Proportion of CapEx (4)	Climate change mitigation (5)	Climate change adaptation (6)	Water and marine resources (7)	Circular economy (8)	Pollution (9)	Biodiversity and ecosystems (10)	Climate change mitigation (11)	Climate change adaptation (12)	Water and marine resources (13)	Circular economy (14)	Pollution (15)	Biodiversity and ecosystems (16)	Minimum safeguards (17)	Taxonomy-aligned proportion of CapEx, year 2022 (18)	Taxonomy- aligned proportion of CapEx, year 2021 (19)	Category (enabling activity or) (20)	Category '(transitional activity)' (21)
		MEUR	%	%	%	%	%	%	%	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)																				
4.25 Production of heat/cool from waste heat	D35.30	0.0	0.0%	100%	0%						Y	Y	Y	Y	Y	Y	0.0%			
CapEx of environmentally sustainable activities (Taxonomy Aligned (A.1)		**0.0**	**0.0%**	**100%**	**0%**												**0.0%**			
A.2. Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																				
3.10 Manufacture of hydrogen	C20.11	0.0	0.0%																	
6.5 Transport by motorbikes, passenger cars and light commercial vehicles	N77.1.1	1.2	0.5%																	
CapEx of taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)(A.2)		**1.2**	**0.5%**																	
Total (A.1 + A.2)		**1.2**	**0.5%**																	
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																				
CapEx of Taxonomy-non-eligible activities (B)		242.3	99.5%																	
Total (A + B)		**243.5**	**100.0%**																	

OPEX

				Substantial contribution criteria						DNSH criteria ('Does Not Significantly Harm')										
		Absolute OpEx (3)	Proportion of OpEx (4)	Climate change mitigation (5)	Climate change adaptation (6)	Water and marine resources (7)	Circular economy (8)	Pollution (9)	Biodiversity and ecosystems (10)	Climate change mitigation (11)	Climate change adaptation (12)	Water and marine resources (13)	Circular economy (14)	Pollution (15)	Biodiversity and ecosystems (16)	Minimum safeguards (17)	Taxonomy-aligned proportion of OpEx, year 2022 (18)	Taxonomy- aligned proportion of OpEx, year 2021 (19)	Category (enabling activity or) (20)	Category '(transitional activity)' (21)
Economic activities (1)	**Code(s) (2)**	MEUR	%	%	%	%	%	%	%	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)																				
4.25 Production of heat/cool from waste heat	D35.30	0.0	0.0%	100%	0%						Y	Y	Y	Y	Y	Y	0.0%			
OpEx of environmentally sustainable activities (Taxonomy Aligned (A.1)		**0.0**	**0.0%**	**100%**	**0%**												**0.0%**			
A.2. Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																				
3.10 Manufacture of hydrogen	C20.11	0.0	0.0%																	
6.5. Transport by motorbikes, passenger cars and light commercial vehicles	N77.1.1	0.0	0.0%																	
OpEx of taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)(A.2)		**0.0**	**0.0%**																	
Total (A.1 + A.2)		**0.0**	**0.0%**																	
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																				
OpEx of Taxonomy-non-eligible activities (B)		106.3	100.0%																	
Total (A + B)		**106.3**	**100.0%**																	

SUSTAINABILITY PERFORMANCE

Kemira's sustainability work covers economical, environmental, and social topics and is guided by the UN Sustainable Development Goals (SDGs). Our focus is on Clean Water and Sanitation (SDG6), Decent Work and Economic Growth (SDG8), Responsible Consumption and Production (SDG12), and Climate Action (SDG13). More information on sustainability at Kemira can be found in the Sustainability report 2022.

SUSTAINABILITY PERFORMANCE IN 2022

Safety

In 2022 systematic work was done to reinforce a culture where people actively promote safety and recognize and correct unsafe behaviors. Kemira's safety performance in 2022 improved slightly compared to 2021 and the TRIF rate was 2.6. Safety performance improved clearly towards the year-end and the Q4 TRIF rate was 1.7.

People

Kemira's long-term goal is to reach the top 10% cross industry benchmark for Diversity & Inclusion by 2025. In 2022, Kemira D&I index score improved by 2 points and Kemira was able to slightly close the gap to the target group. Kemira ended slightly below the top 25% cross industry benchmark. In order to promote a diverse and inclusive work environment, Kemira had several initiatives during the year, such as diversity & inclusion training for people leaders and new employee resource groups, Women's Network and KemPride.

Circularity

Kemira continued to make progress in its biobased strategy and launched a new Growth Accelerator unit during 2022 in order to accelerate the commercialization of new biobased products. In addition, Kemira signed a multi-year extension to its partnership with Danimer Scientific to develop and commercialize biobased coatings. In terms of waste, Kemira continued site-specific work to identify opportunities for waste reduction during the year. Waste intensity in 2022 increased slightly compared to 2021.

Water

In Q1 2022, Kemira updated its sustainability target for water and aims to reach the highest, Leadership-level (A), in water management by the end of 2025 as measured by CDP Water Security. In 2022 Kemira was rated B by CDP's Water Security scoring methodology. Based on the scoring report Kemira's overall water management improved compared to 2021.

Climate

During Q2 2022, Kemira committed to the Science Based Targets initiative (SBTi) and set a new ambitious climate target to reduce Scope 1 and Scope 2 emissions by 50% by 2030. In H2 2022 Kemira worked to develop a quantified near-term Scope 3 emission reduction target to be validated by the SBTi. In 2022, Kemira's Scope 1 and 2 emissions declined by around 5% compared to 2021, which is slightly above the level expected to meet the updated 2030 climate target. However, Kemira has ongoing near-term projects which are expected to further reduce our emissions in line with the more ambitious target.

SDG	KPI	UNIT	2022	2021
8 DECENT WORK AND ECONOMIC GROWTH	**SAFETY** TRIF* 1.5 by 2025 and 1.1 by 2030		2.6	2.7
8 DECENT WORK AND ECONOMIC GROWTH	**PEOPLE** Reach top 10% cross industry norm for Diversity & Inclusion by 2025		Slightly below top 25%	Slightly below top 25%
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	**CIRCULARITY** Reduce waste intensity** by 15% by 2030 from a 2019 baseline of 4.6 Biobased products > EUR 500 million revenue by 2030	t/1000t	4.4	4.3
6 CLEAN WATER AND SANITATION	**WATER** Reach the Leadership level (A) in water management by 2025 measured by CDP Water Security scoring methodology.	Rate scale A–D	B	B
13 CLIMATE ACTION	**CLIMATE** Scopes 1 & 2*** emissions -50% by 2030 compared to 2018 baseline of 930 $ktCO_2e$	$ktCO_2e$	816	856

*TRIF = total recordable injury frequency per million hours, Kemira + contractors

**metric tonnes of routine disposed production waste per thousand metric tonnes of production

***Scope 1: Direct greenhouse gas emissions from Kemira's manufacturing sites, e.g. the generation of energy and emissions from manufacturing processes. Scope 2: Indirect greenhouse gas emissions from external generation and purchase of electricity, heating, cooling, and steam

SEGMENTS

PULP & PAPER

Pulp & Paper has unique expertise in applying chemicals and in supporting pulp and paper producers in innovating and constantly improving their operational efficiency as well as end product performance and quality. The segment develops and commercializes new products to meet the need of its customers, thus ensuring a leading portfolio of products and services for the bleaching of pulp as well as the paper wet-end, focusing on packaging, board, and tissue. Pulp & Paper is leveraging its strong application portfolio in North America and EMEA while also building a strong position in the emerging Asian and South American markets.

EUR million	2022	2021
Revenue	2,027.7	1,559.6
Operative EBITDA	348.0	244.7
Operative EBITDA, %	17.2	15.7
EBITDA	336.6	198.3
EBITDA, %	16.6	12.7
Operative EBIT	225.7	124.3
Operative EBIT, %	11.1	8.0
EBIT	213.1	77.7
EBIT, %	10.5	5.0
Capital employed*	1,337.7	1,226.9
Operative ROCE*, %	16.9	10.1
ROCE*, %	15.9	6.3
Capital expenditure excl. M&A	122.5	88.5
Capital expenditure incl. M&A	122.5	89.5
Cash flow after investing activities	207.2	94.6

*12-month rolling average

The segment's **revenue** increased by 30%. Revenue in local currencies (excluding divestments and acquisitions) increased by 24% driven by higher sales prices in all product groups, particularly in energy-intensive pulp and bleaching chemicals, including caustic soda. Sales volumes declined following softer demand towards the end of the year and Kemira's exit from Russia.

In **EMEA**, revenue increased by 33% to EUR 1,088.6 million (816.8) due to higher sales prices across product groups, particularly in energy-intensive pulp and bleaching chemicals, including caustic soda. Sales volumes declined.

In **the Americas,** revenue increased by 34% to EUR 647.1 million (481.6). Revenue in local currencies, excluding acquisitions and divestments, increased by 20% due to higher sales prices across product groups. Sales volumes declined.

In **APAC**, revenue increased by 12% to EUR 292.0 million (261.2). Revenue in local currencies, excluding acquisitions and divestments, increased by 5% due to higher sales prices, particularly in sizing chemicals. Sales volumes declined.

Operative EBITDA increased by 42% following higher revenue and, in particular, due to high market prices for energy-intensive pulp and bleaching chemicals, including caustic soda. The operative EBITDA margin increased to 17.2% due to higher sales prices. **EBITDA** increased by 70%. The difference between it and operative EBITDA is explained by items affecting comparability, which were mainly related to an expected loss from the divestment of most of our colorants business, environmental provisions, Kemira's exit from Russia and a manufacturing unit sale to a customer. Items affecting comparability in the comparison period mainly consisted of a provision caused by the expected underutilization of a single-asset energy company in Pori, Finland majority owned by Kemira via Pohjolan Voima, a damage claim settlement with CDC, a provision related to a site closure and organizational restructuring costs.

INDUSTRY & WATER

Industry & Water supports municipalities and water-intensive industries in the efficient and sustainable use of resources. In water treatment, Kemira enables the optimization of various stages of the water cycle. In oil and gas applications, our chemistries enable improved yield from existing reserves, reduced water and energy use, as well as efficiency of oil sands tailings treatment.

EUR million	2022	2021
Revenue	1,541.9	1,114.8
Operative EBITDA	223.7	180.8
Operative EBITDA, %	14.5	16.2
EBITDA	222.2	174.9
EBITDA, %	14.4	15.7
Operative EBIT	135.9	101.2
Operative EBIT, %	8.8	9.1
EBIT	134.5	92.4
EBIT, %	8.7	8.3
Capital employed*	900.3	767.6
Operative ROCE*, %	15.1	13.2
ROCE*, %	14.9	12.0
Capital expenditure excl. M&A	75.4	80.3
Capital expenditure incl. M&A	75.4	80.3
Cash flow after investing activities	100.9	50.9

*12-month rolling average

The segment's **revenue** increased by 38%. Revenue in local currencies, excluding acquisitions and divestments, increased by 31%. The increase was driven mainly by higher sales prices. Also sales volumes increased. Currencies had a positive impact.

In the water treatment business, revenue increased by 34% due to higher sales sales volumes and sales prices. Sales volumes were rather stable. Revenue in the Oil & Gas business increased by 54% to EUR 377.5 million (245.9) mainly due to higher sales prices, particularly in shale. In addition, sales volumes increased.

In **EMEA,** revenue increased by 34% to EUR 746.4 million (558.9) mainly due to higher sales prices in water treatment. Sales volumes increased following higher volumes in the Oil & Gas business. Water treatment sales volumes were stable. Currencies had a positive impact.

In **the Americas**, revenue increased by 45% to EUR 767.1 million (528.6). Revenue in local currencies, excluding acquisitions and divestments, increased by 30% following higher sales prices in both water treatment and in the Oil and Gas business. Sales volumes also increased driven by the Oil and Gas business, shale in particular.

In **APAC**, revenue increased by 4% to EUR 28.4 million (27.3).

Operative EBITDA increased by 24% due to higher revenue following higher sales prices. High market prices for caustic soda also had a positive impact. The operative EBITDA margin declined to 14.5% due to continued strong inflationary pressures. **EBITDA** increased by 27% and the difference from operative EBITDA is explained by items affecting comparability. Items affecting comparability in the comparison period mainly consisted of organizational restructuring costs and a provision related to a site closure.

PARENT COMPANY'S FINANCIAL PERFORMANCE

Kemira Oyj's revenue increased to EUR 2,206.7 million (1,572.5) in 2022. EBITDA was EUR 220.4 million (70.8). The parent company's financing income and expenses were EUR 172.7 million (26.5) following higher dividend income from group companies. The net result for the financial year increased to EUR 314.7 million (-2.9) following higher revenue and financing income. The total capital expenditure was EUR 23.2 million (42.9), excluding investments in subsidiaries.

Kemira Oyj had 502 (2021: 502, 2020: 501) employees on average during 2022.

KEMIRA OYJ'S SHARES AND SHAREHOLDERS

On December 31, 2022, Kemira Oyj's share capital amounted to EUR 221.8 million and the number of shares was 155,342,557. Each share entitles the holder to one vote at the Annual General Meeting.

At the end of December 2021, Kemira Oyj had 48,403 registered shareholders (49,484 on December 31, 2021). Non-Finnish shareholders held 31.5% of the shares (28.4% on December 31, 2021), including nominee-registered holdings. Households owned 19.3% of the shares (19.8% on December 31, 2021). Kemira held 1,990,197 treasury shares (2,215,073 on December 31, 2021), representing 1.3% (1.4% on December 31, 2021) of all company shares.

Kemira Oyj's share price increased by 8% during the year and closed at EUR 14.33 on the Nasdaq Helsinki at the end of December 2022 (13.33 on December 31, 2021). The shares registered a high of EUR 14.94 and a low of EUR 10.36 in January-December 2022, and the average share price was EUR 12.57. The company's market capitalization, excluding treasury shares, was EUR 2,198 million at the end of December 2022 (2,041 December 31, 2021).

In January-December 2022, Kemira Oyj's share trading turnover on the Nasdaq Helsinki was EUR 462 million (EUR 787 million in January-December 2021). The average daily trading volume was 146,311 shares (228,087 in January-December 2021). The total volume of Kemira Oyj's share trading in January-December 2022 was 49 million shares (72 million shares in January-December 2021), 25% (20% in January-December 2021) of which was executed on other trading platforms (e.g. Turquoise, CBOE DXE). Source: Nasdaq and Kemira.com.

FLAGGING NOTIFICATIONS

During January–December 2022, Impax Management Group plc made a notification in accordance with the Finnish Securities Market Act Chapter 9, Section 5. Kemira received the notification on March 25, 2022 and it was published as a stock exchange release and is available on Kemira's internet pages at **kemira.com/investors**. According to the notification, the total number of Kemira Oyj shares owned by Impax Asset Management Group plc and its funds increased to five (5) per cent of the share capital of Kemira on March 24, 2022.

MANAGEMENT SHAREHOLDING

The members of the Board of Directors as well as the President and CEO and his Deputy held 330,988 (518,636) Kemira Oyj shares on December 31, 2022 or 0.21% (0.33%) of all outstanding shares and voting rights (including treasury shares and shares held by the related parties and controlled corporations). Jari Rosendal, President and CEO, held 169,069 shares (140,800) on December 31, 2022. Members of the Management Board, excluding the President and CEO and his Deputy, held a total of 237,515 shares on December 31, 2022 (223,111), representing 0.15% (0.14%) of all outstanding shares and voting rights (including treasury shares and shares held by the related parties and controlled corporations). Up-to-date information regarding the shareholdings of the Board of Directors and Management is available on Kemira's website at **kemira.com/investors**.

	Amount of shares		% of shares	
Owners	**Dec 31, 2022**	**Dec 31, 2021**	**Dec 31, 2022**	**Dec 31, 2021**
Board of Directors	66,932	289,471	0.04	0.19
President and CEO	169,069	140,800	0.11	0.09
Deputy CEO	94,987	88,365	0.06	0.06
Members of the Management Board (excl. CEO and Deputy CEO)	237,515	223,111	0.15	0.14

OWNERSHIP DECEMBER 31, 2022

	% of shares and votes	
Owners	2022	2021
Corporations	25.1	25.4
Financial and insurance corporations	3.7	4.6
General government	17.6	18.7
Households	19.3	19.8
Non-profit institutions	2.9	3.0
Non-Finnish shareholders incl. nominee registered	31.5	28.4

SHAREHOLDING BY NUMBER OF SHARES HELD DECEMBER 31, 2022

Number of shares	Number of shareholders	% of shareholders	Shares total	% of shares and votes
1–100	17,665	36.5%	882,162	0.6
101–500	18,186	37.6%	4,841,457	3.1
501–1,000	5,993	12.4%	4,608,730	3.0
1,001–5,000	5,511	11.4%	11,476,086	7.4
5,001–10,000	601	1.2%	4,313,601	2.8
10,001–50,000	361	0.7%	6,869,670	4.4
50,001–100,000	39	0.1%	2,854,485	1.8
100,001–500,000	31	0.1%	5,749,926	3.7
500,001–1,000,000	7	0.0%	5,262,078	3.4
1,000,001–	9	0.0%	108,484,362	69.8
Total	48,403	100.0%	155,342,557	100.0

LARGEST SHAREHOLDERS DECEMBER 31, 2022

	Shareholder	Number of shares	% of shares and votes
1	Oras Invest Ltd	32,000,000	20.6
2	Solidium Oy	15,782,765	10.2
3	Ilmarinen Mutual Pension Insurance Company	3,750,000	2.4
4	Varma Mutual Pension Insurance Company	3,522,678	2.3
5	Nordea Funds	3,497,587	2.3
6	Elo Mutual Pension Insurance Company	1,949,000	1.3
7	Etola Group Oy	1,000,000	0.6
8	Veritas Pension Insurance Company Ltd.	951,757	0.6
9	Laakkonen Mikko Kalervo	770,000	0.5
10	Nordea Life Assurance Finland Ltd.	734,810	0.5
11	The State Pension Funds	560,000	0.4
12	Paasikivi Pekka Johannes	462,000	0.3
13	Valio Pension Fund	379,450	0.2
14	OP-Henkivakuutus Ltd.	359,022	0.2
15	Jenny and Antti Wihuri Foundation	311,250	0.2
	Kemira Oyj	1,990,197	1.3
	Nominee registered and foreign shareholders	48,885,051	31.5
	Others, Total	40,940,089	26.4
	Total	155,342,557	100.0

SHARE KEY FIGURES

	2022	2021	2020	2019	2018
PER SHARE FIGURES					
Earnings per share (EPS), basic, EUR [1]	1.51	0.71	0.86	0.72	0.58
Earnings per share (EPS), diluted, EUR [1]	1.50	0.70	0.86	0.72	0.58
Net cash generated from operating activities per share, EUR [1]	2.61	1.44	2.45	2.53	1.38
Dividend per share, EUR [1] [2]	0.62	0.58	0.58	0.56	0.53
Dividend payout ratio, % [1] [2]	41.0	82.2	67.5	77.6	90.7
Dividend yield, % [1] [2]	4.3	4.4	4.5	4.2	5.4
Equity per share, EUR [1]	10.89	8.68	7.80	7.98	7.80
Price per earnings per share (P/E ratio) [1]	9.48	18.88	15.07	18.37	16.85
Price per equity per share [1]	1.32	1.54	1.66	1.66	1.26
Price per cash flow from operations per share [1]	5.49	9.27	5.28	5.24	7.14
Dividend paid, EUR million [2]	95.1	88.8	88.7	85.5	80.8
SHARE PRICE AND TRADING					
Share price, high, EUR	14.94	14.66	14.24	14.99	12.03
Share price, low, EUR	10.36	12.64	8.02	9.77	9.34
Share price, average, EUR	12.57	13.67	11.55	12.56	11.00
Share price on Dec 31, EUR	14.33	13.33	12.94	13.26	9.85
Number of shares traded (1,000) [3]	37,017	57,478	75,885	53,048	43,837
% on number of shares	24	38	50	35	29
Market capitalization on Dec 31, EUR million [1]	2,198	2,041	1,979	2,024	1,502
NUMBER OF SHARES AND SHARE CAPITAL					
Average number of shares, basic (1,000) [1]	153,320	153,092	152,879	152,630	152,484
Average number of shares, diluted (1,000) [1]	154,261	153,785	153,373	153,071	152,768
Number of shares on Dec 31, basic (1,000) [1]	153,352	153,127	152,924	152,649	152,510
Number of shares on Dec 31, diluted (1,000) [1]	154,894	154,068	153,744	153,385	152,927
Increase (+) / decrease (-) in number of shares outstanding (1,000)	225	203	275	139	156
Share capital, EUR million	221.8	221.8	221.8	221.8	221.8

1) Number of shares outstanding, excluding the number of treasury shares.
2) The dividend for 2022 is the Board of Directors' proposal to the Annual General Meeting.
3) Shares traded on Nasdaq Helsinki only

Definitions of the key figures is disclosed in the section on the Definitions of key figures.

AGM DECISIONS

ANNUAL GENERAL MEETING

Kemira Oyj's Annual General Meeting, held on March 24, 2022, approved the Board of Directors' proposal for a dividend of EUR 0.58 per share for the financial year 2021. The dividend was paid in two installments. The first installment of EUR 0.29 per share was paid on April 7, 2022. The Annual General Meeting authorized the Board of Directors to decide the record date and the payment date for the second installment of the dividend.

The Board of Directors decided on the record date and the payment date for the second installment of the dividend of EUR 0.29 at its meeting on October 24, 2022. The payment date of the second installment of the dividend was November 3, 2022. Kemira announced the resolution of the Board of Directors with a separate stock exchange release and confirmed the record and payment dates.

The AGM 2022 authorized the Board of Directors to decide upon the repurchase of a maximum of 5,800,000 of the company's own shares. This corresponds to approximately 3.7% of all shares and votes in the company. The shares will be repurchased by using unrestricted equity, either through a tender offer with equal terms to all shareholders at a price determined by the Board of Directors or otherwise in proportion to the existing shareholdings of the company's shareholders in public trading on the Nasdaq Helsinki Ltd. (the "Helsinki Stock Exchange") at the market price quoted at the time of repurchase. The price paid for the shares repurchased through a tender offer under the authorization shall be based on the market price of the company's shares in public trading. The minimum price to be paid would be the lowest market price of the share quoted in public trading during the authorization period and the maximum price would be the highest market price quoted during the authorization period. Shares shall be acquired and paid for in accordance with the rules of the Helsinki Stock Exchange and those of Euroclear Finland Ltd. Shares may be repurchased to be used in implementing or financing mergers and acquisitions, developing the company's capital structure, improving the liquidity of the company's shares, or to be used for the payment of the annual fee payable to the members of the Board of Directors or implementing the company's share-based incentive plans. In order to realize the aforementioned purposes, the shares acquired may be retained, transferred further or cancelled by the company. The Board of Directors will decide on other terms related to the share repurchase. The Share repurchase authorization is valid until the end of the next Annual General Meeting. The authorization was not used by 31 December 2022.

The Annual General Meeting authorized the Board of Directors to decide to issue a maximum of 15,600,000 new shares (corresponding to approximately 10% of all company shares and votes) and/or transfer a maximum of 7,800,000 company's own shares (corresponding to approximately 5% of all company shares and votes) held by the company ("Share issue"). The new shares may be issued and the company's own shares held by the company may be transferred either for consideration or without consideration. The new shares may be issued and the company's own shares held by the company may be transferred to the company's shareholders in proportion to their current shareholdings in the company, or by disapplying the shareholders' pre-emption right, through a directed share issue, if the company has a weighty financial reason to do so, such as financing or implementing mergers and acquisitions, developing the capital structure of the company, improving the liquidity of the company's shares or, if it is justified, for the payment of the annual fee payable to the members of the Board of Directors or implementing the company's share-based incentive plans. The directed share issue may be carried out without consideration only in connection with the implementation of the company's share-based incentive plans. The subscription price of new shares shall be recorded to the invested unrestricted equity reserves. The consideration payable for company's own shares shall be recorded to the invested unrestricted equity reserves. The Board of Directors shall decide upon other terms related to the share issues. The Share issue authorization is valid until May 31, 2023. The share issue authorization has been used and shares owned by the Group were conveyed to members of the Board and key employees in connection with the remuneration.

The AGM elected Ernst & Young Oy to serve as the company's auditor, with Mikko Rytilahti, Authorized Public Accountant, acting as the key audit partner.

CORPORATE GOVERNANCE AND GROUP STRUCTURE

Kemira Oyj's corporate governance is based on the Articles of Association, the Finnish Companies Act, and Nasdaq Helsinki's rules and regulations on listed companies. Furthermore, the company complies with the Finnish Corporate Governance Code. The company's corporate governance is presented as a separate statement on the company's website.

BOARD OF DIRECTORS

On March 24, 2022, the Annual General Meeting elected eight members to the Board of Directors. The Annual General Meeting re-elected Wolfgang Büchele, Shirley Cunningham, Werner Fuhrmann, Timo Lappalainen, Matti Kähkönen and Kristian Pullola and elected Annika Paasikivi and Tina Sejersgård Fanø as new members to the Board of Directors. Matti Kähkönen was elected as the Chair of the Board of Directors and Annika Paasikivi was elected as the Vice Chair. In 2022, Kemira's Board of Directors met nine times, with a 96% attendance rate.

Kemira Oyj's Board of Directors has appointed two committees: the Personnel and Remuneration Committee, and the Audit Committee. The Personnel and Remuneration Committee is chaired by Matti Kähkönen and has Wolfgang Büchele, Shirley Cunningham and Timo Lappalainen as members. In 2022, the Personnel and Remuneration Committee met six times, with a 96% attendance rate. The Audit Committee is chaired by Timo Lappalainen and has Werner Fuhrmann, Annika Paasikivi and Kristian Pullola as members. In 2022, the Audit Committee met five times, with a 95% attendance rate.

STRUCTURE

There have been no significant acquisitions or divestments during the year that would have impacted the company structure.

SHORT TERM RISKS AND UNCERTAINTIES

PRICE AND AVAILABILITY OF RAW MATERIALS AND COMMODITIES

A significant and sudden increase in the cost of raw materials, commodities, or logistics could place Kemira's profitability at risk if Kemira is not able to pass on such increases to product prices without delay. For instance, considerable and/or rapid changes in oil, energy, and electricity prices could materially impact Kemira's profitability. Changes in the raw material supplier field, such as consolidation or decreasing capacity, may also increase raw material prices. Furthermore, significant demand changes in industries that are the main users of certain raw materials may lead to raw material price fluctuations. In 2022, raw material and commodity prices increased significantly mainly following the war in Ukraine. Energy and electricity prices also increased significantly, particularly in Europe following the war in Ukraine. The war in Ukraine also led to concerns about sufficient energy availability to Europe. In 2023 variable costs are expected to stay at a high level although cost increases are expected to moderate. Electricity prices are expected to stay above long-term average levels.

Poor availability of certain raw materials may affect Kemira's production and also profitability if Kemira fails to prepare for this by mapping out alternative suppliers or opportunities for process changes. Raw material and commodity risks can be effectively monitored and managed with Kemira's centralized Sourcing unit. Risk management measures include, for instance, forward-looking forecasting of key raw materials and commodities, synchronization of raw material purchase agreements and sales agreements, captive manufacturing of some of the critical raw materials, strategic investment in energy-generating companies, and hedging a portion of the energy and electricity spend. In 2022, Kemira witnessed some raw material availability issues following the war in Ukraine and due to COVID-19 restrictions in China. Before the war in Ukraine, 1% of Kemira's total direct purchases and logistics costs were related to purchases from Russia and Belarus. Kemira did not purchase raw materials from Ukraine. In 2022, Kemira worked to find long-term alternatives to Russian and Belarussian suppliers. Continued supply chain disruptions are possible in 2023 depending on the development of the war in Ukraine. Also the relaxation of COVID-19 restrictions in China could have an impact on global supply chains.

Following the war in Ukraine, the energy market in Europe has been disrupted. This has led to temporary shutdowns in industrial production in Europe due to high energy prices, particularly for natural gas. The unaffordability of energy for industrial operations could lead to extended or permanent shutdowns of chemical manufacturing in Europe, which could have an adverse impact on Kemira's supply chain. Kemira is monitoring the situation closely.

SUPPLIERS

The continuity of Kemira's business operations is dependent on the accurate supply of good-quality products and services. Kemira currently has in place numerous partnerships and other agreements with third-party product and service suppliers to secure its business continuity. Certain products used as raw materials are considered critical, as the purchase can be made economically only from a sole or single source. In the event of a sudden and significant loss or interruption in the supply of such a raw material, Kemira's operations could be impacted, and this could have a negative effect on Kemira. Ineffective procurement planning, supply source selection, and contract administration, as well as inadequate supplier relationship management, create a risk of Kemira not being able to fulfill its promises to customers. The war in Ukraine or the COVID-19 pandemic did not cause significant impacts on Kemira's manufacturing operations in 2022. However, there were disruptions in the availability of certain raw materials that Kemira purchases. Kemira was able to handle the situation and the impact on Kemira's revenue was not material. Disruptions to energy availability or changes in energy pricing could also increase counterparty risk in energy hedging. Kemira is monitoring the energy counterparty risk actively.

Kemira sources a large share of its electricity in Finland at production cost (Mankala principle) through its partial ownership in the electricity producing hydro and nuclear assets of Teollisuuden Voima and Pohjolan Voima. Significant long-term disruptions to the production levels in these assets could have an adverse financial impact for Kemira.

Kemira continuously aims to identify, analyze, and engage third-party suppliers in a way that ensures security of supply and competitive pricing of the end products and services. Collaborative relationships with key suppliers are developed in order to uncover and realize new value and to reduce risk. Supplier performance is also regularly monitored as a part of the supplier performance management process. Due to the high-risk environment related to suppliers of the chemical industry, risk management and mitigation in this area is of continuous high focus.

HAZARD RISKS

Kemira's production activities are exposed to many hazard risks – such as fires and explosions, machinery breakdowns, natural catastrophes, exceptional weather conditions, and environmental incidents – and the consequent possible liabilities, as well as the risks to employee health and safety. These risk events could derive from several factors, also including (but not limited to) unauthorized IT system access by a malicious intruder or other cyber security issues causing possible damage to the systems, which in turn could lead to financial losses. A systematic focus on achieving set targets, certified management systems, efficient hazard prevention programs, the promotion of an active safety culture, adequate maintenance, and competent personnel play a central role in managing these hazard risks. In addition, Kemira has several insurance programs that protect the company against the financial impacts of hazard risks. Kemira also actively trains and educates its personnel on detecting and reporting on possible cyber security threats. Kemira's Board of Directors regularly reviews cyber security risks.

Kemira's operations rely on functional and up-to-date IT systems. Kemira is renewing its group-wide enterprise resource planning system with an estimated completion during 2023. Issues with existing IT systems or significant problems with the ERP transition could have an impact on Kemira's operations.

CHANGES IN CUSTOMER DEMAND

A significant unforeseen decline in the use of certain chemicals (e.g. chemicals for packaging and board production) or in the demand for customers' products and operations could have a negative impact on Kemira's business. A significant decline in certain raw material and utility prices (e.g. oil, gas, and metals) may shift customers' activities towards areas where fewer chemicals are needed. Also, increased awareness of and concern about climate change and more sustainable products may change customer demands, for instance, in favor of water treatment technologies with lower chemical consumption. On the other hand, possible capacity expansions by customers could increase the chemical consumption and challenge Kemira's current production capacity.

In order to manage and mitigate this risk, Kemira systematically monitors leading and early warning indicators that focus on market development. Kemira has also continued to focus on the sustainability of its business and is further improving the coordination and cooperation between the Business Development, R&D, and Sales units in order to better understand the future needs and expectations of its customers. Timely capital investments as well as continuous discussions and follow-ups with customers ensure Kemira's ability to respond to changes in demand. Kemira's geographic and customer industry diversity also provide partial protection against the risk of changed customer demands.

To respond to expected changes in customer requirements, Kemira has also revised its strategy to focus more on biobased products. Kemira has also started several external partnerships in order to innovate and commercialize new biobased products to its customers. Biobased products are expected to play a significant role in Kemira's growth ambitions.

ECONOMIC CONDITIONS AND GEOPOLITICAL CHANGES

Uncertainties in the global economic and geopolitical development are considered to include direct or indirect risks, such as a lower-growth period in global GDP and possible unexpected trade-related political decisions, both of which could have unfavorable impacts on the demand for Kemira's products. Certain political actions or changes, especially in countries that are important to Kemira, could cause business interference or other adverse consequences. The ongoing war in Ukraine and sanctions against Russia have increased uncertainty in the global economy and also created concerns about sufficient energy availability in Europe. Possible trade or supply chain disruptions following geopolitical tensions in eastern Asia could also have an impact on Kemira's operations as Kemira sources materials from the region and has manufacturing facilities and derives around 10% of its revenue from the APAC region.

Weak economic development may result in customer closures or consolidations, resulting in a diminishing customer base. The liquidity of Kemira's customers could become weaker, resulting in increased credit losses for Kemira. Despite the increased economic uncertainty in 2022, Kemira did not see materially higher credit losses. Unfavorable market conditions may also increase the availability and price risk of certain raw materials. Kemira's geographical and customer industry diversity provides only partial protection against these risks. Kemira continuously monitors geopolitical movements and changes and aims to adjust its business accordingly. Trade war-related risks are actively monitored and taken into account.

COMPETITION

Kemira operates in a rapidly changing and competitive business environment that represents a considerable risk to meeting its goals. New players seeking a foothold in Kemira's key business segments may use aggressive means as a competitive tool, which could affect Kemira's financial results. Major competitor or customer consolidations could change the market dynamics, and possibly also change Kemira's market position.

Kemira is seeking growth in product categories that are less familiar and where new competitive situations prevail, particularly in biobased products. In the long term, completely new types of technology may considerably change the current competitive situation. This risk is managed at both Group and segment levels through continuous monitoring of the competition. The company aims to respond to its competition through the active management of customer relationships and continuous development of its products and services to further differentiate itself from the competitors and to be competitive.

ACQUISITIONS

In addition to organic growth, acquisitions are a potential way to achieve corporate goals and strategies. Consolidations are driven by chemical manufacturers' interests in realizing synergies and establishing footholds in new markets. Acquisitions and/or partnerships may also be needed in order to enter totally new geographic markets or new product markets. However, the integration of acquired businesses, operations, and personnel also involves risks. If integration is unsuccessful, the results may fall short of the targets for such acquisitions.

Kemira has created mergers and acquisitions procedures and established Group-level dedicated resources to actively manage merger and acquisition activities and to support the execution of its business transactions. In addition, external advisory services are being used to screen potential merger and acquisition targets.

INNOVATION AND R&D

Kemira's research and development is a critical enabler of organic growth and further differentiation. Kemira's future market position and profitability depend on its ability to understand and meet current and future customer needs and market trends, and its ability to innovate new differentiated products and applications. Furthermore, new product launches contribute to the efficiency and sustainability of Kemira's or its customers' processes, as well as to the improved profitability. Failure to innovate or focus on disruptive new technologies and products, or to effectively commercialize new products or service concepts may result in the non-achievement of growth targets and may negatively impact Kemira's competitive situation.

Innovation- and R&D-related risks are managed through effective R&D portfolio management, in close collaboration between R&D and the two business segments. There is close coordination and cooperation between the Business Development, R&D, Sales, and Marketing units in order to better understand the future needs and expectations of Kemira's customers. With the continuous development of innovation processes, Kemira is aiming for more stringent project execution. Kemira maintains an increased focus towards the development of more differentiated and sustainable products and processes, and is also continuously monitoring sales of its new products and applications.

CHANGES IN LAWS AND REGULATIONS

Kemira's business is subject to various laws and regulations, which have relevance in the development and implementation of Kemira's strategy. Laws and regulations can generally be considered as an opportunity for Kemira, as regulation drives the treatment of water, for example. However, certain legislative initiatives supporting, for instance, the use of biodegradable raw materials or biological water treatment, or limiting the use of aluminum, may also have a negative impact on Kemira's business. Significant changes in chemical, environmental or transportation laws and regulations may also impact Kemira's profitability through an increase in production and transportation costs. At the same time, such changes may also create new business opportunities for Kemira. As an example, possible restrictions for plastic packaging would likely benefit the fiber-based packaging industry and therefore also Kemira. In addition, Kemira is actively following the European Commission's proposal for Packaging and Packaging Waste Regulations and its implications, particularly for disposable packaging.

Inclusion of new substances in the REACH authorization process may also bring further requirements to Kemira, where failure to obtain the relevant authorization could impact Kemira's business. In addition, the changes in import/export and customs-related regulations create needs for monitoring and mastering global trade compliance in order to ensure compliant product importation, for example.

Kemira continuously follows regulatory developments in order to maintain its awareness of proposed and upcoming changes of those laws and regulations that may have an impact, for instance, on its sales, production, and product development needs. Kemira has established an internal process to manage substances of potential concern and to create management plans for them. These plans cover the possibilities to replace certain substances if they become subject to stricter regulation, for example. Kemira has also increased its focus and resources in the management of global trade compliance.

Regulatory effects are also systematically taken into consideration in strategic decision making. Kemira takes an active role in regulatory discussions whenever this is justified from the perspective of the industry or business. For example, currently there are many regulatory discussions ongoing in the EU, as the EU is undergoing a major review of its water legislation and directives. This may have a positive demand-related impact for Kemira in the future, due to the need for water to be treated more carefully. The EU has, as part of its Green Deal initiative, launched several initiatives, such as the EU Chemicals Strategy for Sustainability (CSS) and Fit-for-55 programs. Kemira is closely following these initiatives and their potential implications for the chemical sector and Kemira.

TALENT MANAGEMENT

To secure competitiveness and profitable growth, as well as to improve operational efficiency, it is essential to attract and retain personnel with the right skills and competences. Kemira is continuously identifying people with high potential and key competencies for future needs. Through the systematic development and improvement of compensation schemes, learning programs, and career development programs, Kemira aims to ensure the continuity of skilled personnel also in the future.

CLIMATE-RELATED RISKS

Kemira has identified certain climate-related risks that could have an impact on Kemira's operations or customer demand. Increased awareness of and concern about climate change and more sustainable products may, for example, change customer demands in favor of water treatment technologies with lower chemical consumption. Higher awareness of the impacts of climate change could lead to a more rapid transition to sustainable, fossil-free energy sources, which could lead to higher energy prices and impact the availability of energy. This could have a negative impact on Kemira as parts of Kemira's manufacturing operations are energy-intensive. A part of Kemira's raw materials are fossil-based. Kemira has active plans to increase the share of renewable raw materials in its portfolio and reduce the reliance on oil and gas derivatives. Many of Kemira's customers, particularly in the Pulp & Paper segment, have ambitions to be carbon neutral, which will likely have implications on Kemira and the chemicals used in the customers' processes. Also extreme weather patterns related to climate change, such as hurricanes and floods, could impact Kemira's supply chain and suppliers as well as Kemira's own manufacturing sites. Several climate related risks are included in Kemira's enterprise risk management portfolio and active monitoring and mitigation planning is being done. In 2022, Kemira conducted an initial climate risk scenario analysis in accordance with the Task Force on Climate-related Financial Disclosures (TCFD) framework. The analysis evaluated Kemira's climate risk from a global company perspective. The results of the scenario analysis are described in more detail in Kemira's sustainability report.

RISKS AND IMPACTS OF THE WAR IN UKRAINE ON KEMIRA

Following the war in Ukraine and subsequent sanctions against Russia and Belarus, Kemira announced its decision to discontinue deliveries to Russia and Belarus on March 1, 2022. Russia accounted for around 3% of Kemira's sales in 2021. Revenue from Belarus and Ukraine was not material in 2021. The fifth EU sanctions list published on April 9, 2022 included the majority of Kemira's products. Kemira announced on May 6, 2022 that it will exit the Russian market. At the end of 2022, Kemira had no business operations or personnel left in Russia.

The direct impacts of the war on Kemira have been and are expected to be limited. Before the war, 1% of Kemira's total direct purchases and logistics costs were related to purchases from Russia and Belarus. Kemira does not purchase raw materials from Ukraine. In 2022, Kemira was able to manage the situation without operational disruptions and has worked to find long-term alternatives to Russian and Belarussian suppliers.

In 2022, the main risk from the war in Ukraine was accelerated inflation. The war in Ukraine and the sanctions against Russia and Belarus have created concerns about sufficient energy availability to Europe, particularly in natural gas. Kemira is a significant user of energy. The majority of Kemira's energy purchases is electricity, but some of Kemira's production facilities use natural gas in Europe. The energy crisis also increased energy prices significantly during 2022 and prices are expected to stay above long-term average prices also in 2023. Kemira's annual energy purchases globally increased from around EUR 200 million in 2021 to around EUR 300 million in 2022. Kemira is monitoring the energy market situation and its impacts on Kemira closely. The energy crisis did not have a material impact on Kemira's operations during 2022.

Kemira is also exposed to indirect impacts via Kemira's customers and suppliers. In particular, high energy prices or disruptions in energy availability could reduce or temporarily stop production at Kemira's customers and/or suppliers, which could affect Kemira's end market demand or supply chain. During 2022 some of Kemira's customers in the EMEA region, particularly in the Pulp & Paper segment, curtailed or temporarily closed production due to high energy prices, particularly during Q3 and Q4 2022.

In 2022, Kemira recorded EUR 4.8 million of losses related to its exit from Russia. At the end of 2022, net assets in Russian amounted to around EUR 8 million and consisted mainly of cash and cash equivalents denominated in Russian roubles. Kemira is looking at options to repatriate funds from Russia. Kemira had no assets or personnel in Belarus or Ukraine at the end of December 2022.

For Kemira's 2023 outlook, including assumptions behind the outlook, please refer to the section "Outlook" on page 154.

A detailed description of Kemira's risk management principles is available on the company's website at **www.kemira.com**. Financial risks are described in the Notes to the Financial Statements for the year 2022.

DIVIDEND AND DIVIDEND POLICY

On December 31, 2022, Kemira Oyj's distributable funds totaled EUR 702,802,752 of which net profit for the period was EUR 314,734,444. No material changes have taken place in the company's financial position after the balance sheet date.

Kemira Oyj's Board of Directors proposes to the Annual General Meeting to be held on March 22, 2023 that a dividend of EUR 0.62 per share, totaling EUR 95 million, be paid on the basis of the adopted balance sheet for the financial year that ended on December 31, 2022. The dividend will be paid in two installments. The first installment, of EUR 0.31 per share, will be paid to shareholders who are registered in the company's shareholder register maintained by Euroclear Finland Oy on the record date for the dividend payment: March 24, 2023. The Board of Directors proposes that the first installment of the dividend be paid out on April 5, 2023. The second installment, of EUR 0.31 per share, will be paid in November 2023. The second installment will be paid to shareholders who are registered in the company's shareholder register maintained by Euroclear Finland Oy on the record date for the dividend payment. The Board of Directors will decide the record date and the payment date for the second installment at its meeting in October 2023. The record date is planned to be October 26, 2023, and the dividend payment date November 2, 2023 at the earliest.

Kemira's dividend policy is to pay a competitive dividend that increases over time.

CHANGES IN KEMIRA'S MANAGEMENT BOARD

On **May 18, 2022** Kemira announced that President, Segment Pulp & Paper, Kim Poulsen is leaving Kemira.

On **August 8, 2022** Kemira announced that Antti Salminen (1971) had been appointed to lead Kemira's Pulp & Paper segment as of August 15, 2022. He has had several prior leadership positions in Kemira, latest as President, Industry & Water segment, and has been a member of Kemira's Management Board since 2011.

On **August 30, 2022** Kemira announced that Wido Waelput (1959) has been appointed Interim President of Kemira's Industry & Water segment and a member of Kemira's Management Board as of September 1, 2022 until the ongoing search process for the permanent segment president has been concluded.

OTHER EVENTS DURING THE REVIEW PERIOD

On **September 12, 2022** Kemira announced an agreement to divest most of its colorants business to ChromaScape LLC. The transaction is expected to close in Q1 2023. The revenue of the business was approximately EUR 50 million in 2021.

EVENTS AFTER THE REVIEW PERIOD

PROPOSALS OF THE NOMINATION BOARD TO THE ANNUAL GENERAL MEETING 2023

On January 9, 2023 Kemira announced the proposals of the Nomination Board to the Annual General Meeting 2023.
The Nomination Board proposes to the Annual General Meeting of Kemira Oyj that eight members be elected to the Board of Directors and that the present members Tina Sejersgård Fanø, Werner Fuhrmann, Matti Kähkönen, Timo Lappalainen, Annika Paasikivi and Kristian Pullola be re-elected as members of the Board of Directors. Nomination Board proposes that Fernanda Lopes Larsen and Mikael Staffas be elected as new members of the Board of

Directors. In addition, the Nomination Board proposes that Matti Kähkönen be re-elected as the Chair of the Board of Directors and Annika Paasikivi be re-elected as the Vice Chair.

All the nominees have given their consent to the position and are independent of the company’s significant shareholders except for Annika Paasikivi. Annika Paasikivi is the President & CEO of Oras Invest Oy and Oras Invest Oy owns over 10% of Kemira Oyj’s shares.

Of the current members of the Board of Directors Wolfgang Büchele, who has served on the company's Board of Directors first from 2009 until 2012, then as President and CEO of Kemira Oyj from 2012 until 2014, and then again in the Board of Directors since 2014, and Shirley Cunningham, who has served on the Board of Directors since 2017, have informed that they will no longer be available for re-election to the next term of the Board of Directors. The Nomination Board wishes to thank Wolfgang Büchele and Shirley Cunningham for their long service and significant contribution to Kemira Oyj.

Ms. Fernanda Lopes Larsen, M.Sc. (Engineering), b. 1974, has been Executive Vice President Africa & Asia in Yara International since 2020. In 2012-2018 she served in multiple executive and managerial positions in Yara International. In 2001-2012 she held managerial positions in GlaxoSmithKline and in Procter & Gamble. Fernanda Lopes Larsen is a dual Brazilian and British citizen.

Mr. Mikael Staffas, M.Sc. (Engineering), MBA, b. 1965, is the President & CEO of Boliden AB since 2018. In 2015-2018 he served as the President of Boliden Mines, and in 2011-2015 as the CFO of Boliden. In 2005-2011 he was the CFO of Södra Skogsägarna. He was a Partner at McKinsey & Company in 1999-2004 and held various positions there in 1990-1999. Mikael Staffas is a Swedish citizen.

Regarding the selection procedure for the members of the Board of Directors, the Nomination Board recommends that shareholders take a position on the proposal as a whole at the Annual General Meeting. This recommendation is based on the fact that Kemira’s shareholders' Nomination Board is separate from the Board of Directors, in line with a good Nordic governance model. The Nomination Board, in addition to ensuring that individual nominees for membership of the Board of Directors possess the required competences, is responsible for making sure that the proposed Board of Directors as a whole also has the best possible expertise and experience for the company and that the diversity principles of the company will be met, and that the composition of the Board of Directors meets other requirements of the Finnish Corporate Governance Code for listed companies.

The Nomination Board proposes that the remuneration paid to the members of the Board of Directors will be increased as follows (current remuneration in parentheses): for the Chair EUR 118,000 per year (EUR 110,000), for the Vice Chair and the Chair of the Audit Committee EUR 67,000 per year (EUR 65,000) and for the other members EUR 52,000 per year (EUR 50,000).

The Nomination Board proposes that a fee payable for each meeting of the Board of Directors and the Board Committees will be paid based on the method of participation and place of the meeting as follows: participating remotely or in a meeting arranged in the member’s country of residence EUR 600, participating in a meeting arranged on the same continent as the member’s country of residence EUR 1,200 and participating in a meeting arranged in a different continent than the member’s country of residence EUR 2,400. Travel expenses are proposed to be paid according to Kemira's travel policy.

In addition, the Nomination Board proposes to the Annual General Meeting that the annual fee be paid as a combination of the company's shares and cash in such a manner that 40% of the annual fee is paid with the company's shares owned by the company or, if this is not possible, shares purchased from the market, and 60% is paid in cash. The shares will be transferred to the members of the Board of Directors and, if necessary, acquired directly on behalf of the members of the Board of Directors within two weeks from the release of Kemira's interim report January 1 - March 31, 2023. The meeting fees are proposed to be paid in cash.

The Nomination Board has consisted of the following representatives: Ville Kivelä, Chief Investment Officer of Oras Invest Oy as the Chair of the Nomination Board; Pauli Anttila, Investment Director, Solidium Oy; Lisa Beauvilain, Global Head of Sustainability, Executive Director, Impax Asset Management plc and Annika Ekman, Head of Direct Equity Investments, Ilmarinen Mutual Pension Insurance Company as members of the Nomination Board and Matti Kähkönen, Chair of Kemira's Board of Directors as an expert member.

On January 17, 2023 Kemira announced that the shareholding of Impax Asset Management Group plc in Kemira has decreased to 4.99 per cent

On January 25, 2023 Kemira announced that Kemira is strengthening its services offering by acquiring the advanced process optimization start-up SimAnalytics. Kemira announced in August 2021 its investment in SimAnalytics and has now acquired the rest of the business. With the acquisition, Kemira strengthens its capability to support its customers' business with data-driven predictive services and machine learning solutions.

On February 1, 2023 Kemira announced that Linus Hildebrandt has been appointed as Executive Vice President, Strategy and member of Kemira's Management Board.

OUTLOOK FOR 2023

REVENUE

Kemira's revenue is expected to be between EUR 3,200 million and EUR 3,700 million in 2023 (2022: EUR 3,569.6 million).

OPERATIVE EBITDA

Kemira's operative EBITDA is expected to be between EUR 500 and EUR 600 million in 2023 (2022: EUR 571.6 million).

ASSUMPTIONS BEHIND OUTLOOK

We expect demand in Kemira's end-markets to be resilient despite the significant uncertainty related to the global macroeconomic environment, energy prices, and the development of the war in Ukraine. Overall, Kemira's end-market demand (in volumes) is expected to decline somewhat. Demand in the oil & gas market is expected to grow. Variable costs are expected to decline but with variation by raw material. Electricity prices are expected to remain above long-term average in Europe, but with uncertainty related to the level of pricing. Market prices for caustic soda are expected to moderate during 2023 from the current very high level. The outlook assumes no major disruptions to Kemira's manufacturing operations, supply chain, or Kemira's energy-generating assets in Finland. Foreign exchange rates are expected to remain at approximately current levels.

FINANCIAL TARGETS

Kemira aims for above-market revenue growth with an operative EBITDA margin of 15–18%. The target for gearing is below 75%.

Helsinki, February 9, 2023

Kemira Oyj
Board of Directors

All forward-looking statements in this review are based on the management's current expectations and beliefs about future events, and actual results may differ materially from the expectations and beliefs such statements contain.

Consolidated Income Statement

		Year ended 31 December	
EUR million	**Note**	**2022**	**2021**
Revenue	2.1.	3,569.6	2,674.4
Other operating income	2.2.	18.2	5.9
Operating expenses	2.2.	-3,029.3	-2,306.7
Share of the results of associates	6.2.	0.3	-0.5
EBITDA		558.8	373.2
Depreciation, amortization and impairments	2.4.	-211.2	-203.1
Operating profit (EBIT)		347.6	170.1
Finance income	2.5.	4.8	6.8
Finance expenses	2.5.	-42.3	-34.1
Exchange differences	2.5.	-1.9	0.6
Finance costs, net	2.5.	-39.4	-26.7
Profit before tax		308.2	143.3
Income taxes	2.6.	-68.5	-28.2
Net profit for the period		239.7	115.2
Net profit attributable to			
Equity owners of the parent company		231.7	108.1
Non-controlling interests	6.2.	8.0	7.1
Net profit for the period		239.7	115.2
Earnings per share for net profit attributable to the equity owners of the parent company, EUR			
Basic	2.7.	1.51	0.71
Diluted	2.7.	1.50	0.70

The above Consolidated Income Statement should be read in conjunction with the accompanying notes.

Consolidated Comprehensive Income

		Year ended 31 December	
EUR million	**Note**	**2022**	**2021**
Net profit for the period		239.7	115.2
Other comprehensive income			
Items that may be reclassified subsequently to profit or loss			
Exchange differences in translating foreign operations		17.5	32.2
Cash flow hedges		39.2	19.3
Items that will not be reclassified subsequently to profit or loss			
Other shares		98.6	40.2
Remeasurements of defined benefit plans		31.8	21.5
Other comprehensive income for the period, net of tax	2.8.	187.1	113.3
Total comprehensive income for the period		426.7	228.4
Total comprehensive income attributable to			
Equity owners of the parent company		418.9	221.2
Non-controlling interests	6.2.	7.8	7.2
Total comprehensive income for the period		426.7	228.4

Items in the Consolidated Statement of Comprehensive Income are disclosed net of tax. The income tax relating to each component of other comprehensive income is disclosed in Note 2.8. Other comprehensive income.

The above Consolidated Comprehensive Income should be read in conjunction with the accompanying notes.

Consolidated Balance Sheet

		As at 31 December	
EUR million	**Note**	**2022**	**2021**
ASSETS			
NON-CURRENT ASSETS			
Goodwill	3.1.	510.5	514.0
Other intangible assets	3.2.	61.2	66.7
Property, plant and equipment	3.3.	1,080.2	1,063.0
Right-of-use assets	3.4.	146.0	135.8
Investments in associates	6.2.	5.1	4.8
Other shares	3.5.	383.3	260.0
Deferred tax assets	4.4.	27.1	30.5
Other financial assets	5.4.	31.0	7.3
Receivables of defined benefit plans	4.5.	78.4	73.2
Total non-current assets		2,322.8	2,155.4
CURRENT ASSETS			
Inventories	4.1.	433.7	352.1
Interest-bearing receivables	5.4.	0.3	0.3
Trade receivables and other receivables	4.2.	603.7	475.2
Current income tax assets		18.7	13.9
Cash and cash equivalents	5.4.	250.6	142.4
Total current assets		1,307.0	983.9
Assets classified as held-for-sale	3.6.	21.3	—
Total assets		3,651.1	3,139.3

The above Consolidated Balance Sheet should be read in conjunction with the accompanying notes.

		As at 31 December	
EUR million	**Note**	**2022**	**2021**
EQUITY AND LIABILITIES			
EQUITY			
Equity attributable to equity owners of the parent company			
Share capital		221.8	221.8
Share premium		257.9	257.9
Fair value and other reserves		278.8	140.9
Unrestricted equity reserve		196.3	196.3
Translation differences		-36.0	-53.7
Treasury shares		-13.4	-14.9
Retained earnings		764.5	580.5
Total equity attributable to equity owners of the parent company	5.2.	1,669.9	1,328.8
Non-controlling interests	6.2.	14.7	13.9
Total equity		1,684.6	1,342.7
NON-CURRENT LIABILITIES			
Interest-bearing liabilities	5.3.	838.1	776.9
Other financial liabilities	5.4.	9.4	9.4
Deferred tax liabilities	4.4.	118.2	77.1
Liabilities of defined benefit plans	4.5.	66.9	94.1
Provisions	4.6.	38.4	48.0
Total non-current liabilities		1,070.9	1,005.5
CURRENT LIABILITIES			
Interest-bearing liabilities	5.3.	183.7	215.3
Trade payables and other liabilities	4.3.	635.2	538.3
Current income tax liabilities		57.2	14.3
Provisions	4.6.	18.8	23.1
Total current liabilities		894.9	791.0
Total liabilities		1,965.8	1,796.5
Liabilities classified as held-for-sale	3.6.	0.7	—
Total equity and liabilities		3,651.1	3,139.3

Consolidated Statement of Cash Flow

EUR million	Note	2022	2021
CASH FLOW FROM OPERATING ACTIVITIES			
Net profit for the period		239.7	115.2
Adjustments for			
Depreciation, amortization and impairments	2.4.	211.2	203.1
Income taxes	2.6.	68.5	28.2
Finance costs, net	2.5.	39.4	26.7
Share of the results of associates	6.2.	-0.3	0.5
Other non-cash items	3.6.	29.3	14.9
Cash flow before change in net working capital		587.8	388.5
Change in net working capital			
Increase (-) / decrease (+) in inventories		-100.3	-100.5
Increase (-) / decrease (+) in trade and other receivables		-95.1	-77.8
Increase (+) / decrease (-) in trade payables and other liabilities		93.7	98.1
Change in net working capital		-101.8	-80.2
Cash flow from operations before financing items and taxes		486.0	308.3
Interests paid		-35.1	-31.9
Interests received		5.0	0.9
Other finance items, net		-22.1	-13.2
Dividends received		0.0	0.0
Income taxes paid		-33.5	-44.0
Net cash generated from operating activities		400.3	220.2

EUR million	Note	2022	2021
CASH FLOW FROM INVESTING ACTIVITIES			
Capital expenditure in associated company		0.0	0.0
Capital expenditure in other shares		0.0	-1.0
Capital expenditure in property, plant and equipment and intangible assets		-197.9	-168.8
Decrease (+) / increase (-) in loan receivables		0.8	0.2
Capital repayments from other shares		0.0	3.5
Proceeds from sale of property, plant and equipment, and intangible assets		19.1	3.2
Net cash used in investing activities		-178.0	-162.9
CASH FLOW FROM FINANCING ACTIVITIES			
Proceeds from non-current interest-bearing liabilities (+)	5.1.	195.9	200.0
Repayments of non-current interest-bearing liabilities (-)	5.1.	-202.8	-97.3
Repayments of non-current non-interest-bearing liabilities (-)		0.0	0.0
Short-term financing, net increase (+) / decrease (-)	5.1.	21.4	-53.9
Repayments of lease liabilities		-35.1	-33.1
Dividends paid		-95.9	-95.3
Net cash used in financing activities		-116.4	-79.5
Net increase (+) / decrease (-) in cash and cash equivalents		105.9	-22.2
Cash and cash equivalents on Dec 31		250.6	142.4
Exchange gains (+) / losses (-) in cash and cash equivalents		2.3	5.1
Cash and cash equivalents on Jan 1		142.4	159.5
Net increase (+) / decrease (-) in cash and cash equivalents		105.9	-22.2

The above Consolidated Statement of Cash Flow should be read in conjunction with the accompanying notes.

Consolidated Statement of Changes in Equity

	Equity attributable to equity owners of the parent company									
EUR million	Share capital	Share premium	Fair value and other reserves	Unrestricted equity reserve	Exchange differences	Treasury shares	Retained earnings	Total	Non-controlling interests	Total equity
Equity on January 1, 2022	221.8	257.9	140.9	196.3	-53.7	-14.9	580.5	1,328.8	13.9	1,342.7
Net profit for the period	—	—	—	—	—	—	231.7	231.7	8.0	239.7
Other shares	—	—	98.6	—	—	—	—	98.6	—	98.6
Exchange differences in translating foreign operations	—	—	—	—	17.7	—	—	17.7	-0.2	17.5
Cash flow hedges	—	—	39.2	—	—	—	—	39.2	—	39.2
Remeasurements of defined benefit plans	—	—	—	—	—	—	31.8	31.8	—	31.8
Total other comprehensive income	—	—	137.8	—	17.7	—	31.8	187.3	-0.2	187.1
Total comprehensive income	—	—	137.8	—	17.7	—	263.5	418.9	7.8	426.7
Transactions with owners										
Dividends paid	—	—	—	—	—	—	-88.9	-88.9	-7.0	-95.9
Treasury shares issued to the target group of a share-based incentive plan	—	—	—	—	—	1.5	—	1.5	—	1.5
Treasury shares issued to the Board of Directors	—	—	—	—	—	0.1	—	0.1	—	0.1
Treasury shares returned	—	—	—	—	—	0.0	—	0.0	—	0.0
Share-based payments	—	—	—	—	—	—	9.2	9.2	—	9.2
Transfers in equity	—	—	0.1	—	—	—	-0.1	0.0	—	0.0
Other items	—	—	—	—	—	—	0.4	0.4	—	0.4
Total transactions with owners	—	—	0.1	—	—	1.6	-79.4	-77.7	-7.0	-84.7
Equity on December 31, 2022	221.8	257.9	278.8	196.3	-36.0	-13.4	764.5	1,669.9	14.7	1,684.6

	Equity attributable to equity owners of the parent company									
EUR million	**Share capital**	**Share premium**	**Fair value and other reserves**	**Unrestricted equity reserve**	**Exchange differences**	**Treasury shares**	**Retained earnings**	**Total**	**Non-controlling interests**	**Total equity**
Equity on January 1, 2021	221.8	257.9	81.1	196.3	-85.8	-16.3	537.1	1,192.1	13.2	1,205.3
Net profit for the period	—	—	—	—	—	—	108.1	108.1	7.1	115.2
Other shares	—	—	40.2	—	—	—	—	40.2	—	40.2
Exchange differences in translating foreign operations	—	—	—	—	32.1	—	—	32.1	0.1	32.2
Cash flow hedges	—	—	19.3	—	—	—	—	19.3	—	19.3
Remeasurements of defined benefit plans	—	—	—	—	—	—	21.5	21.5	—	21.5
Total other comprehensive income	—	—	59.5	—	32.1	—	21.5	113.2	0.1	113.3
Total comprehensive income	—	—	59.5	—	32.1	—	129.6	221.2	7.2	228.4
Transactions with owners										
Dividends paid	—	—	—	—	—	—	-88.8	-88.8	-6.5	-95.3
Treasury shares issued to the target group of a share-based incentive plan	—	—	—	—	—	1.3	—	1.3	—	1.3
Treasury shares issued to the Board of Directors	—	—	—	—	—	0.1	—	0.1	—	0.1
Treasury shares returned	—	—	—	—	—	0.0	—	0.0	—	0.0
Share-based payments	—	—	—	—	—	—	3.3	3.3	—	3.3
Transfers in equity	—	—	0.3	—	—	—	-0.3	0.0	—	0.0
Other items	—	—	—	—	—	—	-0.4	-0.4	—	-0.4
Total transactions with owners	—	—	0.3	—	—	1.4	-86.2	-84.5	-6.5	-91.0
Equity on December 31, 2021	221.8	257.9	140.9	196.3	-53.7	-14.9	580.5	1,328.8	13.9	1,342.7

The above Consolidated Statement of Changes in Equity should be read in conjunction with the accompanying notes.

Notes to the Consolidated Financial Statements

1. THE GROUP'S ACCOUNTING POLICIES FOR THE CONSOLIDATED FINANCIAL STATEMENTS

GROUP PROFILE

Kemira Oyj is a Finnish public limited liability company, domiciled in Helsinki, and its registered address is Energiakatu 4, FI-00180 Helsinki, Finland. Kemira Oyj's shares are listed on Nasdaq Helsinki Oy. The parent company Kemira Oyj and its subsidiaries together form the Kemira Group. A list of subsidiaries is disclosed in Note 6.2.

Kemira is a global chemicals company serving customers in water-intensive industries. The company provides expertise in applications and chemicals that improve customers' efficient use of water, energy, and raw materials. Kemira's two segments, Pulp & Paper and Industry & Water, focus on customers in the pulp & paper and oil & gas, mining and water treatment industries, respectively.

The Board of Directors of Kemira Oyj has approved the Consolidated Financial Statements for publication at its meeting on February 9, 2023. Under the Finnish Limited Liability Companies Act, the General Meeting of Shareholders is entitled to decide on the adoption of the financial statements. A copy of the Consolidated Financial Statements is available at **www.kemira.com** or at Energiakatu 4, FI-00180 Helsinki, Finland.

In compliance with the reporting requirements of the European Single Electronic Format (ESEF), Kemira also publishes the Consolidated Financial Statements and the Board of Directors' report as an xHTML file, which is available at **www.kemira.com**.

BASIS OF PREPARATION FOR THE CONSOLIDATED FINANCIAL STATEMENTS

The Group has prepared its Consolidated Financial Statements in accordance with the International Financial Reporting Standards (IFRS) and its International Financial Reporting Interpretations Committee (IFRIC) interpretations, adopted by the European Union. The Consolidated Financial Statements have been prepared in accordance with IFRS standards and IFRIC Interpretations effective on December 31, 2022. The Notes to the Consolidated Financial Statements also comply with the requirements of the Finnish accounting and corporate legislation that supplement the IFRS regulations.

The Consolidated Financial Statements are presented in EUR million and have been prepared based on historical cost, except for the items measured at fair value through other comprehensive income including unlisted PVO/TVO shares, financial assets and liabilities at fair value through profit or loss, and share-based payments which are measured at fair value.

Individual figures presented in the Consolidated Financial Statements have been rounded to the nearest exact figure. Therefore, the sum of the individual figures may deviate from the sum figure presented in the Consolidated Financial Statements. The key figures are calculated using exact values.

NEW, AMENDED IFRS STANDARDS AND IFRIC INTERPRETATIONS INTO EFFECT IN 2022

The Group has applied the following standards and amendments for the first time to its annual reporting period commencing January 1, 2022:

- Annual improvements to IFRS standards 2018–2020: IFRS 9, Financial instruments, the improvement in the standard specifies that when assessing whether a change in a financial debt leads to a change in an existing debt instrument or the recognizing of a new debt instrument, the entity should prepare a present value of the cash flows related to the financial debt before and after the change, including the lender and the recipient fees paid and received.
- Amendments to the standard IAS 16, Property, plant and equipment: Revenue before intended use, the standard amendment clarifies how sales revenue is recognized from unfinished PPE during their manufacturing phase or otherwise before they have been made to operate as intended by management. According to the clarification, the income in question should be reported as revenue, and not as a reduction of costs.
- Amendments to the standard IAS 37, Loss-making contracts – the cost of fulfilling the contract, the standard amendment clarifies that the cost of fulfilling the contract includes costs directly related to the contract, including other costs such as labor and material costs, as well as other costs directly related to fulfilling the contract, such as depreciation of PPE used to fulfill the contract.

The amendments listed above did not have any significant impact on the amounts recognized in the financial period January 1 – December 31, 2022 and are not expected to significantly affect the next financial period January 1 – December 31, 2023.

NEW, AMENDED IFRS STANDARDS AND IFRIC INTERPRETATIONS NOT YET ADOPTED

- Amendments to the standard IAS 1, Classification of liabilities into current and non-current. The amendments clarify how to classify debts as current or non-current when the entity has the right to postpone the payment of the debt for at least 12 months.
- Amendments to the standard IAS 12, Income taxes: Deferred taxes related to assets and liabilities arising from a single transaction.
- Amendments to the standard IAS 1, Presentation of financial statements: Disclosure of accounting policies. The amendment clarifies in which situations a change in the accounting policy is material and it must be disclosed.
- Amendments to the standard IAS 8, Accounting policies, changes and errors in accounting estimates: Definition of accounting estimates. The amendment clarifies the definition and application of the accounting estimates.

New IFRS standards, amendments to standards and IFRIC interpretations effective on or after January 1, 2023 are not expected to have a material impact on the Group.

CONSOLIDATION PRINCIPLES OF SUBSIDIARIES AND NON-CONTROLLING INTERESTS

The Consolidated Financial Statements include the parent company Kemira Oyj and its subsidiaries. Subsidiaries are all entities that the Group has control over (voting rights generally being over 50 percent). The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity, and when it has the ability to affect those returns through its power over the entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Group. They are de-consolidated from the date on which this control ceases.

All intra-group transactions are eliminated. Intra-group shareholdings are eliminated using the acquisition method. The consideration transferred for acquisition of a subsidiary is defined as an aggregate of the fair values of the assets transferred, the liabilities assumed and the equity interest issued by the Group. The consideration transferred may include the fair value of any asset or liability resulting from the contingent consideration arrangement. Acquisition-related costs are expensed as incurred. Identifiable assets acquired, and liabilities and contingent liabilities that are assumed in a business combination are measured at their fair values on the acquisition date. On an acquisition-by-acquisition basis, the Group recognizes any non-controlling interest in the acquiree either at fair value or at the non-controlling interest's proportionate share of the acquiree's net assets.

The amount that exceeds the aggregate of consideration transferred, the amount of any non-controlling interest in the acquiree and the acquisition-date fair value of any previous equity interest in the acquiree over the fair value of the Group's share of the net assets acquired is recognized as goodwill in the Balance Sheet. If this is less than the fair value of the net assets of the subsidiary acquired by bargain purchase, the difference is recognized directly in the Income Statement.

Net profit or loss for the financial year and other comprehensive income attributable to the equity holders of the parent and non-controlling interests are presented in the Income Statement and in the Statement of Comprehensive Income. The portion of equity attributable to non-controlling interests is stated as an individual item separately from the equity to the equity holders of the parent company. Total comprehensive income shows separately the total amounts attributable to the equity holders of the parent company and to non-controlling interests. The Group recognizes negative non-controlling interests, unless the non-controlling interest does not have a binding obligation to cover the losses up to the amount of their investment.

If the parent company's ownership interest in the subsidiary is reduced but control is retained, then the transactions are treated as equity transactions. When the Group ceases to have control or significant influence, any retained interest in the entity is remeasured at its fair value, and the difference is recognized as profit or loss.

ASSOCIATES

Associated companies are companies over which the Group exercises significant influence (voting rights generally being 20–50 percent), but does not control. Holdings in associated companies are consolidated using the equity method. If the Group's share of the associate's losses exceeds the carrying amount of the investment, the exceeding losses will not be consolidated unless the Group has a commitment to fulfill the obligations on behalf of the associate. The Group's share of the associated companies' net profit for the financial year is stated as a separate item in the consolidated Income Statement in operating profit, in proportion to the Group's holdings. The Group's share of the movements of its associates in other comprehensive income is recognized in the Group's other comprehensive income.

FOREIGN CURRENCY TRANSLATION

The Consolidated Financial Statements are presented in euros, which is the Group's presentation currency and the parent company's functional and presentation currency. Items included in the financial statements of each of the Group's entities are measured by using the currency of the primary economic environment in which the entity operates (the functional currency).

If the functional currency of the subsidiary is other than the euro, its Income Statement is translated into euros using the financial year's average foreign currency exchange rates, and the balance sheets are translated using the exchange rates quoted on the balance sheet date. Translating the net profit for the period using different exchange rates in the Income Statement and in the balance sheet causes a translation difference recognized as equity on the Balance Sheet. The change in this translation difference is presented under Other Comprehensive Income. Goodwill and fair value adjustments to the carrying amounts of the assets and liabilities that arise from the acquisition of a foreign entity are accounted for as part of the assets and liabilities of the foreign entity, and are translated into euros at the rate quoted on the balance sheet date.

Translation differences in the loans granted to some foreign subsidiaries are treated as an increase or decrease in other comprehensive income. When the Group ceases to have control over a subsidiary, the accumulated translation difference is transferred into the Income Statement as part of the gain or loss on the sale.

In their day-to-day accounting, the Group companies translate foreign currency transactions into their functional currency at the exchange rates quoted on the transaction date. In the Financial Statements, foreign currency denominated receivables and liabilities are measured at the exchange rates quoted on the balance sheet date. Non-monetary items are measured using the rates quoted on the transaction date. Any foreign exchange gains and losses related to business operations are treated as adjustments to sales and purchases. Exchange rate differences associated with financing transactions and the hedging of the Group's overall foreign currency position are stated in foreign exchange gains or losses under finance income and expenses.

THE ITEMS IN THE FINANCIAL STATEMENTS THAT INCLUDE ACCOUNTING ESTIMATES AND ACCOUNTING POLICIES THAT REQUIRE JUDGMENT BY THE MANAGEMENT

When preparing Consolidated Financial Statements in accordance with IFRS, the management is required to make accounting estimates and assumptions concerning the future. The resulting accounting estimate will seldom be equal to the actual results. In addition, management is required to exercise judgment when applying the accounting policies.

Estimates and assumptions are continuously evaluated, and are based on past experience and expectations of future events that may have financial implications and are considered to be reasonable under the circumstances.

The following table lists items in the financial statements that include significant accounting estimates and includes the notes related to them. Also included are the accounting policies and the sensitivity analysis applied to the items. The items that include accounting estimates are subject to a risk of changes in the carrying amount of assets and liabilities during the next financial period.

The items in the Financial Statements	Note in the Financial Statements
Goodwill	3.1. Goodwill
Fair value of shares in the PVO Group	3.5. Other shares
Deferred taxes and uncertain tax positions	2.6. Income taxes and 4.4. Deferred tax liabilities and assets
Defined benefit pension plans	4.5. Defined benefit pension plans and employee benefits
Provisions	4.6. Provisions

EFFECTS OF THE UKRAINE WAR ON THE FINANCIAL STATEMENTS

At the end of December 2022, Kemira had no operative business or personnel left in Russia. In 2022, Kemira recorded EUR 4.8 million of losses related to its exit from Russia, which were mostly related to PP&E write-downs (Note 2.4. Depreciation, amortization, and impairments), credit losses (Note 4.2. Trade receivables and other current receivables), and other liabilities. At the end of December 2022, Kemira had approximately EUR 8 million net assets, mainly in cash and cash equivalents, in Russia in Russian roubles. Kemira is looking at options to repatriate funds from Russia.

EFFECTS OF CLIMATE-RELATED MATTERS IN FINANCIAL STATEMENTS

Sustainability is a key driver of Kemira's profitable growth strategy. Sustainability at Kemira focuses on five topics: safety, people, circularity, water, and climate. Kemira's ambition is to be carbon neutral by 2045.

Climate-related matters have an impact in several areas of Kemira's Consolidated Financial Statements. As a chemicals company operating in an energy-intensive industry, Kemira has two Power Purchase Agreements in wind power and an ownership in Pohjolan Voima Oyj and Teollisuuden Voima Oyj (Note 3.5 Other Shares) producing CO2-free electricity with nuclear and hydro power plants in Finland. CO2-emissions and energy efficiency matters are considered in capital investments, thus also affecting non-current assets (Note 3.3 Property, Plant and Equipment) as well as future cash flow forecasts used in goodwill impairment testing (Note 3.1 Goodwill). Kemira has a partnership with Danimer Scientific Inc. to develop fully biobased barrier coatings for paper and board products, generating intangible assets (Note 3.2 Other Intangible Assets).

In addition, Kemira has an undrawn revolving credit facility of EUR 400 million with sustainability targets (Note 5.5 Management of Financial Risk). Kemira's long-term incentive program for years 2023-2025 also includes climate-related targets in the KPIs measured.

2. FINANCIAL PERFORMANCE

2.1 SEGMENT INFORMATION

Kemira's organization consists of two segments: Pulp & Paper and Industry & Water.

PULP & PAPER

Pulp & Paper has expertise in applying chemicals and supporting pulp and paper producers in innovating and constantly improving their operational efficiency. The segment develops and sells products to meet the needs of its customers, thus ensuring a leading portfolio of products and services for the paper wet-end, focusing on packaging and board as well as tissue products.

INDUSTRY & WATER

Industry & Water supports municipalities and water intensive industries in the efficient and sustainable utilization of resources. In water treatment, the segment helps in the optimization of every stage of the water cycle. In the oil and gas industry, the segment helps to improve yield from existing reserves and reduce water and energy use.

ALTERNATIVE PERFORMANCE MEASURES

Kemira provides certain financial performance measures (alternative performance measures) that are not defined by IFRS. Kemira believes that alternative performance measures followed by capital markets and Kemira management, such as organic growth*, EBITDA, operative EBITDA, operative EBIT, cash flow after investing activities as well as gearing, provide useful information about Kemira's comparable business performance and financial position. Selected alternative performance measures are also used as performance criteria in remuneration.

Kemira's alternative performance measures should not be viewed in isolation from the equivalent IFRS measures and should instead be read in conjunction with the most directly comparable IFRS measures. Definitions of the key figures is disclosed in the section Definitions of key figures.

* Revenue growth in local currencies, excluding acquisitions and divestments.

INCOME STATEMENT ITEMS

2022, EUR million	Pulp & Paper	Industry & Water	Group
Revenue [1]	2,027.7	1,541.9	3,569.6
EBITDA [2]	336.6	222.2	558.8
Depreciation, amortization and impairments [2]	-123.5	-87.8	-211.2
Share of the results of associates	0.3	0.0	0.3
Operating profit (EBIT) [2]	213.1	134.5	347.6
Finance costs, net			-39.4
Profit before tax			308.2
Income taxes			-68.5
Net profit for the period			239.7

1) Revenue consists mainly of sales of products to external customers, and there is no internal sales between the segments.
2) Includes items affecting comparability.

ITEMS AFFECTING COMPARABILITY IN EBITDA AND EBIT

2022, EUR million	Pulp & Paper	Industry & Water	Group
Operative EBITDA	348.0	223.7	571.6
Restructuring and streamlining programs			-4.5
Transaction and integration expenses in acquisitions			0.0
Divestment of businesses and other disposals			-4.6
Other items			-3.6
Total items affecting comparability	-11.4	-1.4	-12.8
EBITDA	336.6	222.2	558.8
Operative EBIT	225.7	135.9	361.6
Items affecting comparability in EBITDA	-11.4	-1.4	-12.8
Items affecting comparability in depreciation, amortization and impairments	-1.2	0.0	-1.2
Operating profit (EBIT)	213.1	134.5	347.6

Quarterly information on items affecting comparability is disclosed in the section on Reconciliation of IFRS figures.

BALANCE SHEET ITEMS

2022, EUR million	Pulp & Paper	Industry & Water	Group
Segment assets	1,629.4	1,139.8	2,769.2
Reconciliation to total assets as reported in the Group balance sheet:			
Other shares			383.3
Deferred income tax assets			27.1
Other investments			31.0
Defined benefit pension receivables			78.4
Other assets			111.5
Cash and cash equivalents			250.6
Assets classified as held-for-sale			21.3
Total assets			3,651.1
Segment liabilities	354.9	249.0	603.9
Reconciliation to total liabilities as reported in the Group balance sheet:			
Interest-bearing non-current financial liabilities			838.1
Interest-bearing current financial liabilities			183.7
Other liabilities			340.1
Liabilities classified as held-for-sale			0.7
Total liabilities			1,966.5

OTHER ITEMS

2022, EUR million	Pulp & Paper	Industry & Water	Group
Capital employed by segments on Dec 31	1,274.6	890.8	2,165.3
Capital employed by segments [1]	1,337.7	900.3	2,238.0
Operative ROCE, %	16.9	15.1	16.2
Capital expenditure	122.5	75.4	197.9

1) 12-month rolling average

INCOME STATEMENT ITEMS

2021, EUR million	Pulp & Paper	Industry & Water	Group
Revenue [1]	1,559.6	1,114.8	2,674.4
EBITDA [2]	198.3	174.9	373.2
Depreciation, amortization and impairments	-120.6	-82.5	-203.1
Share of the results of associates	-0.5	0.0	-0.5
Operating profit (EBIT) [2]	77.7	92.4	170.1
Finance costs, net			-26.7
Profit before tax			143.3
Income taxes			-28.2
Net profit for the period			115.2

1) Revenue consists mainly of sales of products to external customers, and there is no internal sales between the segments.
2) Includes items affecting comparability.

ITEMS AFFECTING COMPARABILITY IN EBITDA AND EBIT

2021, EUR million	Pulp & Paper	Industry & Water	Group
Operative EBITDA	244.7	180.8	425.5
Restructuring and streamlining programs			-12.3
Transaction and integration expenses in acquisitions			-0.1
Divestment of businesses and other disposals			-28.3
Other items			-11.6
Total items affecting comparability	-46.5	-5.9	-52.4
EBITDA	198.3	174.9	373.2
Operative EBIT	124.3	101.2	225.4
Items affecting comparability in EBITDA	-46.5	-5.9	-52.4
Items affecting comparability in depreciation, amortization and impairments	-0.1	-2.9	-3.0
Operating profit (EBIT)	77.7	92.4	170.1

Quarterly information on items affecting comparability is disclosed in the section Reconciliation of IFRS figures.

BALANCE SHEET ITEMS

2021, EUR million	Pulp & Paper	Industry & Water	Group
Segment assets	1,568.0	1,008.3	2,576.2
Reconciliation to total assets as reported in the Group balance sheet:			
Other shares			260.0
Deferred income tax assets			30.5
Other investments			7.3
Defined benefit pension receivables			73.2
Other assets			49.6
Cash and cash equivalents			142.4
Total assets			3,139.3
Segment liabilities	308.2	196.5	504.8
Reconciliation to total liabilities as reported in the Group balance sheet:			
Interest-bearing non-current financial liabilities			776.9
Interest-bearing current financial liabilities			215.3
Other liabilities			299.6
Total liabilities			1,796.5

OTHER ITEMS

2021, EUR million	Pulp & Paper	Industry & Water	Group
Capital employed by segments on Dec 31	1,259.7	811.8	2,071.5
Capital employed by segments [1]	1,227.4	767.6	1,995.0
Operative ROCE, %	10.1	13.2	11.3
Capital expenditure	89.5	80.3	169.8

1) 12-month rolling average

INFORMATION ABOUT GEOGRAPHICAL AREAS:

REVENUE BY GEOGRAPHICAL AREA BASED ON CUSTOMER LOCATION

EUR million	2022	2021
Finland, domicile of the parent company	546.5	360.1
Other Europe, Middle East and Africa	1,286.0	1,014.5
Americas	1,413.6	1,010.0
Asia Pacific	323.5	289.8
Total	3,569.6	2,674.4

NON-CURRENT ASSETS BY GEOGRAPHICAL AREA

EUR million	2022	2021
Finland, domicile of the parent company	918.9	772.8
Other Europe, Middle East and Africa	499.0	526.7
Americas	619.7	551.3
Asia Pacific	179.7	200.8
Total	2,217.3	2,051.6

Information about major customers

The Group has several significant customers. No more than 10% of the Group's revenue was accumulated from any single external customer in 2022 or 2021.

The Group's accounting policies

Segment reporting

Segment information is presented in a manner consistent with the Group's internal organizational and reporting structure. Kemira's management evaluates the performance of the segments based on operative EBITDA and operative EBIT, among other factors. Assets and liabilities dedicated to a particular segment's operations are included in that segment's total assets and liabilities. Segment assets include property, plant and equipment, intangible assets, right-of-use assets, investments in associates, inventories, and certain current non-interest-bearing receivables. Segment liabilities include certain current non-interest-bearing liabilities. Geographically, Kemira's operations are divided into three business regions: Europe, the Middle East and Africa (EMEA), the Americas and the Asia Pacific (APAC).

Revenue recognition

IFRS 15 standard establishes a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers. The core principle is that an entity should recognize revenue to depict the transfer of promised goods or services to customers to an amount that reflects the consideration to which the Group expects to be entitled in exchange for those goods or services. The Group recognizes revenue when (or as) a performance obligation is satisfied, i.e. when 'control' of the good or service underlying the particular performance obligation is transferred to the customer.

The Group's revenue consists mainly of contract types that include sales of chemical products as well as services and equipment which are related to sales of these chemical products. In 2022 and 2021, services have not formed a significant part of the Group's revenue.

Revenue recognition occurs at the point when the control of the products is transferred to the customer. Generally, in the Group's sales agreements, control is transferred to the customer based on delivery terms and the revenue is recognized at a point in time.

The Group provides delivery and handling services in conjunction with the sale of chemical products to customers. The delivery and handling services are recognized at the same time as revenue from products and are not treated as a separate performance obligation. Kemira recognizes the sale of products and the delivery and handling services for the same reporting period.

Discounts provided to customers are not a significant component of the sales price in Kemira's sales contracts.

2.2 OTHER OPERATING INCOME AND EXPENSES

OTHER OPERATING INCOME

EUR million	2022	2021
Gains on the sale of non-current assets [1]	10.8	3.0
Rental income	0.6	0.5
Services	2.0	2.3
Other income from operations [2]	4.8	0.2
Total	18.2	5.9

1) In 2022, gains on the sale of non-current assets relate mainly to sold assets in Uruguay. In 2021, 35,000 tons of allowances were sold and the income from them was EUR 2.9 million.

2) In 2022, other income from operations consists mainly of indirect tax credits in Brazil.

OPERATING EXPENSES

EUR million	2022	2021
Materials and supplies [3]	2,033.0	1,440.1
Employee benefit expenses	428.9	370.5
External services and other expenses [4] [5]	332.0	307.9
Freights and delivery expenses	235.4	188.3
Total	3,029.3	2,306.7

3) In 2022, materials and supplies included EUR 5.7 million (7.8) Government grants for energy intensive industry in several European countries.

4) Includes equipment costs, travel expenses, leases, office related expenses, insurances, consulting and other operational expenses.

5) In 2022, other operating expenses included research and development expenses of EUR 32.8 million (28.3) including government grants received. Government grants received for R&D were EUR 0.6 million (0.5). The extent of the grants received reduces the research and development expenses.

EMPLOYEE BENEFIT EXPENSES

EUR million	Note	2022	2021
Wages, salaries and emoluments			
Wages and salaries [6]		323.2	279.3
Share-based payments	2.3.	16.0	8.4
Total		339.2	287.7
Indirect employee benefit expenses			
Expenses for defined benefit pension plans and employee benefits	4.5.	2.3	2.9
Pension expenses for defined contribution plans		29.8	29.2
Other employee benefit costs		57.6	50.7
Total		89.7	82.8
Total employee benefit expenses		428.9	370.5

6) Includes emoluments of Kemira Oyj's CEO and the Board of Directors.

The salaries and fees of Kemira Oyj's CEO and members of the Board of Directors are disclosed in Note 6.1.

NUMBER OF PERSONNEL

	2022	2021
Average number of personnel by geographical area		
Europe, Middle East and Africa	2,497	2,545
Americas	1,513	1,475
Asia Pacific	925	927
Total	4,936	4,947
Personnel in Finland, average	780	784
Personnel outside Finland, average	4,156	4,163
Total	4,936	4,947
Number of personnel on Dec 31	4,902	4,926

AUDITOR'S FEES AND SERVICES

EUR million	2022	2021
Audit fees	1.6	1.4
Tax services	0.3	0.1
Other services	0.1	0.1
Total	1.9	1.6

Ernst & Young Oy is acting as the principal auditor for Kemira Group.

The Group's accounting policies

Government grants
Government grants for investments are recognized as a deduction from the carrying amount of PP&E. The grants are recognized in the income statement as smaller depreciation over the asset's useful life. Government grants for research activities are recognized as a deduction from expenses and certain other grants are recognized in other income from operations.

Research and developments costs
Research and development costs are recognized as an expense as incurred. Development costs are capitalized as intangible assets when it can be shown that a development project will generate a probable future economic benefit, and the costs attributable to the development project can reliably be measured. Capitalized development costs include material, labor, and testing costs, as well as any capitalized borrowing costs that are directly attributable to bringing the asset ready for its intended use. Other development costs that do not meet these criteria are recognized as an expense as incurred. Development costs previously recognized as an expense are not recognized as an asset in the subsequent periods.

2.3 SHARE-BASED PAYMENTS

Share incentive plans 2019–2023

In December 2018, Kemira's Board of Directors of Kemira Oyj decided to establish a long-term incentive plan for 2019–2023. Kemira has a long-term share incentive plan directed towards a group of key employees, which is composed of two one-year performance periods for the years 2019 and 2020, and three three-year performance periods for the years 2019–2021, 2020–2022 and 2021–2023.The Board has decided on the plan's performance criteria and the targets for each criterion at the beginning of each performance period.

The rewards for the performance periods have been paid partly in Kemira Oyj's shares and partly in cash. The cash proportion is intended to cover taxes and tax-related costs arising from the reward to the participant. As a rule, no reward has been paid if a participant's employment or service has ended before the reward payment. The shares paid as a reward may not be transferred during the restriction period, which ends two years after the end of the performance period. If a participant's employment or service has ended during the restriction period, the participant has, as a rule, gratuitously returned the shares given as a reward without consideration. The restriction period only applies to the one-year performance period.

Share incentive plans 2022–2026

In December 2021, the Board of Directors of Kemira Oyj decided to establish a long-term share incentive plan directed to a group of key employees in Kemira. The long-term share incentive plan includes three three-year performance periods: years 2022–2024, 2023–2025 and 2024–2026. The Board shall decide on the plan's performance criteria and on the required performance levels for each criterion at the beginning of each performance period. The Board shall decide on the plan's participants and share allocations at the beginning of each performance period.

The potential reward is paid partly in Kemira Oyj's shares and partly in cash. The cash portion covers taxes and tax-related costs arising from the reward to the participant. As a rule, no reward will be paid if a participants employment or service ends before the reward payment.

Share incentive plan	2019–2021	2020	2020–2022	2021–2023	2022–2024
Performance period (calendar year)	2019–2021	2020	2020–2022	2021–2023	2022–2024
Restriction period of shares	1)	2 years	1)	1)	1)
Issue year of shares	2022	2021	2023	2024	2025
Share price at the grant date	9.90	13.41	13.41	12.57	13.32
Number of transferred shares from the plans	221,128	194,097	—	—	—
Estimated number of shares on December 31, 2022	—	—	256,025	543,232	458,783
Number of participants on December 31, 2022	—	80	78	84	87
Performance criteria	Intrinsic value 2)	Intrinsic value 2)	Intrinsic value 2) and organic growth-%	Intrinsic value 2) and organic growth-%	Intrinsic value 2) and organic growth-%

1) A restriction period is not applied to three-year performance periods.
2) The amount of the reward is based on the intrinsic value which is defined as follows: operative EBITDA * 8 - net debt.

Share incentive plan 2023–2025

Participation in the long-term share incentive plan's performance period 2023–2025 is directed to approximately 90 people. The reward to be paid from the 2023–2025 performance period, if the criteria are fulfilled, will amount up to a maximum of 643,500 Kemira Oyj shares. In addition, a cash proportion covers the taxes and tax-related costs arising from the reward is included.

THE EFFECT OF SHARE-BASED PAYMENTS ON OPERATING PROFIT

EUR million	Note	2022	2021
Rewards provided in shares		7.4	3.9
Rewards provided in cash		8.6	4.5
Total	2.2.	16.0	8.4

The Group's accounting policies

Share-based payments
The Group has equity-settled share-based incentive plans under which the Group receives services from persons as consideration for the share-based rewards. The potential rewards for these services are provided to the person partly in shares and partly in cash. The Group's share incentive plan includes persons in several different countries where the Group is obliged under local tax laws or regulations to pay the tax liability to the tax authorities on behalf of a person in cash. The Group's share-based incentive plans have been entirely classified as an equity-settled transaction.

The rewards granted on the basis of a share-based arrangement are recognized as personnel expenses in the income statement and in equity. The expense is recognized on a straight-line basis over the vesting period, which is the period over which the specified vesting conditions are to be satisfied.

The fair value of the share awards has been determined at the grant date and less the estimated expected dividends that will not be received during the vesting period. The fair value of the rewards is based on the Group's estimate of the number of shares to which the right is expected to vest at the end of the vesting period. An estimate of the number of shares is reviewed at each balance sheet date. The potential effect of revisions to estimates is recognized as a personnel expense in the income statement, with the corresponding fair value adjustment made to equity.

2.4 DEPRECIATION, AMORTIZATION AND IMPAIRMENTS

EUR million	2022	2021
Amortization of intangible assets and depreciation of property, plant and equipment		
Other intangible assets [1]	21.0	24.1
Buildings and constructions	23.3	21.5
Machinery and equipment	123.0	114.9
Other tangible assets	6.3	5.6
Total	173.6	166.2
Depreciations of right-of-use assets		
Land	1.7	1.6
Buildings and constructions	10.2	10.1
Machinery and equipment	24.0	21.8
Other tangible assets	0.8	0.6
Total	36.7	34.1
Impairments of intangible assets and property, plant and equipment [2]		
Goodwill	0.0	1.1
Buildings and constructions	0.1	0.4
Machinery and equipment	0.9	1.0
Other tangible assets	0.0	0.4
Total	1.0	2.9
Total depreciation, amortization and impairments	211.2	203.1

1) Amortization of intangible assets related to business acquisitions amounted to EUR 9.4 million (12.1) during the financial year 2022.

2) In 2022, the impairment losses are related to Kemira's exit from the Russian market due to the war in Ukraine. In 2021, impairment losses were related to plant closure in France.

Goodwill impairment tests are disclosed in Note 3.1. Goodwill.

The Group's accounting policies

Depreciation/amortization

Depreciation/amortization is calculated on a straight-line basis over the asset's estimated useful life. Land is not depreciated. The most commonly applied depreciation/amortization periods according to the Group's accounting policies are presented in the following table.

Depreciation of property, plant and equipment and amortization of intangible assets in years	
Buildings and constructions	20–40
Machinery and equipment	3–15
Development costs	a maximum of 8 years
Customer relationships	5–7
Technologies	5–10
Non-compete agreements	3–5
Other intangible assets	5–10
Right-of-use assets	during a lease term

Depreciation/amortization of an asset begins when it is available for use and it ceases at the moment when the asset is classified under IFRS 5 as held for sale, or is included in the disposal group.

2.5 FINANCE INCOME AND EXPENSES

EUR million	2022	2021
Finance income		
Dividend income	0.0	0.0
Interest income		
Interest income from loans and receivables 1)	3.5	6.1
Interest income from financial assets at fair value through profit or loss	1.1	0.7
Other finance income	0.2	0.0
Total	4.8	6.8
Finance expense		
Interest expenses		
Interest expenses from other liabilities	-23.5	-19.4
Interest expenses from financial liabilities at fair value through profit or loss	-6.6	-3.6
Interest expenses from lease liabilities	-7.1	-6.2
Other finance expenses 2)	-5.1	-4.8
Total	-42.3	-34.1
Exchange differences		
Exchange differences from financial assets and liabilities at fair value through profit or loss	-22.2	9.2
Exchange differences, other	20.2	-8.6
Total	-1.9	0.6
Total finance income and expenses	-39.4	-26.7
Net finance expenses as a percentage of revenue, %	1.1	1.0
Net interest as a percentage of revenue, %	0.9	0.8

EUR million	2022	2021
Change in Consolidated Statement of Comprehensive Income from hedge accounting instruments		
Cash flow hedge accounting: amount recognized in the Consolidated Statement of Comprehensive Income 3)	39.2	19.3
Total	39.2	19.3
Exchange differences		
Realized	20.0	-10.2
Unrealized	-21.9	10.8
Total	-1.9	0.6

1) In 2021, interest income from loans and receivables includes a gain of EUR 5.6 million arising from bond liability management.

2) Includes EUR 1.8 million (1.8) of arrangement fees relating to loans in 2022.

3) Consists mostly from changes in fair value of derivatives under hedge accounting treatment.

2.6 INCOME TAXES

EUR million	2022	2021
Current taxes	-72.6	-30.5
Taxes for prior years	-2.0	-1.9
Change in deferred taxes	6.1	4.3
Total	-68.5	-28.2

RECONCILIATION BETWEEN TAX EXPENSE AND TAX CALCULATED AT DOMESTIC TAX RATE

EUR million	2022	2021
Profit before tax	308.2	143.3
Tax at parent company's tax rate 20%	-61.6	-28.7
Foreign subsidiaries' different tax rate	-4.5	-3.3
Non-deductible expenses and tax-exempt profits	1.6	-1.8
Share of profit or loss of associates	-0.1	-0.1
Tax losses during the period without deferred tax	-1.8	-0.9
Tax for prior years	-2.0	-1.9
Effect of change in tax rates	0.0	0.0
Utilization of prior years' tax losses with no deferred tax	1.2	3.5
Changes in deferred taxes related to prior years	-1.3	5.1
Income taxes in the Income Statement	-68.5	-28.2

In 2022, the effective tax rate of the Group was 22.2% (19.6%).

TAX LOSSES AND RELATED DEFERRED TAXES

	Tax losses carried forward		Recognized deferred taxes		Unrecognized deferred taxes	
EUR million	2022	2021	2022	2021	2022	2021
Expiry within 5 years	67.6	70.2	9.1	8.9	7.3	7.8
Expiry after 5 years	3.7	2.8	0.2	0.7	0.8	0.0
No expiry	119.0	73.0	12.0	1.6	24.4	16.7
Total	190.3	146.0	21.3	11.2	32.4	24.5

At the end of 2022, the subsidiaries had EUR 105.4 million (98.1) tax losses, of which no deferred tax benefits have been recognized. The subsidiaries' tax losses are incurred in different currencies and born mainly in Brazil and China.

The Group's accounting policies

Income taxes

The Group’s tax expense for the period comprises current tax, adjustments prior tax periods and deferred tax. Tax is recognized in the income statement, except where it relates to items recognized in other comprehensive income or directly in equity. In this case, the tax is also recognized in other comprehensive income or directly in equity.

The current income tax charge is calculated based on tax laws enacted or substantively enacted on the balance sheet date in the countries where the parent company and its subsidiaries and associated companies operate and generate taxable income.

The items in the financial statements that include significant accounting estimates and accounting policies that require judgment

Deferred taxes and uncertain tax positions

The management regularly evaluates the positions taken in the tax returns to identify situations where the applicable tax regulation may be subject to interpretation. The management evaluates also other potential uncertainties related to the tax positions identified in the tax audits or tax disputes. Taxes are recognized of uncertain tax positions based on estimated outcome and probability.

2.7 EARNINGS PER SHARE

	2022	2021
Earnings per share, basic		
Net profit attributable to equity owners of the parent company, EUR million	231.7	108.1
Weighted average number of shares [1]	153,319,710	153,092,232
Basic earnings per share, EUR	1.51	0.71
Earnings per share, diluted		
Net profit attributable to equity owners of the parent company, EUR million	231.7	108.1
Weighted average number of shares [1]	153,319,710	153,092,232
Adjustments:		
Average number of treasury shares it is possible to be issued on the basis of the share-based payments	941,054	692,789
Weighted average number of shares for diluted earnings per share	154,260,764	153,785,021
Diluted earnings per share, EUR	1.50	0.70

1) Weighted average number of shares outstanding, excluding the number of treasury shares held by Kemira Oyj.

The Group's accounting policies

Earnings per share

The basic earnings per share are calculated by dividing the profit attributable to the equity owners of the parent company by the weighted average number of shares issued during the period excluding treasury shares held by parent company Kemira Oyj. The diluted earnings per share are calculated by adjusting the weighted average number of ordinary shares with the dilutive effect of all the potential dilutive shares, such as shares from share-based payments.

2.8 OTHER COMPREHENSIVE INCOME

EUR million	2022	2021
Items that may be reclassified subsequently to profit or loss		
Exchange differences on translating foreign operations	19.7	35.7
Cash flow hedges	50.4	24.2
Items that will not be reclassified subsequently to profit or loss		
Other shares	123.2	50.2
Remeasurements of defined benefit plans	40.8	26.8
Other comprehensive income for the period before taxes	234.1	136.9
Tax effects relating to components of other comprehensive income	-47.1	-23.8
Other comprehensive income for the period, net of tax	187.1	113.3

THE TAX RELATING TO COMPONENTS OF OTHER COMPREHENSIVE INCOME

	2022			2021		
EUR million	Before tax	Tax charge (-) /credit (+)	After tax	Before tax	Tax charge (-) /credit (+)	After tax
Items that may be reclassified subsequently to profit or loss						
Exchange differences on translating foreign operations	19.7	-2.2	17.5	35.7	-3.5	32.2
Cash flow hedges	50.4	-11.2	39.2	24.2	-4.9	19.3
Items that will not be reclassified subsequently to profit or loss						
Other shares	123.2	-24.7	98.6	50.2	-10.0	40.2
Remeasurements of defined benefit plans	40.8	-9.0	31.8	26.8	-5.4	21.5
Total other comprehensive income	234.1	-47.1	187.1	136.9	-23.8	113.3

3. CAPITAL EXPENDITURES AND ACQUISITIONS

3.1 GOODWILL

EUR Million	Note	2022	2021
Net book value on Jan 1		514.0	504.1
Acquisition of subsidiaries and business acquisitions		0.0	0.0
Impairments [1]		0.0	-1.1
Transferred to assets classified as held-for-sale [2]	3.6.	-11.3	0.0
Exchange differences		7.7	11.1
Net book value on Dec 31		510.5	514.0

1) Impairments related to plant closure in France in 2021.

2) In 2022, goodwill is reclassified as held-for-sale assets which is related to the sale of the colorant business within the Pulp & Paper segment. See Note 3.6. for further details regarding the held-for-sale assets.

IMPAIRMENT TESTING OF GOODWILL

Goodwill is allocated to the two individual cash-generating units that are the Group's reportable segments. The reportable segment represents the lowest level within the Group at which goodwill is monitored for internal management purposes. The Group's two reportable segments are Pulp & Paper and Industry & Water. A summary of the tested net book values and goodwill relating to the Group's reportable segments is presented in the following table.

	2022		2021	
EUR Million	Net book value	of which goodwill	Net book value	of which goodwill
Pulp & Paper	1,275	350	1,260	357
Industry & Water	891	160	812	157
Total	2,165	510	2,071	514

The Group carries out its impairment testing of goodwill annually, or whenever there is an indication that the recoverable amount may be less than its carrying amount. The recoverable amounts of cash-generating units have been determined based on value in use calculations which require the use of estimates and assumptions. The key assumptions in value in use calculations are the EBITDA margin and discount rate.

The long-term EBITDA margin assumption used for the impairment testing of goodwill is based on past experience regarding EBITDA margins and reflects the management's perception of developments in sales prices and sales volumes during the forecast period. The impact of climate-related risks to the Group's long-term performance have been considered in the cash flow forecasts. The cash flow forecasts used in the impairment testing are based on cash flow forecasts approved by the management covering a five-year horizon. The expected growth used to extrapolate cash flows in the subsequent five-year forecast period was assumed to be 1% (2021: 1%) in both cash-generating units Pulp & Paper and Industry & Water.

The discount rates applied were based on the Group's adjusted Weighted Average Cost of Capital (WACC) before taxes. The risk-adjusted WACC rate was defined for both cash-generating units. The pre-tax discount rates used in performing the impairment tests of the Group's reportable segments are presented in the following table.

%	2022	2021
Pulp & Paper	8.5	7.5
Industry & Water	8.5	7.5

In addition, an impairment test based on market value has been carried out as part of impairment testing. The value in use calculation based on cash flow forecasts has been validated by comparing it against the quoted market value of Kemira Oyj.

During the financial years 2022 and 2021, impairment tests have not indicated any impairment, and no impairment loss has been recognized in the income statement.

SENSITIVITY ANALYSIS

In 2022, as part of the impairment testing, the Group carried out a sensitivity analysis that assessed key changes in assumptions as follows: a decrease of 2 percentage points in EBITDA margin, a decrease of 10% in estimated cash flow during the forecast period, an increase of 1 and 2 percentage points in the discount rates or a decrease of 10% in cash flows and an increase of 2 percentage points in the discount rate.

Based on the sensitivity analyses carried out, the management has estimated that changes in the key assumptions of EBITDA margins, discount rates and cash flows would not result in the cash-generating units carrying amount exceeding the recoverable amount and therefore there would be no impairment losses recorded in either of the reportable segments.

The Group's accounting policies

Goodwill

Goodwill arises from business combinations. Goodwill represents the excess of the consideration transferred, the amount of any non-controlling interest in the acquiree and the acquisition-date fair value of any previous equity interest in the acquiree over the fair value of the identifiable net assets acquired. Goodwill is measured at cost less the accumulated impairment losses.

Impairment testing

On each balance sheet date, the Group assesses whether there is any indication of an asset's impairment. If any indication of impairment exists, the recoverable amount of the asset or the cash-generating unit is calculated on the basis of the value in use or the net selling price.

For the purpose of impairment testing goodwill, a cash-generating unit has been defined as an operating segment. Two or more operating segments are not combined into one reportable segment. The recoverable amount of a reportable segment is defined as its value in use, which consists of the discounted future cash flows to the unit. Estimates of future cash flows are based on the continuing use of an asset and forecasts by the management. Cash flow estimates do not include the effects of improved asset performance, investments, or future reorganizations.

Goodwill impairment is tested by comparing the recoverable amount with the carrying amount for the reportable segments Pulp & Paper and Industry & Water. The carrying amount includes goodwill, intangible assets and PP&E, right-of-use assets, and working capital. The Group does not have intangible assets with indefinite useful lives other than goodwill. All goodwill has been allocated to the reportable segments.

An impairment loss is recognized whenever the carrying amount of an asset or a cash-generating unit exceeds its recoverable amount. An impairment loss is recognized in the income statement. If there has been a positive change in the estimates used to determine an asset's recoverable amount since the last impairment loss was recognized, an impairment loss recognized for previous years is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined if no impairment loss had been recognized for the previous years. An impairment loss for goodwill is never reversed.

The items in the financial statements that include significant accounting estimates and accounting policies that require judgment

Impairment test of goodwill

The impairment tests of goodwill and other assets include determining future cash flows which, with regard to the most significant assumptions, are based on EBITDA margin and discount rates. Significant adverse developments in cash flows and interest rates may necessitate the recognition of an impairment loss.

3.2 OTHER INTANGIBLE ASSETS

2022, EUR million	Other intangible assets	Prepayments	Total
Acquisition cost on Jan 1	330.5	4.1	334.6
Additions	10.2	7.1	17.3
Purchases of subsidiaries and business acquisitions	0.0	0.0	0.0
Decreases	-3.5	0.0	-3.5
Transferred to assets classified as held-for-sale [1]	-4.0	0.0	-4.0
Reclassifications	0.0	-0.1	-0.1
Exchange rate differences and other changes	0.5	0.0	0.5
Acquisition cost on Dec 31	333.6	11.1	344.8
Accumulated amortization on Jan 1	-267.9		-267.9
Accumulated amortization relating to decreases and transfers	3.5		3.5
Amortization during the financial year	-21.0		-21.0
Impairments	0.0		0.0
Transferred to assets classified as held-for-sale [1]	2.3		2.3
Exchange rate differences	-0.7		-0.7
Accumulated amortization on Dec 31	-283.8		-283.8
Net book value on Dec 31	49.8	11.1	60.9
Emission rights			0.3
Net book value including emission rights on Dec 31			61.2

1) In 2022, other intangible assets amounting EUR 1.8 million are reclassified as held-for-sale assets. These assets are used by the colorant business within the Pulp & Paper segment. See Note 3.6. for further details regarding the held-for-sale assets.

The Group holds assigned emissions allowances under the EU Emissions Trading System at its Helsingborg site in Sweden and UK Emission Trading System at its Bradford site in the UK. At the Group level, the allowances showed a surplus of 87,862 tons of carbon dioxide in 2022 (a surplus of 35,386 tons).

Items affecting the income statement related to emission rights are disclosed in Note 2.2. Other operating income and expenses.

2021, EUR million	Other intangible assets	Prepayments	Total
Acquisition cost on Jan 1	317.7	3.5	321.2
Additions	9.3	0.6	9.9
Purchases of subsidiaries and business acquisitions	0.0	0.0	0.0
Decreases	-3.2	0.0	-3.2
Reclassifications	0.0	-0.1	-0.1
Exchange rate differences and other changes	6.7	0.1	6.8
Acquisition cost on Dec 31	330.5	4.1	334.6
Accumulated amortization on Jan 1	-243.2		-243.2
Accumulated amortization relating to decreases and transfers	3.2		3.2
Amortization during the financial year	-24.1		-24.1
Impairments	0.0		0.0
Exchange rate differences	-3.8		-3.8
Accumulated amortization on Dec 31	-267.9		-267.9
Net book value on Dec 31	62.6	4.1	66.7

The Group's accounting policies

Other intangible assets

Other intangible assets include, for instance, software and software licenses and patents, technologies, non-compete agreements and customer relationships acquired in business combinations. On the contrary, cloud-based software as service acquisitions generally do not, by their nature, meet the characteristics of an intangible asset and are therefore recognized as an expense. Intangible assets are measured at cost less accumulated amortization and any impairment losses. The Group has no intangible assets that have an indefinite useful life other than goodwill.

Emission rights

Emission rights purchased on the market are accounted for as intangible assets measured at cost. Emission rights received free of charge are measured at their nominal value (zero). Emission rights are not amortized. A provision for the fulfillment of the obligation to return emission rights are recognized if the free-of-charge emissions are not sufficient to cover actual emissions. The Group's consolidated balance sheet shows no items related to emission rights when the volume of actual emissions is lower than that of the free-of-charge emissions allowances and the Group has not bought allowances on the market.

3.3 PROPERTY, PLANT AND EQUIPMENT

2022, EUR million	Land	Buildings and constructions	Machinery and equipment	Other property, plant and equipment	Prepayments and assets under construction [1]	Total
Acquisition cost on Jan 1	50.1	551.8	1,827.1	92.7	106.7	2,628.5
Additions	0.2	31.2	93.3	6.7	49.1	180.3
Acquisitions of subsidiaries and business acquisitions	—	—	—	—	—	—
Decreases	-1.7	-34.4	-105.5	-1.9	-0.6	-143.9
Disposed of subsidiaries	—	—	—	—	—	—
Transferred to assets classified as held-for-sale [2]	—	-1.6	-10.2	-0.3	—	-12.0
Reclassifications	—	—	2.5	—	-2.4	0.1
Exchange rate differences and other changes	-1.2	5.0	12.3	0.3	0.3	16.8
Acquisition cost on Dec 31	47.5	552.0	1,819.5	97.5	153.2	2,669.7
Accumulated depreciation on Jan 1	-10.0	-277.0	-1,223.4	-55.0		-1,565.4
Accumulated depreciation related to decreases and transfers	0.1	30.2	100.3	1.8		132.4
Depreciation during the financial year	—	-23.3	-123.0	-6.3		-152.7
Impairments	—	-0.1	-0.9	—		-1.0
Transferred to assets classified as held-for-sale [2]	—	0.8	6.2	0.2		7.2
Exchange rate differences	—	-0.9	-8.7	-0.5		-10.2
Accumulated depreciation on Dec 31	-9.9	-270.2	-1,249.6	-59.9		-1,589.6
Net book value on Dec 31	37.6	281.8	569.9	37.6	153.2	1 080,2

1) Prepayment and non-current assets under construction are mainly comprised of plant investments.

2) In 2022, property, plant and equipment amounting EUR 4.8 million are reclassified as held-for-sale assets. These assets are used by the colorant business within the Pulp & Paper segment. See Note 3.6. for further details regarding the held-for-sale assets.

2021, EUR million	Land	Buildings and constructions	Machinery and equipment	Other property, plant and equipment	Prepayments and assets under construction [1]	Total
Acquisition cost on Jan 1	49.8	499.2	1,709.5	82.5	100.8	2,441.8
Additions	0.1	43.1	99.4	7.5	8.8	158.8
Acquisitions of subsidiaries and business acquisitions [1]	0.0	0.0	0.0	0.0	0.0	0.0
Decreases	0.0	-7.8	-47.9	-1.4	0.0	-57.1
Disposed of subsidiaries	0.0	0.0	0.0	0.0	0.0	0.0
Reclassifications	0.0	0.2	6.5	0.0	-6.5	0.1
Exchange rate differences and other changes	0.3	17.1	59.7	4.2	3.6	84.9
Acquisition cost on Dec 31	50.1	551.8	1,827.1	92.7	106.7	2,628.5
Accumulated depreciation on Jan 1	-9.9	-256.2	-1,117.0	-47.3		-1,430.4
Accumulated depreciation related to decreases and transfers	0.0	7.8	47.7	1.4		57.0
Depreciation during the financial year	0.0	-21.5	-114.9	-5.6		-142.1
Impairments	0.0	-0.4	-1.0	-0.4		-1.8
Exchange rate differences	0.0	-6.6	-38.2	-3.2		-48.1
Accumulated depreciation on Dec 31	-10.0	-277.0	-1,223.4	-55.0		-1,565.4
Net book value on Dec 31	40.2	274.8	603.7	37.7	106.7	1,063.0

1) Prepayment and non-current assets under construction are mainly comprised of plant investments.

The Group's accounting policies

Property, plant and equipment

Property, plant and equipment are measured at cost less accumulated depreciation and any impairment losses. The residual values and useful lives of the assets are reviewed at least at the end of each financial year. Gains and losses on the sale of non-current assets are included in other operating income and expenses. Borrowing costs directly attributable to the acquisition or construction of a qualifying asset are capitalized as part of the cost of the asset in question when it is probable that they will generate future economic benefits and the costs can be reliably measured. The costs of major inspections or the overhaul of an asset performed at regular intervals and identified as separate components are capitalized and depreciated over their useful lives.

3.4 LEASES

CHANGE IN RIGHT-OF-USE ASSETS

2022, EUR million	Land	Buildings and constructions	Machinery and equipment	Other property, plant and equipment	Total
Net book value Jan 1	33.1	29.5	71.1	2.1	135.8
Additions	0.4	19.0	25.5	0.7	45.6
Depreciation and impairments	-1.7	-10.2	-24.0	-0.8	-36.7
Transferred to assets classified as held-for-sale [1)]	0.0	-0.3	-0.1	0.0	-0.4
Reclassifications	0.0	0.0	0.0	0.0	0.0
Exchange rate differences and other changes	-0.4	-0.1	2.4	-0.1	1.7
Net book value Dec 31	31.5	37.8	74.8	1.9	146.0

2021, EUR million	Land	Buildings and constructions	Machinery and equipment	Other property, plant and equipment	Total
Net book value Jan 1	32.5	27.7	59.4	1.5	121.0
Additions	1.0	11.0	29.3	1.3	42.5
Depreciation and impairments	-1.6	-10.1	-21.8	-0.6	-34.1
Reclassifications	0.0	0.0	0.0	0.0	0.0
Exchange rate differences and other changes	1.2	0.9	4.3	0.0	6.4
Net book value Dec 31	33.1	29.5	71.1	2.1	135.8

1) In 2022, right-of-use assets amounting EUR 0.4 million are reclassified as held-for-sale assets. These assets are used by the colorant business within the Pulp & Paper segment. See Note 3.6. for further details regarding the held-for-sale assets.

Maturity of lease liabilities has been presented in Note 5.3. Interest-bearing liabilities. Changes in lease liabilities and payments related to lease liabilities has been presented in Note 5.1. Capital Structure.

In 2022, the amount of lease expenses recognized in the income statement for leases of short-term or low-value assets is EUR 4 million (4).

The Group's accounting policies

Leases

At the time of entering into an agreement, the Group assesses whether it is a lease or whether it contains a lease. An agreement is a lease in accordance with IFRS 16 if the agreement gives the Group, as lessee, the right to control the asset and control its use for a specified period, against consideration. The Group's leases are mainly for land, buildings, and transport equipment.

The lease is recognized as a right-of-use asset and a corresponding liability when the leased asset is available to the Group. The rent paid is divided into debt and interest expenses. Interest expenses are recognized in the income statement over the lease term and the asset is amortized over the lease term. Assets and liabilities arising from leases are initially measured at present value. Lease liabilities include the net fair value of rentals, consisting of a fixed payment and a variable rent that are index- or price-level dependent. The lease liability is discounted to its present value using an interest rate on the additional loan, consisting of the reference interest rate and the lessee's credit margin, which the lessee would pay on the acquisition of the corresponding asset by debt financing. This additional loan rate will vary depending on the duration of the lease and the currency.

The lease term is the period during which the lease cannot be canceled. The Group leases typically have a fixed term, and some contracts have options for renewal. The option is included in the lease liability if it is reasonably certain that the option will be exercised. If there is a change in the estimate of the exercise of the option, the lease liability and the related asset are reassessed.

A right-of-use asset is measured at cost, which includes the original amount of the lease liability. In building leases, lease and non-lease components are treated separately wherever they can be identified and distinguished from the right-of-use asset. In subsequent periods, the accumulated depreciation and impairment losses are deducted from the asset. Fixed assets are tested for impairment in accordance with IAS 36 Impairment of Assets.

Payments for short-term and low-value leases are recognized as an expense in the income statement on a straight-line basis over the lease term. Leases with a maximum term of 12 months are regarded as short-term. Low value assets include IT equipment, office furniture and other low value machines.

3.5 OTHER SHARES

2022, EUR million	The shares of Pohjolan Voima Group	Other non-listed shares	Total
Net book value on Jan 1	257.3	2.7	260.0
Additions	—	—	—
Decreases	—	—	—
Change in fair value	123.2	—	123.2
Net book value on Dec 31	380.6	2.7	383.3
2021, EUR million			
Net book value on Jan 1	210.6	1.7	212.3
Additions [1)]	—	1.0	1.0
Decreases [2)]	-3.5	—	-3.5
Change in fair value	50.2	—	50.2
Net book value on Dec 31	257.3	2.7	260.0

1) Kemira acquired a minority interest in SimAnalytics Oy.
2) Capital repayment of PVO's G5 series shares.

SHARES IN THE POHJOLAN VOIMA GROUP

EUR million	Class of shares	Holding, %	Class of assets	2022	2021
Pohjolan Voima Oyj	A	5	hydro power	126.3	108.4
Pohjolan Voima Oyj	B	2	nuclear power	79.3	43.3
Pohjolan Voima Oyj [1)]	B2	7	nuclear power	21.3	21.3
Teollisuuden Voima Oyj	A	2	nuclear power	152.8	83.4
Other Pohjolan Voima Oyj	C2, G5, G6, M	several	several	0.8	0.8
Total				**380.6**	257.3

1) The plant supplier (AREVA-Siemens consortium) is constructing the Olkiluoto 3 nuclear power plant (OL 3) in Finland with fixed-price turnkey contracts. In spring 2005, the plant supplier started construction work with a contractual obligation to start the electricity production in OL 3 in spring 2009. However, OL 3 has been delayed several times from its original start-up schedule. TVO's release on 21 December 2022 states that the nuclear power plant at the OL3 regular electricity production is to start on March 2023.

Kemira Oyj owns 5% of Pohjolan Voima Oyj, a company of the Pohjolan Voima Group, and 1% of its joint venture Teollisuuden Voima Oyj.

DISCOUNTED CASH FLOW ASSUMPTIONS AND SENSITIVES

	2022	2021
Short-term discount rate	5.1%	3.6%
Long-term discount rate	5.1%	3.7%
Electricity price estimate EUR/MWh	57.62 - 85.80	42.63 - 48.60
Forward electricity prices EUR/MWh	68.60 - 158.10	37.20 - 82.49

A 10% decrease or increase in the electricity market price in the future would negatively or positively impact on the fair value of the shares by approximately EUR +/- 47 million (+/- 37). An increase or decrease of one percentage point in the discount rate would negatively or positively impact on the fair value of the shares by approximately EUR -38 million (-38) or approximately EUR 53 million (63).

The Group's accounting policies

Other shares

Other shares are classified at fair value through other comprehensive income. Changes in the fair value of other shares are recognized in other comprehensive income under equity in the fair value reserve taking the tax effect into account and including gains and losses from sales. The dividends are recognized in the profit or loss statement. Other shares include non-listed companies, the shareholdings in Pohjolan Voima Oyj (PVO) and Teollisuuden Voima Oyj (TVO) representing the largest investments.

PVO and its joint venture TVO comprise a private energy generating group owned by Finnish manufacturing and power companies, to which it supplies energy at cost. Kemira Group has A series shares in TVO and A, B, C, G, and M series shares in PVO. The shareholdings of PVO's B series are related to the holdings in TVO. TVO operates two nuclear power plant units in Olkiluoto in the municipality of Eurajoki, and TVO is also constructing a new nuclear plant unit in Olkiluoto. Different share series entitle the shareholder to electricity generated by different power plants. The owners of each share series are responsible for the fixed costs of the series in question in proportion to the number of the shares, regardless of whether they use their power/energy share or not, and for variable costs in proportion to the amount of energy used.

Kemira Oyj's ownership in the PVO Group, which entitles to electricity from power plants in regular production is measured at the fair value based on the discounted cash flow resulting from the difference between the market price of the electricity and the cost price. In Olkiluoto 3, nuclear power unit belonging to the PVO B2 share series, regular electricity production had not started by 31 December 2022.The forward electricity price quotations for the Finnish price area published by the Nordic Electricity Exchange have been used as the basis for the market price for the electricity for the first five years, and after this, the development of the prices is based on a fundamental simulation model of the Nordic electricity market. The impact of inflation in the coming years is taken into account in the price of the electricity and the cost prices. The cost prices are determined by each share series. Future cash flows have been discounted based on the estimated useful lifecycles of the plants related to each share series, and hydro power also includes terminal value. The discount rate has been calculated using the annually determined average weighted cost of capital.

The items in the financial statements that include significant accounting estimates and accounting policies that require judgment

Estimated fair value of shares in the PVO Group

The Group's shareholding in the unlisted PVO Group is measured at fair value, based on the discounted cash flow resulting from the difference between the market price of electricity and the cost price using the valuation model. Developments in the actual fair value may differ from the estimated value due to factors, such as electricity prices, inflation, the forecast period, or the discount rate.

3.6 ASSETS CLASSIFIED AS HELD-FOR-SALE

ASSETS CLASSIFIED AS HELD-FOR-SALE

EUR million	Note	2022	2021
Goodwill	3.1.	0.0	—
Intangible assets	3.2.	1.8	—
Property, plant and equipment	3.3.	4.8	—
Right-of-use assets	3.4.	0.4	—
Inventories		14.3	—
Total		21.3	—

LIABILITIES DIRECTLY ASSOCIATED WITH THE ASSETS CLASSIFIED AS HELD-FOR-SALE

EUR million	Note	2022	2021
Liabilities of defined benefit plans	4.5.	0.3	—
Liabilities related to right-of-use assets		0.4	—
Total		0.7	—

In Q3 2022, Kemira signed an agreement to sell its colorants business to US based ChromaScape, LLC. Revenue of the business in 2021 was approximately EUR 50 million and 67 employees will be transferred to ChromaScape as part of transaction which is expected to be closed in the first quarter of 2023. The scope includes also one Kemira manufacturing site at Goose Creek, Bushy Park in South Carolina. Kemira will keep its APAC related colorants business.

The assets and liabilities related to a sale of the colorants business has been classified as a disposal group held for sale according to IFRS 5. As a result, the assets and liabilities related to the sale of the colorants business are presented in the consolidated balance sheet on separate lines. The reclassification had an effect on the reported values of balance sheet items and the expected loss from the sale of the colorants business was EUR 15 million. The colorants business is part of Kemira's Pulp & Paper segment.

In the Consolidated Statement of Cash Flow, the line Other non-cash items contains the loss of sale of EUR 15 million, a non-monetary item caused by the sale of the colorants business.

The Group's accounting policies

Non-current assets held for sale

Non-current assets are classified as assets held for sale when their carrying amount is to be recovered principally through a sale transaction and a sale transaction and a sale is considered highly probable. Since the time of classification, the assets have been valued at the lower of carrying amount and fair value less costs to sell. Depreciation on these assets discontinues at the time of classification. Non-current assets classified as held for sale is disclosed separately in the balance sheet.

4. WORKING CAPITAL AND OTHER BALANCE SHEET ITEMS

NET WORKING CAPITAL

EUR million	Note	2022	2021
Inventories	4.1.	433.7	352.1
Trade receivables and other receivables	4.2.	603.7	475.2
Excluding financing items in other receivables [1]		-71.1	-35.4
Trade payables and other liabilities	4.3.	635.2	538.3
Excluding financing items in other liabilities [1]		-31.4	-33.5
Total		362.4	287.2

1) Includes mainly interest income and expenses, exchange gains and losses and hedging related items.

Quarterly information on net working capital is disclosed in the section on Reconciliation to IFRS figures.

4.1 INVENTORIES

EUR million	2022	2021
Materials and supplies	147.8	111.3
Finished goods	264.7	208.8
Prepayments	21.2	32.0
Total	433.7	352.1

In 2022, EUR 9.2 million (2.6) of the inventory value was recognized as an expense in order to decrease the book values of the inventories to correspond with their net realizable value.

The Group's accounting policies

Inventories
Inventories are measured at the lower of cost and net realizable value. Costs are determined on a first-in first-out (FIFO) basis or by using a weighted average cost formula, depending on the nature of the inventory. The cost of finished goods and work in progress include the proportion of production overheads at normal capacity. The net realizable value is the sales price received in the ordinary course of business less the estimated costs for completing the asset and the sales costs.

4.2 TRADE RECEIVABLES AND OTHER CURRENT RECEIVABLES

EUR million	2022	2021
Trade and other receivables		
Trade receivables	449.6	373.0
Prepayments	7.1	6.9
Prepaid expenses and accrued income	110.5	62.3
Other current receivables	36.4	32.9
Total	603.7	475.2

AGING OF OUTSTANDING TRADE RECEIVABLES

	2022		
EUR million	Receivables, gross amount	Expected credit losses	Receivables, net amount
Not due trade receivables	389.2	-0.7	388.5
Trade receivables 1-90 days overdue	61.1	-0.1	61.0
Trade receivables more than 91 days overdue	4.7	-4.6	0.1
Total	454.9	-5.3	449.6

	2021		
EUR million	Receivables, gross amount	Expected credit losses	Receivables, net amount
Not due trade receivables	334.6	-0.3	334.3
Trade receivables 1-90 days overdue	38.1	-0.1	38.0
Trade receivables more than 91 days overdue	3.7	-3.0	0.7
Total	376.4	-3.3	373.0

In 2022, the impairment loss (+) /gain(-) of trade receivables amounted to EUR 2.2 million (-0.7) of which EUR 1.6 million related to the closure of Russian operations.

In 2022, items that were due in a time period longer than one year included trade receivables of EUR 0.7 million (0.3), prepaid expenses and an accrued income of EUR 0.5 (10.3), other receivables of EUR 0.3 (0.4) and prepayments of EUR 1.7 (0.4).

The Group's accounting policies

Trade receivables, loan receivables, and other current receivables

Trade receivables, loan receivables, and other current receivables are initially recognized at fair value and subsequently measured at amortized cost, taking impairment into account. These items are subject to a simplified impairment model in accordance with the IFRS 9 standard, where the estimated amount of credit losses is based on the expected credit losses over their expected life.

The expected credit loss rates for the impairment model vary for trade receivables in EMEA, Americas and APAC according to age distribution and geographical area. Credit loss rates are based on sales payment profiles and historical credit losses.

The expected credit losses for trade receivables are recognized using the simplified impairment model in accordance with IFRS 9. The expected credit losses are calculated by multiplying the book value of unpaid trade receivables by the expected credit loss rate according to geographical area. Any overdue trade receivables over 180 days are assessed based on a specific risk assessment. In addition, an estimate of a credit loss is recognized for individual trade receivables when there is objective evidence that the receivables will not be recovered on all the original terms.

Trade receivables, loan receivables and other current receivables do not include a significant financial component.

4.3 TRADE PAYABLES AND OTHER CURRENT LIABILITIES

EUR million	2022	2021
Trade payables and other liabilities		
Prepayments received	2.5	2.5
Trade payables	292.8	285.5
Accrued expenses	277.0	208.8
Other non-interest-bearing current liabilities	63.0	41.4
Total	635.2	538.3

Accrued expenses		
Employee benefits	94.2	73.9
Items related to revenue and purchases	149.8	104.0
Interest	7.2	7.2
Exchange rate differences	2.8	0.8
Other	22.9	22.9
Total	277.0	208.8

The Group's accounting policies

Trade payables and other current liabilities

Trade and other payables are presented as current liabilities if payment is due within 12 months after the financial period. Trade payables are initially recognized at fair value and subsequently measured at amortized cost.

4.4 DEFERRED TAX LIABILITIES AND ASSETS

EUR million	Jan 1, 2022	Recognized in the income statement	Recognized in other comprehensive income	Recognized in equity	Acquired and disposed subsidiaries	Exchange differences and reclassifications	Dec 31, 2022
Deferred tax liabilities							
Depreciations and untaxed reserves	57.3	14.6	0.0	0.0	0.0	1.2	73.2
Other shares	28.0	0.0	24.7	0.0	0.0	0.0	52.7
Defined benefit pensions	14.6	-1.6	3.0	0.0	0.0	0.0	15.9
Fair value adjustments of net assets acquired	1.1	-0.5	0.0	0.0	0.0	0.0	0.6
Other accruals	11.4	-6.2	13.3	2.2	0.0	0.0	20.8
Total	112.4	6.3	40.9	2.2	0.0	1.3	163.1
Deducted from deferred tax assets	-35.3						-44.9
Deferred tax liabilities in the balance sheet	77.1						118.2
Deferred tax assets							
Provisions	20.3	-1.6	0.0	0.0	0.0	1.9	20.7
Tax losses	11.2	-0.1	0.0	0.0	0.0	10.2	21.3
Defined benefit pensions	10.9	0.1	-6.0	0.0	0.0	-2.4	2.6
Other accruals	23.3	14.0	-0.3	0.0	0.0	-9.6	27.5
Total	65.8	12.4	-6.3	0.0	0.0	0.1	72.0
Deducted from deferred tax liabilities	-35.3						-44.9
Deferred tax assets in the balance sheet	30.5						27.1

EUR million	Jan 1, 2021	Recognized in the income statement	Recognized in other comprehensive income	Recognized in equity	Acquired and disposed subsidiaries	Exchange differences and reclassifications	Dec 31, 2021
Deferred tax liabilities							
Depreciations and untaxed reserves	51.6	3.1	0.0	0.0	0.0	2.6	57.3
Other shares	18.0	0.0	10.0	0.0	0.0	0.0	28.0
Defined benefit pensions	10.2	-0.7	5.1	0.0	0.0	0.0	14.6
Fair value adjustments of net assets acquired	1.7	-0.6	0.0	0.0	0.0	0.0	1.1
Other accruals	5.1	-3.2	8.6	0.7	0.0	0.2	11.4
Total	86.5	-1.4	23.8	0.7	0.0	2.7	112.4
Deducted from deferred tax assets	-34.6						-35.3
Deferred tax liabilities in the balance sheet	52.0						77.1
Deferred tax assets							
Provisions	17.9	2.6	0.0	0.0	0.0	-0.1	20.3
Tax losses	13.6	-2.9	0.0	0.0	0.0	0.5	11.2
Defined benefit pensions	11.6	-0.3	-0.4	0.0	0.0	-0.1	10.9
Other accruals	19.0	3.4	0.3	0.0	0.0	0.6	23.3
Total	62.1	2.9	-0.1	0.0	0.0	0.9	65.8
Deducted from deferred tax liabilities	-34.6						-35.3
Deferred tax assets in the balance sheet	27.6						30.5

The Group's accounting policies

Deferred taxes

Deferred tax is recognized, using the liability method, on temporary differences arising between the tax bases of the assets and liabilities and their carrying amounts in the Consolidated Financial Statements. Deferred tax in the initial recognition of goodwill is recognized only in cases where goodwill is locally tax deductible. Deferred income tax is determined using tax rates (and laws) that have been enacted or substantially enacted by the balance sheet date and are expected to apply when the related deferred income tax asset is realized or the deferred income tax liability is settled.

Deferred income tax assets are recognized only to the extent that it is probable that a future taxable profit will be available against which the temporary differences can be utilized.

Deferred income tax is provided on temporary differences arising on investments in subsidiaries and associates, except for deferred income tax liability where the timing of the reversal of the temporary difference is controlled by the Group and it is probable that the temporary difference will not reverse in the foreseeable future.

Deferred income tax assets and liabilities are offset when there is a legally enforceable right to offset the current tax assets against current tax liabilities, and when the deferred income taxes assets and liabilities relate to the income taxes levied by the same taxation authority on either the same tax entity or different taxable entities where there is an intention to settle the balances on a net basis.

The items in the financial statements that include significant accounting estimates and accounting policies that require judgment

Deferred taxes
For the recognition of deferred tax assets for tax losses and other items, the management assesses the amount of a probable future taxable profit against which unused tax assets can be utilized. Actual profits may differ from the forecasts and in such cases affect taxes in future periods.

4.5 DEFINED BENEFIT PENSION PLANS AND EMPLOYEE BENEFITS

The Group has several defined benefit pension plans and other employee benefit obligations. The main defined benefit pension plans are in Finland, Sweden, Germany, and the UK.

Finland

The Group's most significant defined benefit plan is in Finland, through Pension Fund Neliapila, which takes care of part of some employees' supplementary pension benefits. The Pension Fund Neliapila covers employees whose employment with Kemira began before January 1, 1991, meaning that the fund is closed to new employees. Currently the majority of the members of Pension Fund Neliapila are pensioners. At the end of 2022, the obligations of Pension Fund Neliapila totaled EUR 156.9 million (203.9) and assets of the plan totaled EUR 235.3 million (277.1).

Pension Fund Neliapila's supplementary benefit includes old-age pensions, disability pensions, survivors' pensions and funeral grants. The aggregated pension benefit is 66 percent of the pension salary. To qualify for a full pension, an employee must have accrued a pensionable service of 25 years. The supplementary pension benefit is the difference between the aggregated and compulsory pension benefits.

Sweden

In Sweden, there is a defined benefit pension plan called the ITP 2 plan for white-collar employees. To qualify for a full pension, an employee must have a projected period of pensionable service, from the date of entry until retirement age, of at least 30 years. The pension arrangements comprise the normal retirement pension, complementary retirement pensions and a survivors' pension. In addition, Kemira must have credit insurance from PRI Pensionsgaranti Mutual Insurance Company for the ITP 2 plan pension liability. At the end of 2022, the defined benefit obligations in Sweden totaled EUR 38.3 million (53.7).

ASSETS AND LIABILITIES OF DEFINED BENEFIT PLANS RECOGNIZED IN THE BALANCE SHEET

EUR million	2022	2021
Present value of defined benefit obligations	231.5	312.0
Fair value of plans' assets	-244.4	-292.0
Surplus (-) / Deficit (+)	-12.8	20.0
The effect of asset ceiling	1.4	0.8
Net receivables (-) / liabilities (+) of defined benefit plans recognized in the Balance Sheet	-11.4	20.9
Liabilities of defined benefit plans	66.9	94.1
Receivables of defined benefit plans	-78.4	-73.2
Net receivables (-) / liabilities (+) of defined benefit plans recognized in the Balance Sheet	-11.4	20.9
AMOUNTS OF DEFINED BENEFIT PLANS RECOGNISED IN THE INCOME STATEMENT		
Service costs	2.3	2.9
Net interest cost [1]	0.7	0.7
Defined benefit plans' expenses (+) / income (-) in the Income Statement	3.0	3.6

1) Net interest costs are presented in net finance costs, in the Consolidated Income Statement.

DEFINED BENEFIT PLANS RECOGNIZED IN THE OTHER COMPREHENSIVE INCOME

EUR million	2022	2021
Items resulting from remeasurements of defined benefit plans 2)		
Actuarial gains (-) / losses (+) in defined benefit obligations arising from changes in demographic assumptions	-0.4	0.0
Actuarial gains (-) / losses (+) in defined benefit obligations arising from changes in financial assumptions 3)	-70.3	1.2
Actuarial gains (-) / losses (+) in defined benefit obligations arising from experience based assumptions	9.7	1.6
Actuarial gains (-) / losses (+) in plan assets 3)	23.3	-30.3
Effect from asset ceiling	0.8	0.8
Defined benefit plans' expenses (+) / income (-) in the other comprehensive income	-37.0	-26.8

2) The remeasurements of defined benefit plans are included in the Statement of Comprehensive Income as part of Other comprehensive income. The item has been disclosed net of tax and the related income tax is disclosed in Note 2.8. Other comprehensive income.

3) In 2022 and 2021, the actuarial gains and losses are mainly due to return on assets, change in the discount rate and inflation in pension plan in Sweden and Pension Fund Neliapila.

CHANGES IN PLAN ASSETS OVER THE PERIOD IN DEFINED BENEFIT PLANS

EUR million	2022	2021
Defined benefit obligation on Jan 1	312.0	321.6
Current service costs	2.3	2.8
Interest costs	3.6	1.7
Actuarial losses (+) / gains (-)	-61.1	2.8
Exchange differences on foreign plans	-4.7	-0.2
Benefits paid	-16.2	-16.7
Curtailments and settlements 4)	-3.4	-0.3
Transferred to liabilities classified as held-for-sale	-0.4	—
Other items	-0.6	0.4
Present value of defined benefit obligations on Dec 31	231.5	312.0

4) In 2022, the defined benefit (DB) pension plan has been converted to a defined contribution plan In Norway. DB pension obligations have been transferred to an insurance company.

CHANGES IN PLAN ASSETS OVER THE PERIOD IN DEFINED BENEFIT PLANS

EUR million	2022	2021
Fair value on Jan 1	292.0	276.4
Interest income	2.9	0.9
Contributions	0.2	0.3
Return of surplus assets 5)	-10.0	-3.0
Actuarial losses (-) / gains (+)	-23.3	30.3
Exchange differences on foreign plans	-0.6	0.6
Benefits paid	-12.8	-13.4
Curtailments and settlements 4)	-3.5	—
Transferred to assets classified as held-for-sale	-0.1	—
Other items	-0.4	-0.2
Fair value of plan assets on Dec 31	244.4	292.0

5) In 2022, Pension Fund Neliapila paid to a surplus return of EUR 10 million (3) to Kemira Group companies.

PLAN ASSETS BY ASSET CATEGORY IN DEFINED BENEFIT PLANS

EUR million	2022	2021
Interest rate investments and other assets	124.2	176.1
Shares and share funds	75.8	90.0
Properties occupied by the Group	42.8	24.3
Kemira Oyj's shares	1.6	1.5
Total assets	244.4	292.0

The Finnish Pension Fund Neliapila has most of the defined benefit plan's assets. At the end of 2022, the Pension Fund Neliapila's assets amounted to EUR 235.3 million (277.1), which consisted of interest rate investments and other assets of EUR 115.7 million (163.9), shares and share funds of EUR 75.1 million (87.3), properties of EUR 42.8 million (24.3), and Kemira Oyj's shares of EUR 1.6 million (1.5). In the Pension Fund Neliapila, the investment position is managed within an asset-liability matching (ALM) framework that has been developed to combine long-term investments in line with the obligations under the pension plan. In Pension Fund Neliapila, a market risk can be considered a significant investment risk. The market risk arising from cyclical fluctuations of the financial market, is managed by ensuring that the investment position is sufficiently diversified.

The income (+) / expense (-) of the actual returns on the plan assets of the Group's defined benefit plan were EUR -20.5 million (31.3).

SIGNIFICANT ACTUARIAL ASSUMPTIONS

%	2022	2021
Discount rate	3.7–4.7	1.0–1.8
Inflation rate	2.0–3.2	1.5–3.3
Future salary increases	2.5–3.2	2.0–2.7
Future pension increases	2.1–2.8	1.8–2.3

The significant assumptions used in calculating the obligations of the Finnish Pension Fund Neliapila were as follows: discount rate 3.8% (1.0%), inflation rate 2.6% (2.0%), future salary increases 2.6% (2.0%), and future pension increases 2.8% (2.3%).

Sensitivity analysis

The sensitivity analysis is based on keeping other assumptions constant when one assumption is changed. In practice, this is unlikely to occur and changes in some of the assumptions may correlate with each other. When calculating the sensitivity of the defined benefit obligation to significant actuarial assumptions, the same method has been applied as when calculating the pension liability recognized within the balance sheet.

If the discount rate would be 0.5 percentage points lower in all of the significant countries, the defined benefit obligation would increase by EUR 10.5 million (4.5%), if all other assumptions were held constant.

SENSITIVITY ANALYSIS - PENSION FUND NELIAPILA IN FINLAND

	Defined benefit obligation		Impact on defined benefit obligation	
EUR million	2022	2021	2022	2021
Discount rate 3.8% (1.0%)	156.9	203.9		
Discount rate +0.5%	149.8	192.6	-4.5%	-5.6%
Discount rate -0.5%	164.6	216.5	4.9%	6.1%
Future pension increases 2.8% (2.3%)	156.9	203.9		
Future pension increases +0.5%	163.8	215.1	4.4%	5.5%
Future pension increases -0.5%	150.5	193.7	-4.1%	-5.0%

A change in the mortality assumption where life expectancy is increased by one year will increase the defined benefit obligation by EUR 6.7 million (4.3%).

SENSITIVITY ANALYSIS - ITP 2 PENSION PLAN IN SWEDEN

	Defined benefit obligation		Impact on defined benefit obligation	
EUR million	2022	2021	2022	2021
Discount rate 3.65% (1.7%)	38.3	53.7		
Discount rate +0.5%	36.0	49.7	-6.0%	-7.4%
Discount rate -0.5%	40.8	58.1	6.7%	8.2%
Future salary increases 2.5% (2.7%)	38.3	53.7		
Future salary increases +0.5%	39.0	55.0	1.8%	2.4%
Future salary increases -0.5%	37.6	52.5	-1.7%	-2.2%

A change in the mortality assumption where life expectancy is increased by one year will increase the defined benefit obligation by EUR 1.5 million (4.0%).

Expected contributions to the defined benefit plans for the year ending on December 31, 2023, are EUR 3.6 million.

The Group's accounting policies

Defined benefit pension plans and employee benefits
The Group has different post-employment schemes, including both defined contribution and defined benefit pension plans in accordance with the local legislation and practices of the countries in which it operates. Pension plans are generally funded through contributions to pension insurance companies or a separate pension fund.

A defined contribution plan is a pension plan under which the Group pays fixed contributions into a separate entity. The Group has no legal or constructive obligations to pay further contributions if the fund does not hold sufficient assets to pay all employees the benefits relating to employee service in the current and prior periods. A defined benefit plan is a pension plan that is not a defined contribution plan.

Typically, defined benefit plans define an amount of pension benefit that an employee will receive on retirement, usually dependent on one or more factors such as their compensation level and years of service.

The liability recognized in the balance sheet in respect to the defined benefit pension plans is the present value of the defined benefit obligation at the end of the reporting period less the fair value of plan assets. The defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds that are denominated in the currency in which the benefits will be paid, and with their terms to maturity approximating the terms of the related pension obligation. In countries where there is no deep market in such bonds, the market rates for government bonds are used.

Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to equity in other comprehensive income in the period in which they arise.

Current service costs are included in the Consolidated Income Statement in the employee benefit expenses and net interest costs on finance income and finance expense. Past service costs are recognized immediately in profit or loss.

For defined contribution plans, the Group pays contributions to publicly or privately administered pension insurance plans on a mandatory, contractual, or voluntary basis. The Group has no further payment obligations once the contributions have been paid. The contributions are recognized as employee benefit expenses when they are due. Prepaid contributions are recognized as an asset to the extent that a cash refund or a reduction in the future payments is available.

The items in the financial statements that include significant accounting estimates and accounting policies that require judgment

Defined benefit pension plans
Determining pension liabilities under defined benefit pension plans includes a number of actuarial assumptions, and significant changes in these assumptions may affect the amounts of pension liabilities and expenses. Actuarial calculations include assumptions by the management, such as the discount rate and assumptions of salary increases and the termination of employment contracts. The pension liability is calculated by independent actuaries.

4.6 PROVISIONS

EUR million	Personnel related provisions	Restructuring provisions	Environmental provisions [1]	Other provisions [2]	Total
Non-current provisions					
On January 1, 2022	0.4	0.0	19.2	28.4	48.0
Exchange rate differences	0.0	0.0	0.0	0.0	0.1
Additional provisions and increases in existing provisions	0.0	0.0	3.6	0.0	3.6
Used during the financial year	-0.2	0.0	-0.3	-0.3	-0.9
Unused provisions reversed	-0.1	0.0	-0.3	0.0	-0.4
Reclassification	0.0	0.0	-4.9	-7.2	-12.1
On December 31, 2022	0.1	0.0	17.3	20.9	38.4
Current provisions					
On January 1, 2022	2.7	0.4	15.2	4.9	23.1
Exchange rate differences	0.0	0.0	-0.1	0.0	-0.1
Additional provisions and increases in existing provisions	0.5	0.0	0.2	1.3	2.0
Used during the financial year	-2.2	-0.3	-9.5	-6.0	-18.0
Unused provisions reversed	-0.1	-0.1	-0.1	0.0	-0.3
Reclassification	-0.6	0.0	4.6	8.1	12.1
On December 31, 2022	0.4	0.0	10.1	8.3	18.8

1) The Group's operations in the chemical industry are governed by numerous international agreements as well as regional and national legislation all over the world. The Group treats its environmental liabilities and risks according to established internal principles and procedures. In 2022, provisions for environmental remediation totaled EUR 27.4 million (34.4). The biggest provisions relate to site closures and reconditioning of the sediment of a lake in Vaasa, Finland.

2) Other provisions totaled EUR 29.2 million (33.3). In 2022, Kemira recognized a liability related to the obligation to return emission rights of EUR 1.3 million regarding the site in Bradford, UK. The biggest provisions relate to expected liabilities for energy company producing steam in Pori, Finland, owned via Pohjolan Voima.

EUR million	2022	2021
Breakdown of the total amount of provisions		
Non-current provisions	38.4	48.0
Current provisions	18.8	23.1
Total	57.2	71.1

The Group's accounting policies

Provisions

Provisions for restructuring costs, personnel related costs, environmental obligations, legal claims, and onerous contracts are recognized when the Group has a present legal or constructive obligation as a result of past events, and it is probable that an outflow of resources will be required to settle the obligation and a reliable estimate of the amount of this obligation can be made. A restructuring provision is recognized when there is a detailed and appropriate plan prepared for it and the implementation of the plan has begun or has been notified to those whom the restructuring concerns.

The amount recognized as a provision is the present value of the expenditure expected to be required to settle the obligation on the balance sheet date using a pre-tax interest rate that reflects current market assessments of the time value of money and the risks specific to the obligation.

The items in the financial statements that include significant accounting estimates and accounting policies that require judgment

Provisions

Recognizing provisions requires the management's estimates, since the precise amount of obligations related to the provisions is not known when preparing the Financial Statements.

5. CAPITAL STRUCTURE AND FINANCIAL RISKS

5.1 CAPITAL STRUCTURE

EUR million	2022	2021
Equity	1,684.6	1,342.7
Total assets	3,651.1	3,139.3
Gearing, % [1]	46	63
Equity ratio, % [2]	46	43

1) The definition of the key figure for Gearing is 100 × Interest-bearing net liabilities / Total equity.
2) The definition of the key figure for the Equity ratio is 100 × Total equity / (Total assets - prepayments received).

INTEREST-BEARING NET LIABILITIES

EUR million	Note	2022	2021
Non-current interest-bearing liabilities	5.3.	838.1	776.9
Current interest-bearing liabilities	5.3.	183.7	215.3
Interest-bearing liabilities		1,021.8	992.2
Cash and cash equivalents	5.4.	250.6	142.4
Interest-bearing net liabilities		771.2	849.8

Quarterly information on interest-bearing net liabilities is disclosed in the section on the Reconciliation with IFRS figures.

Kemira aims at above-the-market revenue growth with an operative EBITDA margin of 15–18%. The gearing target is below 75%. The revolving credit facility agreement and some bilateral loan agreements contain a covenant according to which company gearing must be below 115%.

The Board of Directors proposes a per-share dividend of EUR 0.62 for 2022 (0.58), corresponding to a dividend payout ratio of 41% (82%). Kemira's dividend policy aims at a competitive dividend that increases over time.

The Group's accounting policies

Dividend distribution
Any dividend proposed by the Board of Directors is not deducted from distributable equity until it has been approved by the Annual General Meeting.

Interest-bearing liabilities and cash and cash equivalents
The accounting policies for interest-bearing liabilities and cash and cash equivalents are described in Note 5.4. Financial assets and liabilities by measurement category.

INTEREST-BEARING NET LIABILITIES CONNECTED IN CASH FLOW STATEMENTS

EUR million	Non-current interest-bearing liabilities including payments of non-current portion	Current interest-bearing liabilities	Interest-bearing liabilities total	Cash and cash equivalents	Interest-bearing net liabilities
Net book value on Jan 1, 2022	865.0	127.1	992.2	142.4	849.8
Change in net liabilities with cash flows					
Proceeds from non-current liabilities (+)	195.9		195.9		195.9
Payments of non-current liabilities (-)	-202.8		-202.8		-202.8
Payments of lease liabilities (-)	-35.1		-35.1		-35.1
Proceeds from current liabilities (+) and payments (-)		21.4	21.4		21.4
Change in cash and cash equivalents				105.9	-105.9
Change in net liabilities without cash flows					
Increases in lease liabilities (+)	44.5		44.5		44.5
Effect on change in exchange gains and losses	5.0	-2.5	2.5	2.3	0.2
Other changes without cash flows	2.9	0.2	3.2	—	3.2
Net book value on Dec 31, 2022	875.5	146.3	1,021.8	250.6	771.2

EUR million	Non-current interest-bearing liabilities including payments of non-current portion	Current interest-bearing liabilities	Interest-bearing liabilities total	Cash and cash equivalents	Interest-bearing net liabilities
Net book value on Jan 1, 2021	751.1	167.7	918.8	159.5	759.3
Change in net liabilities with cash flows					
Proceeds from non-current liabilities (+)	200.0		200.0		200.0
Payments of non-current liabilities (-)	-97.3		-97.3		-97.3
Payments of lease liabilities (-)	-33.1		-33.1		-33.1
Proceeds from current liabilities (+) and payments (-)		-53.9	-53.9		-53.9
Change in cash and cash equivalents				-22.2	22.2
Change in net liabilities without cash flows					
Increases in lease liabilities (+)	42.1		42.1		42.1
Effect on change in exchange gains and losses	10.1	13.2	23.3	5.1	18.2
Other changes without cash flows	-8.0	0.1	-7.9	—	-7.9
Net book value on Dec 31, 2021	865.0	127.1	992.2	142.4	849.8

5.2 SHAREHOLDERS' EQUITY

SHARE CAPITAL AND TREASURY SHARES

EUR million	Number of shares outstanding (1,000)	Number of treasury shares (1,000)	Number of shares (1,000)	Book value of share capital	Book value of treasury shares
January 1, 2022	153,127	2,215	155,343	221.8	14.9
Treasury shares issued to the participants in the share incentive plan 2019-2021	221	-221	—	—	-1.5
Treasury shares issued to the Board of Directors	16	-16	—	—	-0.1
The shares returned by the participants from the share incentive plans	-13	13	—	—	0.1
December 31, 2022	153,352	1,990	155,343	221.8	13.4
January 1, 2021	152,924	2,418	155,343	221.8	16.3
Treasury shares issued to the participants in the share incentive plan 2020	195	-195	—	—	-1.3
Treasury shares issued to the Board of Directors	11	-11	—	—	-0.1
The shares returned by the participants from the share incentive plans	-3	3	—	—	0.0
December 31, 2021	153,127	2,215	155,343	221.8	14.9

Kemira Oyj has one class of shares. Each share entitles its holder to one vote at the Annual General Meeting. On December 31, 2022, the share capital was EUR 221.8 million and the number of shares was 155,342,557 including 1,990,197 treasury shares. Under the Articles of Association of Kemira Oyj, the company does not have a minimum or maximum share capital or a par value for a share. All issued shares have been fully paid.

Kemira had possession of 1,990,197 (2,215,073) treasury shares on December 31, 2022.

The average share price of the treasury shares was EUR 6.73, and they represented 1.3% (1.4%) of the share capital, and the aggregate number of votes conferred by all shares. The aggregate par value of the treasury shares is EUR 2.8 million (3.2).

Share premium

The share premium is a reserve accumulated through subscriptions entitled by the management stock option program of 2001. This reserve is based on the old Finnish Companies Act (734/1978), and the value of the reserve will no longer change.

Fair value reserves

The fair value reserve is a reserve accumulated based on other shares measured at fair value and hedge accounting.

Other reserves

Other reserves originate from local legal requirements. On December 31, 2022, other reserves were EUR 4.0 million (4.0).

Unrestricted equity reserve

The unrestricted equity reserve includes other equity-type investments and the subscription price of shares to the extent that they will not, based on a specific decision, be recognized in share capital.

Exchange differences

The foreign currency exchange differences arise from the translation of foreign subsidiaries' financial statements. Additionally, loans have been granted to some foreign subsidiaries, and the exchange differences of these have been included in foreign currency exchange differences.

The Group's accounting policies

Treasury shares

Purchases of own shares (treasury shares), including the related costs, are deducted directly from equity in the Consolidated Financial Statements.

5.3 INTEREST-BEARING LIABILITIES

MATURITY OF INTEREST-BEARING LIABILITIES

2022, EUR million	2023	2024	2025	2026	2027	2028–	Book value, total
Loans from financial institutions	—	—	192.4	—	120.0	—	312.4
Bonds	—	199.9	—	—	—	191.2	391.0
Lease liabilities	30.9	24.6	17.9	13.8	8.7	53.0	148.9
Other non-current liabilities	15.9	0.8	—	—	—	—	16.7
Other current liabilities	152.8	—	—	—	—	—	152.8
Total amortizations of interest-bearing liabilities	199.6	225.2	210.2	13.8	128.7	244.2	1,021.8

2021, EUR million	2022	2023	2024	2025	2026	2027–	Book value, total
Loans from financial institutions	—	149.3	—	129.8	—	—	279.1
Bonds	52.8	—	197.3	—	—	191.3	441.4
Lease liabilities	28.7	24.4	17.8	11.8	9.0	45.1	136.8
Other non-current liabilities	—	1.0	—	—	—	—	1.0
Other current liabilities	133.8	—	—	—	—	—	133.8
Total amortizations of interest-bearing liabilities	215.3	174.7	215.1	141.6	9.0	236.4	992.2

At year-end 2022, the Group's interest-bearing net liabilities were EUR 771.2 million (849.8). For more information, see Note 5.1. Capital structure.

MATURITY OF NON-CURRENT INTEREST-BEARING LIABILITIES BY CURRENCIES

2022 Currency, EUR million	2023	2024	2025	2026	2027	2028–	Book value, total
EUR	23.6	206.6	153.4	2.2	121.8	206.4	714.1
USD	15.8	12.4	52.9	9.4	6.3	24.3	121.1
GBP	0.7	0.8	0.6	0.3	0.1	10.1	12.7
Other	13.2	5.5	3.3	1.9	0.5	3.3	27.7
Total	53.4	225.2	210.2	13.8	128.7	244.2	875.5

2021 Currency, EUR million	2022	2023	2024	2025	2026	2027–	Book value, total
EUR	60.5	156.0	201.6	92.2	1.9	208.1	720.3
USD	14.6	13.8	9.3	46.7	5.6	13.8	103.8
GBP	0.5	0.5	0.5	0.4	0.1	10.7	12.7
Other	12.6	4.3	3.8	2.4	1.4	3.7	28.2
Total	88.2	174.7	215.1	141.6	9.0	236.4	865.0

5.4 FINANCIAL ASSETS AND LIABILITIES BY MEASUREMENT CATEGORIES

FINANCIAL ASSETS

		2022					2021				
		Book values	Fair values				Book values	Fair values			
EUR million	Note		Level 1	Level 2	Level 3	Total		Level 1	Level 2	Level 3	Total
Fair value through profit and loss	5.6.										
Derivatives not qualifying for hedge accounting		13.3	—	13.3	—	13.3	1.3	—	1.3	—	1.3
Fair value through other comprehensive income	5.6.										
Derivatives qualifying for hedge accounting											
Cash flow hedges [1]		81.7	—	81.7	—	81.7	32.7	—	32.7	—	32.7
Other shares	3.5.										
The shares of Pohjolan Voima Group		380.6	—	—	380.6	380.6	257.3	—	—	257.3	257.3
Other non-listed shares		2.7	—	—	2.7	2.7	2.7	—	—	2.7	2.7
Amortized cost											
Other non-current assets [2]		6.6	—	6.6	—	6.6	7.3	—	7.3	—	7.3
Other current receivables [2]		0.3	—	0.3	—	0.3	0.3	—	0.3	—	0.3
Trade receivables [2]	4.2.	449.6	—	449.6	—	449.6	373.0	—	373.0	—	373.0
Cash and cash equivalents											
Cash in hand and at bank accounts		245.3	—	245.3	—	245.3	138.7	—	138.7	—	138.7
Deposits and money market investments [3]		5.3	—	5.3	—	5.3	3.7	—	3.7	—	3.7
Total financial assets		1,185.4	—	802.1	383.3	1,185.4	817.0	—	557.0	260.0	817.0

1) Includes derivative contracts of EUR 24.4 million (7.7) maturing after the year 2023.
2) In 2022, other non-current assets and Other current receivables include expected credit losses of EUR 0.4 million (0.4) in accordance with the IFRS 9 standard. Trade receivables include expected credit losses of EUR 5.3 million (3.3). Trade receivables are disclosed in more detail in Note 4.2. Trade receivables and other receivables.
3) Deposits and money market investments comprise bank deposits and other liquid investments with a maximum original maturity of three months.

FINANCIAL LIABILITIES

		2022					2021				
			Fair values					Fair values			
EUR million	Note	Book values	Level 1	Level 2	Level 3	Total	Book values	Level 1	Level 2	Level 3	Total
Fair value through profit and loss	5.6.										
Derivatives not qualifying for hedge accounting		2.3	—	2.3	—	2.3	6.9	—	6.9	—	6.9
Fair value through other comprehensive income	5.6.										
Derivatives qualifying for hedge accounting											
Cash flow hedges		1.6	—	1.6	—	1.6	1.6	—	1.6	—	1.6
Amortized cost											
Interest-bearing liabilities	5.3.										
Non-current loans from financial institutions		312.4	—	312.2	—	312.2	279.1	—	290.5	—	290.5
Bonds		391.1	—	379.2	—	379.2	388.6	—	415.2	—	415.2
Current portion		—	—	—	—	—	52.8	—	54.7	—	54.7
Non-current leasing liabilities		118.0	—	118.0	—	118.0	108.1	—	108.1	—	108.1
Current portion		30.9	—	30.9	—	30.9	28.7	—	28.7	—	28.7
Other non-current liabilities		16.7	—	16.6	—	16.6	1.0	—	1.0	—	1.0
Current portion		6.5	—	6.8	—	6.8	6.7	—	6.9	—	6.9
Current loans from financial institutions		146.3	—	146.1	—	146.1	127.1	—	131.9	—	131.9
Non-interest-bearing liabilities											
Other non-current liabilities		9.3	—	9.3	—	9.3	9.4	—	9.4	—	9.4
Other current liabilities		45.5	—	45.5	—	45.5	23.5	—	23.5	—	23.5
Trade payables	4.3.	292.8	—	292.8	—	292.8	285.5	—	285.5	—	285.5
Total financial liabilities		1,373.2	—	1,361.2	—	1,361.2	1,319.1	—	1,364.1	—	1,364.1

1) Includes derivative contracts of EUR -0.0 million (-0.0) maturing after the year 2023.

There were no transfers between levels 1–3 during the financial year.

Level 3 specification, financial assets EUR million	2022	2021
Net book value on Jan 1	260.0	212.3
Effect on other comprehensive income	123.2	50.2
Increases	—	1.0
Decreases	—	-3.5
Net book value on Dec 31	383.3	260.0

The Group's accounting policies

When a financial asset or financial liability is initially recognized on the trade date, it is measured at cost, which equals the fair value of the consideration given or received.

Financial Assets

The Group's financial assets are classified for subsequent measurement as financial assets at fair value through profit or loss, at amortized cost and at fair value through other comprehensive income.

Category	Financial instrument
Fair value through profit or loss	Currency forward contracts, currency swaps, interest rate swaps, electricity forwards, electricity futures, electricity options, certificates of deposit and commercial papers
Amortized cost	Non-current loan receivables, cash at bank and in hand, bank deposits, trade receivables and other receivables
Fair value through other comprehensive income	Other investments: shares; derivatives qualifying for hedge accounting (cash flow or fair value hedging)

Financial assets at fair value through income statements

All derivatives are recognized at fair value on the balance sheet. Fair value is the amount for which an asset could be exchanged or loans paid between knowledgeable, willing parties in an arm's length transaction. These derivative contracts to which hedge accounting in accordance with IFRS 9 is not applied are classified as financial assets at fair value through profit or loss. In the balance sheet, these derivative contracts are shown under prepaid expenses and accrued income and accrued expenses and prepaid income. Any gains or losses arising from changes in fair value are recognized through profit or loss on the transaction date.

Financial assets at amortized cost

Financial assets at amortized cost include non-current receivables carried at amortized cost using the effective interest rate method and accounting for any impairment.

Cash and cash equivalents

Cash and cash equivalents consist of cash at bank and in hand, demand deposits and other short-term, highly liquid investments. Items classified as cash and cash equivalents have a maximum maturity of three months from the date of purchase. Credit facilities in use are included in current interest-bearing liabilities.

Financial assets at fair value through other comprehensive income

The accounting policy of Other shares is described in Notes 3.5. Other shares. The accounting treatment of change in the fair value of the derivatives qualifying for hedge accounting is presented in 5.6. Derivatives.

Impairment of financial assets

The Group assesses any impairment losses on its financial instruments on each balance sheet date. An impairment of a financial asset is recognized in accordance with the requirements of the expected credit loss model of the IFRS 9 standard. For items measured at an amortized cost, the amount of the impairment loss equals the difference between the asset's carrying amount and the present value of estimated future cash flows from the receivable. This is discounted at the financial asset's original effective interest rate. For items measured at fair value, the fair value determines the amount of impairment. Impairment charges are recognized in the income statement.

The Group sells certain trade receivables to finance companies within the framework of limits stipulated in the agreement. The credit risk associated with these sold receivables and contractual rights to the financial assets in question are transferred from the Group on the selling date. The related expenses are recognized in the financial expenses.

Financial liabilities
Financial liabilities are classified as financial liabilities accounted at fair value through profit or loss, at amortized cost and at fair value through other comprehensive income. Financial liabilities at fair value through profit or loss include derivatives to which hedge accounting is not applied, whereas derivatives which are qualified for hedge accounting are booked at fair value through other comprehensive income.

Other financial liabilities are initially recognized in the balance sheet at the initial value of received net assets with direct costs deducted. Later, these financial liabilities are measured at amortized cost, and the difference between the received net assets and amortizations is recognized as an interest cost over the loan term. Changes in the fair value of loans under fair value hedge accounting are booked in the income statement together with the changes in the fair value of derivatives under fair value hedge accounting.

If the terms of a loan measured at amortized cost are modified and the loan is not derecognized, the gain or loss of the modification is booked in the income statement at the point of modification and amortized over the life of the modified loan. Profit or loss is equal to the difference between the present value of the cash flows under the original and modified terms discounted at the original effective interest rate.

Category	Financial instrument
Financial liabilities at fair value through profit or loss	Currency forward contracts and currency swaps, interest rate swaps, electricity forwards, electricity futures and electricity options
Amortized cost	Current and non-current loans, pension loans, bonds, lease liabilities and trade payables
Financial liabilities at fair value through other comprehensive income	Derivatives qualifying for hedge accounting (cash flow hedging)

The following levels are used to measure fair value:

Level 1: Fair value is determined based on quoted market prices.

Level 2: Fair value is determined with valuation techniques. Fair value refers either to the value that is observable from the market value of elements of the financial instrument or the market value of corresponding financial instruments, or to the value that is observable by using commonly accepted valuation models and techniques if the market value can be reliably measured with them.

Level 3: Fair value is determined by using valuation techniques, which use inputs that have a significant effect on the recorded fair value and the inputs are not based on observable market data. Level 3 mainly includes the shares of Pohjolan Voima Group.

5.5 MANAGEMENT OF FINANCIAL RISKS

Kemira Group Treasury's objective is to ensure sufficient funding in the most cost efficient way, and to manage financial risks. Approved by the Board of Directors, treasury policy defines the principles of treasury management. The Board of Directors approves the annual Treasury plan and the maximum permissible financial risk levels.

Financial risk management aims to protect the Company from unfavorable changes in financial markets, thereby contributing to safeguarding the Company's profit performance and shareholders' equity and to ensure sufficient sources of finance. Management of financial risks is centralized in the Group Treasury, which uses for hedging purposes derivative instruments whose market values and risks can be monitored continuously and reliably.

Foreign exchange risk

Foreign currency transaction risk arises from currency flows, assets, and liabilities denominated in currencies other than the domestic currency. Transaction risks arise from cash flows and balance sheet items where changes in exchange rates will have an impact on earnings and cash flows. Translation risk arises when the currency denominated income and balance sheet items of group companies located outside the euro area are consolidated into euro. The transaction risk is hedged mainly using foreign currency forwards.

The Group's most significant transaction currency risks arise from the Chinese renminbi, the Canadian dollar, the U.S. dollar and Swedish krona. At the end of the year, the Chinese renminbi's denominated exchange rate risk against the euro had an equivalent value of approximately EUR 86 million (67), the average hedging rate and hedging ratio being 7.28 and 68% (36%), respectively. The Canadian dollar denominated exchange rate risk was approximately EUR 56 million (26), the average hedging rate and hedging ratio being 1.41 and 52% (51%), respectively. The U.S. dollar denominated exchange rate risk was approximately EUR 54 million (64), the average hedging rate and hedging ratio being 1.04 and 68% (53%), respectively. The denominated exchange rate risk of the Swedish krona against the euro had an equivalent value of approximately EUR 36 million (31), the average hedging rate and hedging ratio being 10.79 and 64% (62%), respectively.

In addition, Kemira is exposed to smaller transaction risks against the euro mainly in relation to the Korean won, Polish zloty, the Norwegian krona and the Danish krona and against US dollar mainly in relation to the Canadian dollar and the Brazilian real with the annual exposure in those currencies being approximately EUR 131 million.

	2022				2021			
Transaction exposure, the most significant currencies, EUR million	**CNY against EUR**	**CAD against EUR**	**USD against EUR**	**SEK against EUR**	**CNY against EUR**	**CAD against EUR**	**USD against EUR**	**SEK against EUR**
Operative cash flow forecast, net [1]	-86.4	55.7	54.2	-35.8	-67.0	26.4	64.3	-30.9
Loans, net	59.9	13.6	411.9	-15.8	1.0	8.3	370.0	-10.7
Derivatives, operative cash flow hedging, net	63.6	-29.5	-31.0	26.2	40.1	-13.5	-40.6	19.0
Derivatives, hedging of loans, net	-59.2	-13.5	-170.6	16.6	-2.7	-8.3	-142.2	10.7
Total	-22.1	26.3	264.4	-8.8	-28.6	12.9	251.6	-11.8

1) Based on a 12-month foreign currency operative cash flow forecast.

At the end of 2022, the foreign currency operative cash flow forecast for 2023 was EUR 416 million of which 58% was hedged (54%). The hedge ratio is monitored daily. A minimum of 40% and a maximum of 100% of the forecast flow must always be hedged according to the treasury policy. A 10 percent strengthening of the euro against the Swedish krona, based on the exchange rates as of December 31, 2021 and without hedging, would increase EBITDA approximately EUR 4 million, and a 10 percent strengthening of the euro against the Chinese renmimbi without hedging would increase EBITDA approximately EUR 9 million. On the other hand, a 10 percent strengthening of the euro against the Canadian Dollar and the US Dollar without hedging would cause EUR 6 and 5 million negative impact to EBITDA, respectively. A corresponding decrease in the exchange rates would have approximately an equal opposite impact.

On the balance sheet date, the market value of currency derivatives included in cash flow hedge accounting was EUR 0.3 million (-1.4). Cash flow hedge accounting deals have been done to hedge highly probable currency flows. In 2022, no ineffectiveness in derivatives under hedge accounting was recognized in the Income statement (-).

The most significant translation risk currencies are the US dollar, the Canadian dollar, the Swedish krona and the Chinese renminbi.

Kemira's main equity items denominated in foreign currencies are in the Canadian dollar, the Swedish krona and US dollar. The objective is to hedge the balance sheet risk by maintaining a balance between foreign currency denominated liabilities and assets, currency by currency. In hedging the net investment in its units abroad, Kemira monitors the equity ratio. Long-term loans and currency derivatives can be used for hedging net investments in foreign subsidiaries. These hedges do not apply to hedge accounting. Loans in US dollars have been granted to some foreign subsidiaries and currency differences have been included in foreign currency translation differences.

Interest rate risk

Kemira is exposed to interest rate risks through interest-bearing loans and derivatives. Movements in interest rates creates re-pricing and price risks generating fluctuation in cash flows and fair values of loans and derivatives . A total of 83% (80%) of the Group's entire net debt portfolio including lease liabilities was fixed at the end of 2022. The net financing cost of the Group was 4.2% (3.4%). The net financing cost is attained by dividing yearly net interest and other financing expenses, excluding exchange rate differences and dividends by the average interest bearing net debt figure for the corresponding period. The most significant impact on the net financing cost arises from variation in the interest rate levels of the euro, the US dollar and the Chinese renminbi.

In accordance with treasury policy, the Group's interest rate risk is measured with the duration which describes the average repricing moment of the loan portfolio excluding lease liabilities. The duration must be in the range of 6–60 months. The Kemira Group Treasury manages duration by borrowing with fixed and floating rate loans in addition to the interest rate derivatives. The duration of the Group's interest-bearing loan portfolio excluding lease liabilities was 22 months at the end of 2022 (29).

The table below shows the time for interest rate fixing of the loan portfolio.

2022 Time to interest rate fixing, EUR million	<1 year	1–5 years	>5 years	Total
Floating net liabilities	132.3	—	—	132.3
Fixed net liabilities [1]	—	290.0	200.0	490.0
Total	132.3	290.0	200.0	622.3

2021 Time to interest rate fixing, EUR million	<1 year	1–5 years	>5 years	Total
Floating net liabilities	170.2	—	—	170.2
Fixed net liabilities [1]	52.8	290.0	200.0	542.8
Total	222.9	290.0	200.0	712.9

1) Excluding lease liabilities

On the balance sheet date, the average interest rate of the loan portfolio was approximately 2.4% (1.7%). If interest rates rose by one percentage point on January 1, 2023, the resulting interest expenses before taxes incurred by the Group over the next 12 months would increase by approximately EUR 0.3 million (0.7). Consequently, a decrease of one percentage point would decrease interest expenses by EUR 0.3 million. During 2023, Kemira will reprice 21% (32%) of the Group's net debt portfolio. On the balance sheet date, the Group had no outstanding interest rate derivatives.

Electricity price risk

The price of electricity varies greatly according to the market situation. Kemira Group takes hedging measures with respect to its electricity purchases in order to even out its raw material costs. In line with its hedging policy, the Group hedges its existing sales agreements in such a way that the hedges cover the commitments made. The company primarily uses electricity derivatives as hedging instruments. Regional price risks in Finland and Sweden are hedged. The outstanding electricity derivatives are treated in accordance with cash flow hedge accounting. The forecast for physical deliveries of the underlying assets, or purchases, are not recorded until the delivery period. A +/- 10% change in the market price of electricity hedging contracts outstanding at year end would impact the valuation of these contracts EUR +/- 11.9 million (+/- 7.7). This impact would be in equity.

In addition to the electricity derivatives, the Group manages the price risk of electricity by entering into long-term electricity sourcing agreements. The Group also has shares of 5% of Pohjolan Voima Oy (PVO) and 1% share of Teollisuuden Voima Oy. More information on the shares ownership can be found in Note 3.5.

Credit risk

The Group is exposed to credit risks through commercial accounts receivables, as bank account balances, deposits, short-term investments, and derivatives.

The Group's treasury policy defines the credit rating requirements for the counterparties of investment activities and derivative agreements as well as the related investment policy. The Group seeks to minimize its counterparty risk by dealing solely with counterparties that are financial institutions with a solid credit rating, as well as by spreading agreements among them. Counterparty risk is being followed on a regular basis.

The counterparty risk in treasury operations is due to the fact that a contractual party to a financing transaction is not necessarily able to fulfill its contractual obligations. Risks are mainly related to investment activities and the counterparty risks associated with derivative contracts.

The Group Treasury approves the new banking relationships of subsidiaries. Financial institution counterparties, used by the Group Treasury, have a credit rating of at least an investment grade based on Standard & Poor's credit rating information. The maximum risk assignable to the Group's financial institution counterparties on the balance sheet date amounted to EUR 342.5 million (174.9). Kemira monitors its counterparty risk on a monthly basis by defining the maximum risk associated with each counterparty based on the market value of receivables. Kemira has defined an approved limit for each financial institution.

No material changes related to Group's credit risk were associated with financing transactions in the year 2022 and these transactions did not result in credit losses during the financial year.

Kemira has a group-wide credit policy related to commercial activities. According to the policy, each customer has a predefined risk category and credit limit. These are constantly monitored. Based on the customer evaluation, Kemira decides the applicable payment terms to minimize credit risks. Pre-approved payment terms have been defined at the group level. If necessary, securities and documentary credit, such as letters of credit, are applied. The group does not have any significant credit risk concentrations due to its extensive customer base across the world. The credit losses related to trade receivables are described in Note 4.2.

In the USA, Kemira has an accounts receivable purchase facility worth USD 75 million, enabling Group companies in the USA to sell certain account receivables to the counterparty. The credit risk of the accounts receivables is transferred to the financial institutions and 95.5% of the receivables transferred are derecognized from the balance sheet. The amount of outstanding receivables transferred, which also reflects the fair value of the receivables before the transfer was EUR 60.3 million (48.2) on December 31, 2022. The amounts recognized in the balance sheet are EUR 4.3 million (2.1) in assets and EUR 1.4 million (0.1) in liabilities.

Liquidity and refinancing risks

Kemira's liquidity is secured with cash and cash equivalents, account overdrafts and a revolving credit facility. At the end of 2022, the Group's cash and cash equivalents stood at EUR 250.6 million (142.4), of which cash in bank accounts accounted for EUR 245.3 million (138.7) and bank deposits EUR 5.3 million (3.7). In addition, the Group has a revolving credit facility of EUR 400 million linked to sustainability targets which will mature on April 17, 2026. At the turn of the year 2021/2022, the revolving credit facility was undrawn.

The Group has a EUR 600 million domestic commercial paper program enabling it to issue commercial papers with a maximum maturity of one year. At the end of 2022, the Group had EUR 30 million of commercial papers outstanding on the market (-).

Kemira manages its refinancing risk with a diversified loan portfolio. Long-term financing consists of bonds and bilateral loan agreements with several financial institutions. In addition, the Group had leasing liabilities in accordance with the IFRS 16 standard of EUR 148.9 million (136.8) at the end of the year.

According to Group treasury policy, the Group must have committed credit facilities to cover planned funding needs, the current portion of long term debt, commercial paper borrowings, and other uncommitted short-term loans in the next 12 months. The average maturity of outstanding loans excluding lease liabilities may temporarily be under the 3-year minimum target. The average maturity of debt excluding lease liabilities at the end of 2022 was 3.2 years (3.0).

LOAN REPAYMENTS

2022 Loan type, EUR million [1]	Undrawn	2023	2024	2025	2026	2027	2028-	Total drawn
Loans from financial institutions	—	—	—	192.8	—	120.0	—	312.8
Bonds	—	—	200.0	—	—	—	200.0	400.0
Revolving credit facility	400.0	—	—	—	—	—	—	—
Lease liabilities	—	39.4	30.7	22.3	16.9	11.4	78.2	198.8
Commercial paper program	570.0	30.0	—	—	—	—	—	30.0
Other interest-bearing non-current liabilities	—	15.9	0.8	—	—	—	—	16.7
Other interest-bearing current liabilities	—	123.0	—	—	—	—	—	123.0
Total interest-bearing liabilities	970.0	208.3	231.4	215.1	16.9	131.4	278.2	1,081.3

2021 Loan type, EUR million [1]	Undrawn	2022	2023	2024	2025	2026	2027-	Total drawn
Loans from financial institutions	—	—	150.0	—	129.8	—	—	279.8
Bonds	—	52.8	—	200.0	—	—	200.0	452.8
Revolving credit facility	400.0	—	—	—	—	—	—	—
Lease liabilities	—	35.9	28.9	21.3	14.6	10.9	73.7	185.3
Commercial paper program	600.0	—	—	—	—	—	—	—
Other interest-bearing non-current liabilities	—	—	1.0	—	—	—	—	1.0
Other interest-bearing current liabilities	—	133.8	—	—	—	—	—	133.8
Total interest-bearing liabilities	1,000.0	222.4	179.9	221.3	144.4	10.9	273.7	1,052.6

1) Loan structure presented by type and maturity using contractual undiscounted payments.

5.6 DERIVATIVE INSTRUMENTS

	Maturity structure					2022	2021
Nominal values, EUR million	**2023**	**2024**	**2025**	**2026**	**2027**	**Total**	**Total**
Currency derivatives							
Forward contracts	619.9	—	—	—	—	619.9	496.3
Inflow	350.5	—	—	—	—	350.5	288.8
of which cash flow hedges	32.4	—	—	—	—	32.4	19.7
Outflow	269.4	—	—	—	—	269.4	207.5
of which cash flow hedges	39.2	—	—	—	—	39.2	42.4
Other derivatives							
Electricity contracts, bought (GWh)	594.0	316.2	170.8	48.2	—	1,129.3	1,626.1
Electricity forward contracts	594.0	316.2	170.8	48.2	—	1,129.3	1,626.1
of which cash flow hedges	594.0	316.2	170.8	48.2	—	1,129.3	1,626.1

The nominal values of the financial instruments do not necessarily correspond to the actual cash flows between the counterparties, and therefore individual items do not give a fair view of the Group's risk position.

	2022			2021		
Fair values, EUR million	**Positive**	**Negative**	**Net**	**Positive**	**Negative**	**Net**
Currency derivatives						
Forward contracts	15.0	-3.6	11.3	1.4	-8.5	-7.1
of which cash flow hedges	1.7	-1.4	0.3	0.1	-1.6	-1.4
Other derivatives						
Electricity forward contracts, bought [1]	80.0	-0.2	79.8	32.5	—	32.5
of which cash flow hedges	80.0	-0.2	79.8	32.5	—	32.5

1) Includes fair value of electricity forward contracts of EUR 24.4 million (7.7) and EUR -0.0 million (-0.0) maturing after the year 2023.

The Group has ISDA or EFET Master netting agreements with the counterparties of derivative contracts. They allow the net settlement of outstanding market value within the scope of the agreement in case of non-payment defined in the agreement. At the end of the reporting period, counterparty risk according to master netting agreements was EUR 91.9 million (32.5) to Kemira and EUR 0.8 million (7.1) to counterparties.

The Group's accounting policies

Derivatives

The fair values of currency, interest rate, and commodity derivatives, as well as publicly traded shares are based on prices quoted in active markets on the balance sheet date. The value of other financial instruments measured at fair value is determined on the basis of valuation models using information available in the financial market.

All the derivatives are measured at their fair values on the balance sheet date. Changes in the value of forward contracts are calculated by measuring the contracts against the forward exchange rates on the balance sheet date and comparing them with the counter values calculated through the forward exchange rates on the date of entry into the forward contracts. The fair value of interest rate derivatives is determined using the market value of similar instruments on the balance sheet date. Other derivatives are measured at the market price on the balance sheet date.

Derivative assets maturing during the following 12 months are presented in the balance sheet as part of line item Trade receivables and other receivables whereas derivatives with a maturity of over 12 months are posted to Other financial assets under Non-current assets . Derivative liabilities maturing under 12 months are presented in the balance sheet as part of line item Trade payables and other liabilities where as fair value of derivatives with maturity after 12 months are posted under Non-current liabilities to Other financial liabilities.

Hedge accounting

Hedge accounting is applied according to IFRS 9. This refers to a method of accounting aimed at allocating one or more hedging instruments in such a way that their fair value offsets, in full or in part, the changes in the fair value or cash flows of the hedged item. Hedged items must be highly probable. The Group applies hedge accounting for hedging interest rate risk, currency risk, commodity risk, and fair value if interest rate swaps, electricity derivatives and foreign exchange derivatives meet hedge accounting criteria.

Hedge effectiveness is monitored as required by IFRS 9. Effectiveness refers to the capacity of a hedging instrument to offset changes in the fair value of the hedged item or cash flows from a hedged transaction, which are due to the realization of the risk being hedged. A hedging relationship is considered to be highly effective when the change in the fair value of the hedging instrument offsets changes in the cash flows attributable to the hedged items. Hedge effectiveness is assessed prospectively. Hedge effectiveness testing is repeated on each balance sheet date.

Hedge accounting is discontinued when the criteria for hedge accounting are no longer fulfilled. Gains or losses recognized in other comprehensive income and presented under equity are derecognized and transferred immediately in the income statement, if the hedged item is sold or falls due. However, gains or losses arising from changes in the fair value of those derivatives not fulfilling the hedge accounting criteria are recognized directly in the income statement.

At the inception of a hedge, the Group documents the existence of the economic relationship of the hedged item and hedging instrument, including the identification of the hedging instrument, the hedged item or transaction, the nature of the risk being hedged, the objectives of risk management and the strategy for undertaking hedging, as well as the description of how hedge effectiveness is assessed.

Cash flow hedging

Cash flow hedging is used to hedge against variability in cash flows attributable to a particular risk associated with a recognized asset or liability in the balance sheet or a highly probable forecast transaction. Currency, interest rate, and commodity derivatives are used as hedging instruments in cash flow hedging. Cash flow hedge accounting, specified in IFRS 9, is applied by the Group to selected hedging items only. Changes in the fair value of derivative instruments associated with cash flow hedge are recognized in other comprehensive income (including the tax effect) and presented under equity, providing that they fulfill the criteria set for hedge accounting and are based on effective hedging. The ineffective portion of the gain or loss on the hedging instrument is recognized under financial items in the income statement. Derivatives not fulfilling the hedge accounting criteria are recognized in financial items through profit or loss.

6. GROUP STRUCTURE

6.1 RELATED PARTIES

Parties are considered to be related if one party has the ability to control or exercise significant influence on the other party, or if the parties exercise joint control in making financial and operating decisions. The Group's related parties include the parent company, subsidiaries, associates, joint-ventures, and the Pension Fund Neliapila. Related parties also include the members of the Board of Directors and the Group's Management Board, the CEO and his Deputy, and their immediate family members.

EMPLOYEE BENEFITS PAID TO THE CEO, DEPUTY CEO AND MEMBERS OF THE MANAGEMENT BOARD

EUR	Salaries and other benefits	Bonuses	Share-based payments [1]	2022 Total	2021 Total
CEO Jari Rosendal	738,620 [4]	199,528	515,424	1,453,573	1,537,148
Deputy CEO Jukka Hakkila [2]	190,930	53,374	180,398	424,703	443,943
Other members of Management Board [3]	1,792,452	458,627	1,371,415	3,622,495	3,571,893
Total	2,722,003	711,529	2,067,238	5,500,771	5,552,984

1) Includes share and cash portions. Share-based incentive plans for the management and key personnel are disclosed in Note 2.3. Share-based payments.

2) No remuneration was paid to the Deputy CEO based on CEO substitution.

3) Other members of the Management Board on December 31, 2022 are CFO Petri Castrén, CTO Matthew R. Pixton, President Pulp & Paper Antti Salminen, EVP Operational Excellence Esa-Matti Puputti, President Industry & Water Wido Waelput and EVP Human Resources Eeva Salonen. Other members of the Management Board who are employed by a Finnish Kemira company do not have any supplementary pension arrangements in addition to their statutory pensions. The members of the Management Board who are employed by a foreign Kemira company participate in the pension systems based on statutory pension arrangements and market practices in their local countries. The Kemira policy is that all new supplementary pension arrangements are defined contribution plans.

4) Includes supplementary defined contribution pension.

Employment terms and conditions of the CEO

Remuneration of the CEO comprises a monthly salary including a car benefit and a mobile phone benefit as well as supplementary defined contribution pension and performance-based incentives. The performance-based incentives consist of an annual short-term bonus plan and a long-term share incentive plan. The annual short-term bonus plan is based on terms approved by the Board of Directors and the maximum bonus is 80% (70%) of the annual base salary. The long-term share incentive plan is based on the terms of the plan. The maximum reward is determined as a number of shares and a cash portion intended to cover taxes and the tax-related costs arising from the reward.

The retirement age of the CEO is 63 years. The CEO belongs to the Finnish Employees' Pension Act (TyEL) scheme, which provides pension security based on the years of service and earnings as stipulated by law. The CEO is also entitled to a supplementary defined contribution pension plan. The supplementary pension is defined as 20% of annual base salary.

A mutual termination notice period of six months applies to the CEO. The CEO is entitled to an additional severance pay of 12 months' salary, if the company terminates his service.

The Board of Directors' emoluments

On March 24, 2022, the Annual General Meeting decided that the Board of Directors' annual fee shall be paid as a combination of the company's shares and cash in such a manner that 40% of the annual fee is paid with the Kemira shares owned by the company or, if this is not possible, then with Kemira shares acquired from the securities market, and 60% is paid in cash. On May 10, 2022 the 16,464 shares owned by the company were distributed to the members of the Board of Directors.

There are no special terms or conditions associated with owning the shares received as the annual fee. The members of the Board of Directors are not eligible for any short-term bonus plans, long-term share incentive plans or supplementary pension plans of Kemira Oyj.

The meeting fees are paid in cash and travel expenses are paid according to Kemira's travel policy.

MEMBERS OF THE BOARD OF DIRECTORS

	Number of shares	Share value, EUR	Cash compensation, EUR [5)]	2022 Total, EUR	2021 Total, EUR
Matti Kähkönen, Chairman	3,696	44,248	75,352	119,600	61,600
Annika Paasikivi, Vice Chairman (since March 24, 2022)	2,184	26,146	45,454	71,600	—
Wolfgang Büchele	1,680	20,113	39,487	59,600	56,000
Shirley Cunningham	1,680	20,113	42,487	62,600	68,000
Werner Fuhrmann	1,680	20,113	39,487	59,600	56,000
Timo Lappalainen	2,184	26,146	51,454	77,600	67,000
Kristian Pullola	1,680	20,113	38,887	59,000	50,600
Tina Sejersgård Fanø (since March 24, 2022)	1,680	20,113	34,087	54,200	—
Jari Paasikivi, Chairman (since March 24, 2022)	—	—	3,600	3,600	104,000
Kaisa Hietala (until March 24, 2021)	—	—	—	—	2,400
Kerttu Tuomas (until March 24, 2021)	—	—	—	—	2,400
Total	16,464	197,104	370,296	567,400	468,000

5) Includes both annual fees and meeting fees.

TRANSACTIONS CARRIED OUT WITH RELATED PARTIES

EUR million	2022	2021
Revenue		
Associated companies	0.1	0.0
Leases, purchases of goods and services		
Associated companies	25.3	8.2
Pension Fund Neliapila	0.7	1.2
Total	25.9	9.4
Receivables		
Associated companies	0.0	0.0
Liabilities		
Associated companies	4.4	7.3
Pension Fund Neliapila	1.4	1.9

Real estates owned by Pension Fund Neliapila are leased to the Group. Commitments for these real estate leases are treated in accordance with IFRS 16 Leases.

Related parties include Pension Fund Neliapila, which is a separate legal entity. Neliapila manages Kemira's voluntarily organized additional pension fund. It also manages part of the pension assets of the Group's personnel in Finland. The assets include Kemira Oyj's shares representing 0.07% of the company's outstanding shares. Supplementary benefit in Neliapila and surplus return are disclosed in more detail in Note 4.5. Defined benefit pension plans and employee benefits.

The amount of contingent liabilities on behalf of the associates are presented in Note 7.1. Commitments and contingent liabilities.

There were no loans granted to the key persons of the management at the year-end of 2022 or 2021, nor were there contingency items or commitments on behalf of key management personnel. Persons close to key management personnel with the related parties do not have any significant business relationship with the Group.

6.2 THE GROUP'S SUBSIDIARIES AND INVESTMENTS IN ASSOCIATES

SUBSIDIARIES

	City	Country	Kemira Group's holding, %	Kemira Oyj's holding, %	Non-controlling interest's holding, %
Kemira Oyj (parent company)	Helsinki	Finland			
Aliada Quimica de Portugal Lda.	Estarreja	Portugal	50.1	0.0	49.9
AS Kemivesi	Lehmja Küla	Estonia	100.0	100.0	0.0
JSC "Kemira HIM"	St. Petersburg	Russia	100.0	0.0	0.0
Corporación Kemira Chemicals de Venezuela, C.A.	Caracas	Venezuela	100.0	0.0	0.0
Industry Park i Helsingborg Förvaltning AB	Helsingborg	Sweden	100.0	0.0	0.0
Kemifloc a.s.	Přerov	Czech Republic	51.0	0.0	49.0
Kemifloc Slovakia s.r.o.	Prešov	Slovakia	51.0	0.0	49.0
Kemipol Sp. z.o.o.	Police	Poland	51.0	0.0	49.0
Kemira (Asia) Co., Ltd.	Shanghai	China	100.0	0.0	0.0
Kemira Argentina S.A.	Buenos Aires	Argentina	100.0	15.8	0.0
Kemira Australia Pty Ltd	Hallam	Australia	100.0	0.0	0.0
Kemira Cell Sp. z.o.o.	Ostroleka	Poland	55.0	55.0	45.0
Kemira (Jining) Environmental Engineering Co., Ltd.	Jining	China	100.0	0.0	0.0
Kemira Chemicals (Nanjing) Co., Ltd.	Nanjing	China	100.0	100.0	0.0
Kemira Chemicals (Shanghai) Co., Ltd.	Shanghai	China	100.0	100.0	0.0
Kemira Chemicals (UK) Ltd.	Bradford	United Kingdom	100.0	100.0	0.0
Kemira Chemicals (Yanzhou) Co., Ltd.	Yanzhou City	China	100.0	100.0	0.0
Kemira Chemicals AS	Gamle Fredrikstad	Norway	100.0	0.0	0.0
Kemira Chemicals Brasil Ltda.	São Paulo	Brazil	100.0	99.9	0.0
Kemira Chemicals Canada Inc.	St. Catharines	Canada	100.0	100.0	0.0
Kemira Chemicals Germany GmbH	Frankfurt am Main	Germany	100.0	0.0	0.0
Kemira Chemicals Korea Corporation	Gunsan-City	South Korea	100.0	100.0	0.0
Kemira Chemicals NV	Aartselaar	Belgium	100.0	0.0	0.0
Kemira Chemicals Oy	Helsinki	Finland	100.0	0.0	0.0
Kemira Chemicals, Inc.	Atlanta, GA	United States	100.0	0.0	0.0
Kemira Chemie Ges.mbH	Krems	Austria	100.0	100.0	0.0
Kemira Chile Comercial Limitada	Santiago	Chile	100.0	99.0	0.0
Kemira Chimie S.A.S.U.	Strasbourg	France	100.0	0.0	0.0
Kemira Europe Oy	Helsinki	Finland	100.0	100.0	0.0
Kemira Gdańsk Sp. z o.o.	Gdańsk	Poland	100.0	0.0	0.0
Kemira Germany GmbH	Frankfurt am Main	Germany	100.0	100.0	0.0
Kemira Hong Kong Company Limited	Hong Kong	China	100.0	100.0	0.0
Kemira Ibérica S.A.	Barcelona	Spain	100.0	0.0	0.0
Kemira International Finance B.V.	Rotterdam	Netherlands	100.0	100.0	0.0
Kemira Italy S.p.A.	San Giorgio di Nogaro	Italy	100.0	0.0	0.0
Kemira Japan Co., Ltd.	Tokyo	Japan	100.0	0.0	0.0
Kemira Kemi AB	Helsingborg	Sweden	100.0	0.0	0.0
Kemira Kopparverket KB	Helsingborg	Sweden	100.0	0.0	0.0
Kemira KTM d.o.o.	Ljubljana	Slovenia	100.0	100.0	0.0
Kemira Research Center Shanghai Co., Ltd.	Shanghai	China	100.0	0.0	0.0
Kemira Rotterdam B.V.	Rotterdam	Netherlands	100.0	0.0	0.0

	City	Country	Kemira Group's holding, %	Kemira Oyj's holding, %	Non-controlling interest's holding, %
Kemira South Africa (Pty) Ltd.	Weltevreden-park	South Africa	100.0	0.0	0.0
Kemira Świecie Sp. z.o.o.	Swiecie	Poland	100.0	100.0	0.0
Kemira Taiwan Corporation	Taipei	Taiwan	100.0	0.0	0.0
Kemira TC Wanfeng Chemicals (Yanzhou) Co., Ltd.	Yanzhou City	China	80.0	0.0	20.0
Kemira (Thailand) Co., Ltd.	Bangkok	Thailand	100.0	0.0	0.0
Kemira Uruguay S.A.	Fray Bentos	Uruguay	100.0	0.0	0.0
Kemira (Vietnam) Company Limited	Long Thanh	Vietnam	100.0	0.0	0.0
Kemira Water Danmark A/S	Copenhagen	Denmark	100.0	100.0	0.0
Kemira Water Solutions Brasil - Produtos para Tratamento de Água Ltda.	São Paulo	Brazil	100.0	100.0	0.0
Kemira Water Solutions Canada Inc.	Varennes	Canada	100.0	0.0	0.0
Kemira Water Solutions, Inc.	Atlanta, GA	United States	100.0	0.0	0.0
Kemwater Brasil Ltda.	Camaçari	Brazil	100.0	0.0	0.0
Kemwater ProChemie s.r.o.	Bradlec	Czech Republic	95.1	0.0	4.9
PT Kemira Indonesia	Surabaya	Indonesia	100.0	74.8	0.0
PT Kemira Chemicals Indonesia	Pasuruan	Indonesia	99.8	99.8	0.2

ASSOCIATES

	City	Country	Kemira Group's holding, %	Kemira Oyj's holding, %
Honkalahden Teollisuuslaituri Oy	Lappeenranta	Finland	50.0	0.0
Kemira Yongsan Chemicals Co., Ltd [1)]	Seoul	South Korea	35.0	0.0

1) This associate produces dry polyacrylamide and cationic monomer, which are used for retention and drainage in packaging and paper production, as well as in wastewater treatment and in sludge dewatering.

INVESTMENTS IN ASSOCIATES

EUR million	2022	2021
Net book value on Jan 1	4.8	5.3
Additions	0.0	0.0
Decreases	0.0	0.0
Share of the profit/loss for the period	0.3	-0.5
Exchange rate differences	0.0	0.0
Net book value on Dec 31	5.1	4.8

A summary of the associates financial information is presented in the following table. The presented figures equal the figures in the financial statements of the each associate, not the portion of Kemira Group.

EUR million	2022	2021
Assets	59.0	57.5
Liabilities	44.8	44.2
Revenue	25.3	8.1
Profit (+) / loss (-) for the period	0.8	-1.3

Related party transactions carried out with associates are disclosed in Note 6.1. Related parties.

NON-CONTROLLING INTERESTS

EUR million	2022	2021
Net book value on Jan 1	13.9	13.2
Dividends	-6.9	-6.5
Share of the profit for the period	8.0	7.1
Exchange rate differences	-0.3	0.1
Net book value on Dec 31	14.7	13.9

CHANGES IN THE GROUP STRUCTURE

- Skandinavian Tanking System A/S was voluntarily liquidated on June 30, 2022.

7. OFF-BALANCE SHEET ITEMS

7.1 COMMITMENTS AND CONTINGENT LIABILITIES

COMMITMENTS

EUR million	2022	2021
Guarantees		
On behalf of own commitments	108.4	95.1
On behalf of associates	12.5	12.5
On behalf of others	2.5	1.8
Other obligations		
On behalf of own commitments	0.7	0.9
On behalf of others	16.3	16.3

The most significant off-balance sheet investments commitments
On December 31, 2022, major amounts of contractual commitments for the acquisition of property, plant, and equipment were EUR 42.8 million (22.1) for plant investments.

In addition, the Group has a lease commitment related to the R&D Center to be constructed in Finland with a value of EUR 46.5 million.

Litigation
While the Group is involved in some legal proceedings, such as litigations, arbitrations, administrative and tax proceedings incidental to its global operations, the Group does not expect that the outcome of any of these legal proceedings will have a materially adverse effect upon its consolidated results or financial position.

The Group's accounting policies

Contingent liabilities
A contingent liability is a possible obligation that arises from past events and whose existence will be confirmed by the occurrence of uncertain future events not wholly within the control of the Group, or concerns a present obligation which will most probably not require an outflow of resources embodying economic benefits to settle the obligation; or when the amount of the obligation cannot be measured with sufficient reliability. Contingent liability is disclosed in the notes.

7.2 EVENTS AFTER THE BALANCE SHEET DATE

The Group has no significant events after the balance sheet date.

Kemira Oyj's income statement

Thousand EUR	Note	1.1.-31.12.2022	1.1.-31.12.2021
Revenue	2	2,206,658	1,572,450
Change in inventory of finished goods and in work in progress +/-	4	64,334	23,328
Other operating income	3	3,435	1,003
Materials and services	4	-1,413,093	-902,075
Personnel expenses	5	-48,372	-50,947
Depreciation, amortization and impairments	6	-22,273	-25,568
Other operating expenses	4	-592,545	-572,917
Operating profit		198,144	45,275
Financial income and expenses	7	172,737	26,455
Profit before appropriations and taxes		370,881	71,730
Appropriations	8	-12,303	-74,702
Income taxes	9	-43,844	121
Profit (loss) for the financial year		314,734	-2,851

Kemira Oyj's balance sheet

Thousand EUR	Note	31.12.2022	31.12.2021
ASSETS			
NON-CURRENT ASSETS			
Intangible assets	10	58,208	59,266
Tangible assets	11	35,277	33,471
Investments	12		
Holdings in Group undertakings		1,049,503	1,049,503
Receivables from Group companies		552,996	396,546
Other shares and holdings		99,609	99,608
Other investments		6,127	6,127
Total investments		1,708,236	1,551,785
Total non-current assets		1,801,721	1,644,521
CURRENT ASSETS			
Inventories	13	213,498	140,004
Non-current receivables	14		
Deferred tax assets		15,446	16,814
Loan receivables		400	400
Other receivables		21,107	6,088
Total non-current receivables		36,952	23,302
Current receivables	14	570,083	623,719
Cash and cash equivalents		194,464	74,107
Total current assets		1,014,997	861,131
Total assets		2,816,718	2,505,653

Thousand EUR	Note	31.12.2022	31.12.2021
EQUITY AND LIABILITIES			
CAPITAL AND RESERVES	15		
Share capital		221,762	221,762
Share premium account		257,878	257,878
Fair value reserve		56,764	19,387
Unrestricted equity reserve		199,964	199,964
Retained earnings		188,104	278,295
Profit (loss) for the financial year		314,734	-2,851
Total equity		1,239,207	974,433
APPROPRIATIONS	16	13,098	9,795
PROVISIONS	17	52,230	57,066
LIABILITIES			
Non-current liabilities	18		
Deferred tax liabilities		14,191	5,151
Other non-current liabilities		726,122	677,148
Total Non-current liabilities		740,313	682,299
Current liabilities	19	771,871	782,059
Total liabilities		1,512,184	1,464,358
Total equity and liabilities		2,816,718	2,505,653

Kemira Oyj's cash flow statement

Thousand EUR	2022	2021
CASH FLOWS FROM OPERATING ACTIVITIES		
Net profit for the period	314,734	-2,851
Adjustments for		
Depreciation according to plan	22,273	25,568
Unrealized exchange differences (net)	-20,748	27,300
Financial income and expenses (+/-)	-172,737	-26,455
Income taxes	43,844	-121
Other adjustments (+/-)	8,627	98,687
Operating profit before change in working capital	195,993	122,128
Change in working capital		
Increase (-) / decrease (+) in non-interest-bearing current receivables	-99,503	-58,724
Increase (-) / decrease (+) in inventories	-73,494	-40,378
Increase (+) / decrease (-) in short-term interest-free debts	27,598	227,187
Change in working capital	-145,399	128,085
Cash generated from operations before financial items and taxes	50,595	250,213
Interest and other finance costs paid	-24,113	-21,491
Interest and other finance income received	35,083	22,884
Realized exchange differences (net)	22,184	-9,972
Dividends received	137,389	5,876
Income taxes paid	-4,929	-2,154
Net cash from operating activities	216,208	245,356

Thousand EUR	2022	2021
CASH FLOWS FROM INVESTING ACTIVITIES		
Acquisitions of other investments	-1	-1,000
Purchases of intangible assets	-14,330	-34,459
Purchases of tangible assets	-8,858	-7,447
Proceeds from sale of investments	0	3,500
Proceeds from sale of tangible and intangible assets	2,489	227
Increase (-) / decrease (+) in loan receivables	51,637	-94,814
Net cash used in investing activities	30,937	-133,993
Cash flows before financing	247,145	111,363
CASH FLOWS FROM FINANCING ACTIVITIES		
Proceeds from non-current liabilities (+)	195,910	200,000
Repayment of non-current liabilities (-)	-150,000	-97,500
Short-term financing, net increase (+) / decrease (-)	-14,456	-53,436
Dividends paid	-88,942	-88,809
Group contribution paid	-70,500	-94,500
Net cash used in financing activities	-127,988	-134,245
Net increase (+) / decrease (-) in cash and cash equivalents	119,157	-22,883
Cash and cash equivalents on Dec 31	194,464	74,107
Exchange gains (+) / losses (-) on cash and cash equivalents	1,201	-220
Cash and cash equivalents on Jan 1	74,107	97,209
Net increase (+) / decrease (-) in cash and cash equivalents	119,157	-22,883

Notes to the parent company financial statements

1. THE PARENT COMPANY'S ACCOUNTING POLICIES FOR THE FINANCIAL STATEMENTS

BASIS OF PREPARATION

The parent company's financial statements have been prepared in compliance with the relevant acts and regulations in force in Finland (FAS). Kemira Group's financial statements have been prepared in accordance with the International Financial Reporting Standards (IFRS), and the parent company applies the Group's accounting policies whenever it has been possible according to FAS.

COMPARABILITY OF FINANCIAL STATEMENTS

Kemira implemented a new business model in its APAC companies on January 1, 2022. This has an effect on the comparability of the figures. In the new business model Kemira Oyj acts as a principal company which means that a part of sales of products and the external purchase of raw materials are done in the name of Kemira Oyj. The subsidiaries act as contact manufacturer/toll manufacturer and/or Limited Risk Distributor companies and they receive CMA/tolling and/or sales compensation from these activities. In connection to the business conversion Kemira Oyj agreed to pay a compensation related to the transferred business according to the business conversion agreement with Kemira Asia Ltd and Kemira Hong Kong.

VALUATION AND ALLOCATION PRINCIPLES

VALUATION OF NON-CURRENT ASSETS

Planned depreciation and any impairment losses have been deducted from the acquisition cost of the intangible and tangible assets entered in the balance sheet. The acquisition cost includes the variable costs of acquisition and manufacturing. Government grants received are recognized as a deduction from the carrying amount of property, plant, and equipment. Planned depreciation is calculated on a straight-line basis over the estimated intangible and tangible asset's useful life. Depreciation starts from the month of commencement of use.

DEPRECIATION PERIODS:

Other intangible assets 5–10 years
Buildings and constructions 20–40 years
Machinery and equipment 3–15 years

Shares of non-current assets are valued at their acquisition cost or less impairment.

VALUATION OF INVENTORY

Inventories are stated at cost or at the lower of replacement cost or probable selling price. In addition to variable costs, the cost of inventories includes a portion of the fixed costs of acquisition and manufacturing. The acquisition cost of the raw material inventory are determined using a weighted average cost formula. The acquisition cost of finished goods and work in progress include the proportion of production overheads at normal capacity.

VALUATION OF FINANCIAL INSTRUMENTS

The financial risk management of Kemira Group is concentrated in Kemira Oyj, which enters into currency, interest rate and electricity derivatives with third parties. Changes in the fair value of currency derivatives that are applicable for hedge accounting in the Group, but not in the parent company (as underlying hedged items are with group companies) are entered in to the profit and loss statement. Also, changes in the fair value of other currency derivatives not qualifying for hedge accounting in the Group, hedging commercial purchases or sales or financial items in foreign currencies are entered in the profit and loss. Changes in the fair value of interest rate derivatives are recorded as financial items in both hedge accounting and non-hedge accounting.

The fair value of Electricity Derivatives hedging the parent company's electricity purchases and qualifying for hedge accounting is posted to the hedging reserve under equity as well as the change in the fair value of currency derivatives that qualify for hedge accounting in the parent company. These currency derivatives are hedging estimated currency flows in Kemira Oyj for the next 12-month period. When the hedging instrument is maturing or the hedging relationship is discontinued due to inefficiency, the hedging reserve is adjusted by the value of the derivative by booking the value in the Income Statement.

The valuation of Fair value derivative instruments is done according to the Finnish Accounting Act Chapter 5 Section 2a.

The valuation methods of derivative instruments are described in Notes 5.4 and 5.6 in the Consolidated Financial Statements.

Defining the fair value of financial assets and liabilities is described in Group Note 5.4. Financial Risk management principles is illustrated in Group note 5.5. Hedge accounting principles and valuation of derivative instrument are described in Group note 5.6.

Reductions in the capital of other non-current loans as well as loan transaction costs have been capitalized in a manner allowed by the Finnish Accounting Act in the parent company's financial statement. The non-expensed portion of these expenses, EUR 2.6 million (2.7), is included in the balance sheet.

OBLIGATORY PROVISIONS

Obligatory provisions are recognized from pensions, personnel-related costs, environmental, and restructuring obligations.

REVENUE

Kemira Oyj's revenue consists mainly of revenues from the sale of goods and services. Revenue also includes intercompany service charges on a gross basis.

PENSION ARRANGEMENTS

The company's statutory pensions are handled by pension insurance companies and supplemental pensions mainly by Kemira's own pension fund. Pension costs consist of payments to pension insurance companies and possible contributions to the pension fund and are recognized in the income statement.

SHARE-BASED INCENTIVE PLANS

The treatment of share-based plans is described in the Group's accounting policies. In the parent company, the cash proportion of share-based incentive plans is recognized as an expense in the performance year, and the share proportion is recognized in the year the shares are given using the average share price.

FOREIGN CURRENCY TRANSLATION

In day-to-day bookkeeping, foreign currency transactions are translated into their functional currency at the exchange rates quoted on the transaction date. In the Financial Statements, foreign currency denominated receivables and liabilities are measured at the exchange rates quoted on the balance sheet date. Business-related exchange rate differences and business related foreign currency exchange rate hedges are treated as sales and purchase adjustments. Any foreign exchange gains and losses related to financial items and respective hedging instruments are booked into financial income and expenses.

DEFERRED TAXES

Deferred tax liabilities or assets are recognized for temporary differences between tax and financial statements using the tax rate for the year following as determined on the balance sheet date. The balance sheet includes the deferred tax liability in its entirety and the deferred tax asset at the estimated probable amount as assessed by the management. The efficient part of changes in the value of the electricity and currency derivatives qualifying for hedge accounting is recorded as a fair value reserve less deferred taxes.

LEASE

Lease payments are treated as rental expenses.

CASH FLOW STATEMENT

The parent company's cash flow statement has been prepared in accordance with the general guidelines (January 30, 2007) on cash flow by the Finnish Board of Accounting.

2. REVENUE

Thousand EUR	2022	2021
Revenue by segments		
Pulp & Paper	1,033,704	716,079
Industry & Water	579,102	416,308
Intercompany revenue	593,852	440,062
Total	2,206,658	1,572,450
Distribution of revenue by geographical area as a percentage of total revenue		
Finland, domicile of the parent company	28	27
Other Europe, Middle East and Africa	54	59
Americas	10	10
Asia Pacific	9	4
Total	100	100

3. OTHER OPERATING INCOME

Thousand EUR	2022	2021
Gains on the sale of property, plant and equipment	2,402	77
Rent income	5	11
Insurance compensation received	603	11
Other income from operations	425	904
Total	3,435	1,003

4. EXPENSES

Thousand EUR	2022	2021
Change in stocks of finished goods and in work in progress	-64,334	-23,328
Materials and services		
Materials and supplies		
Purchases during the financial year	1,423,051	903,268
Change in inventories (increase - / decrease +)	-19,281	-9,112
External services	9,323	7,918
Total	1,413,093	902,075
Other operating expenses		
Rents	9,290	10,710
Intercompany tolling manufacturing charges	235,759	226,190
Other intercompany charges	145,253	140,066
Freights and delivery expenses	135,599	115,580
External services	18,502	16,111
Other operating expenses [1)]	48,142	64,261
Total	592,545	572,917
Total expenses	1,941,304	1,451,664

1) In 2022, the operating expenses included a net decrease of EUR 4,968 thousand in the obligatory provisions (a decrease of EUR 574 thousand in environmental expenses and EUR 4,394 thousand in restructuring expenses). In 2021, the operating expenses included a net increase of EUR 18,948 thousand in the obligatory provisions (an increase of EUR 3,293 in environmental expenses and EUR 15,655 thousand in restructuring expenses).

AUDIT FEES AND SERVICES

Thousand EUR	2022	2021
Audit fees	499	455
Tax services	278	129
Other services	50	51
Total	827	635

Ernst & Young Oy acts as the principal auditor for Kemira Oyj.

5. PERSONNEL EXPENSES AND NUMBER OF PERSONNEL

Thousand EUR	2022	2021
Personnel costs		
Wages and salaries	49,228	46,148
Pension expenses [1]	-2,767	3,637
Other personnel expenses	1,911	1,161
Total	48,372	50,947

Thousand EUR	2022	2021
Management wages and salaries [2]		
CEO	1,454	1,537
Deputy CEO	425	444
Board of Directors	567	468
Total	2,446	2,449

Thousand EUR	2022	2021
Salaries and fees include bonuses and share-based payments		
CEO	715	813
Deputy CEO	234	257
Total	949	1,070

In 2020, salaries and wages totaled EUR 45,334 thousand.

1) In 2022, the pension expenses includes a return of EUR 10.0 million (3.0) from Pension Fund Neliapila.
2) The salary paid to Kemira Oyj's CEO and Deputy CEO include fringe benefits.

Other transactions between related parties are presented in Note 6.1 in the Notes to the Consolidated Financial Statements.

Number of personnel on Dec 31	2022	2021
Pulp & Paper segment	102	104
Industry & Water segment	38	36
Other, of which	353	364
R&D and Technology	167	172
Total	493	504
Average number of personnel	502	502

6. DEPRECIATION, AMORTIZATION AND IMPAIRMENTS

Thousand EUR	2022	2021
Depreciation according to plan and impairment		
Intangible rights	11,114	15,466
Depreciation of goodwill	3,586	6
Other intangible assets	687	2,062
Buildings and constructions	665	539
Machinery and equipment	6,220	7,493
Total	22,273	25,568

7. FINANCE INCOME AND EXPENSES

Thousand EUR	2022	2021
Dividend income		
From Group companies	137,389	5,876
Total	137,389	5,876
Other interest and finance income		
Interest income from Group companies	38,188	21,349
Interest income from others	1,579	736
Other finance income from Group companies	607	638
Other finance income from others	0	6
Exchange gains from Group companies (net)	24,276	37,152
Total	64,650	59,880
Total finance income	202,038	65,756
Interest expenses and other finance expenses		
Interest expenses to Group companies	-1,274	-217
Interest expenses to others	-19,612	-16,768
Other finance expenses to others	-2,623	-2,493
Exchange losses from others (net)	-5,791	-19,823
Total	-29,301	-39,301
Total finance expenses	-29,301	-39,301
Total finance income and expenses	172,737	26,455

Thousand EUR	2022	2021
Exchange gains and losses		
Realized	-3,699	-9,972
Unrealized	22,184	27,300
Total	18,485	17,329

8. APPROPRIATIONS

Thousand EUR	2022	2021
Change in accumulated depreciation difference (increase - / decrease +)		
Intangible rights	-420	384
Other intangible assets	231	-456
Goodwill	0	-2
Buildings and structures	-351	-612
Machinery and equipment	-2,760	-3,512
Other tangible assets	-3	-3
Total	-3,303	-4,202
Group contribution		
Group contributions given	-9,000	-70,500
Total	-9,000	-70,500
Total appropriations	-12,303	-74,702

9. INCOME TAXES

Thousand EUR	2022	2021
Income taxes on ordinary activities	-42,205	-1,866
Income taxes for prior years	-29	-476
Change in deferred taxes	-1,065	3,634
Other taxes and parafiscal charges	-546	-1,171
Total	-43,844	121

10. INTANGIBLE ASSETS

2022, Thousand EUR	Intangible rights	Goodwill	Advance payments and construction in progress	Other intangible assets	Total
Acquisition cost on Jan 1	275,030	32,364	3,061	39,878	350,333
Additions	5,521	0	8,809	0	14,330
Decreases	-3,254	0	0	0	-3,254
Transfers	2,536	0	-2,536	0	0
Acquisition cost on Dec 31	279,833	32,364	9,334	39,878	361,408
Accumulated amortization on Jan 1	-241,030	-10,847	0	-39,191	-291,067
Accumulated amortization relating to decreases	3,201	0	0	0	3,201
Amortization during the financial year	-11,061	-3,586	0	-687	-15,334
Accumulated amortization on Dec 31	-248,890	-14,433	0	-39,878	-303,200
Net book value on Dec 31	30,943	17,931	9,334	0	58,208

2021, Thousand EUR	Intangible rights	Goodwill	Advance payments and construction in progress	Other intangible assets	Total
Acquisition cost on Jan 1	266,555	7,263	2,274	39,878	315,970
Additions	6,484	25,100	2,874	0	34,459
Decreases	-96	0	0	0	-96
Transfers	2,088	0	-2,088	0	0
Acquisition cost on Dec 31	275,030	32,364	3,061	39,878	350,333
Accumulated amortization on Jan 1	-229,237	-7,263	0	-37,128	-273,628
Accumulated amortization relating to decreases	29	0	0	0	29
Amortization during the financial year	-11,821	-3,584	0	-2,062	-17,467
Accumulated amortization on Dec 31	-241,030	-10,847	0	-39,191	-291,067
Net book value on Dec 31	34,000	21,517	3,061	687	59,266

11. TANGIBLE ASSETS

2022, Thousand EUR	Land and water areas	Buildings and constructions	Machinery and equipment	Other tangible assets	Advance payments and construction in progress	Total
Acquisition cost on Jan 1	1,071	15,509	98,130	343	1,960	117,014
Additions	208	533	3,698	0	4,419	8,858
Decreases	-17	-99	-1,085	0	0	-1,201
Transfers	0	316	1,338	0	-1,654	0
Acquisition cost on Dec 31	1,263	16,261	102,080	343	4,725	124,671
Accumulated depreciation on Jan 1	-110	-6,933	-76,159	-341	0	-83,543
Accumulated depreciation relating to decreases	0	83	881	0	0	964
Depreciation during the financial year	0	-649	-6,165	0	0	-6,814
Accumulated depreciation on Dec 31	-110	-7,499	-81,443	-341	0	-89,393
Net book value at 31 Dec	1,153	8,761	20,636	2	4,725	35,277

2021, Thousand EUR	Land and water areas	Buildings and constructions	Machinery and equipment	Other tangible assets	Advance payments and construction in progress	Total
Acquisition cost on Jan 1	1,071	9,959	87,750	343	11,415	110,539
Additions	0	739	5,122	0	1,586	7,447
Decreases	0	-332	-640	0	0	-973
Transfers	0	5,144	5,897	0	-11,041	0
Acquisition cost on Dec 31	1,071	15,509	98,130	343	1,960	117,014
Accumulated depreciation on Jan 1	-110	-6,726	-69,156	-340	0	-76,332
Accumulated depreciation relating to decreases	0	282	298	0	0	580
Depreciation during the financial year	0	-489	-7,301	0	0	-7,790
Accumulated depreciation on Dec 31	-110	-6,933	-76,159	-341	0	-83,543
Net book value on Dec 31	962	8,576	21,970	3	1,960	33,471

12. INVESTMENTS

2022, Thousand EUR	Holdings in Group companies	Receivables from Group companies	Other shares and holdings	Other receivables	Total
Net book value on Jan 1	1,049,503	396,546	99,608	6,127	1,551,785
Additions	0	255,661	1	0	255,662
Decreases	0	-99,211	0	0	-99,211
Net book value on Dec 31	1,049,503	552,996	99,609	6,127	1,708,236

2021, Thousand EUR	Holdings in Group companies	Receivables from Group companies	Other shares and holdings	Other receivables	Total
Net book value on Jan 1	1,228,799	618,587	102,108	6,127	1,955,622
Additions	0	69,106	1,000	0	70,106
Decreases	-179,296	-291,146	-3,500	0	-473,943
Net book value on Dec 31	1,049,503	396,546	99,608	6,127	1,551,785

13. INVENTORIES

Thousand EUR	2022	2021
Raw materials and consumables	56,854	37,573
Finished goods	148,604	90,731
Advance payments	8,040	11,700
Total	213,498	140,004

14. RECEIVABLES

Thousand EUR	2022	2021
Non-current receivables		
Receivables from others		
Loan receivables	400	400
Other receivables	21,107	6,088
Total	21,507	6,488
Deferred tax assets		
From appropriations	376	473
From reservations	9,691	10,685
From foreign currency and electricity hedging	0	304
From revaluations	4,285	4,285
From other deferred tax receivables	1,094	1,068
Total	15,446	16,814
Total non-current receivables	36,952	23,302
Current receivables		
Receivables from Group companies		
Trade receivables	108,075	68,501
Loan receivables	160,638	368,724
Advances paid	18,836	18,836
Other current receivables	0	42
Prepayments and accrued income	16,555	12,060
Total	304,104	468,164

Thousand EUR	2022	2021
Receivables from others		
Trade receivables	180,297	116,386
Advances paid	72	41
Other current receivables	4,097	7,078
Prepayments and accrued income	81,513	32,050
Total	265,978	155,555
Total current receivables	570,083	623,719
Total receivables	607,035	647,021
Accrued income from others		
Taxes	2,561	73
Hedging accruals	65,845	21,149
Prepaid expenses	3,831	3,629
Accrued income	8,048	5,986
Other	1,228	1,213
Total	81,513	32,050

15. CAPITAL AND RESERVES

Thousand EUR	2022	2021
Restricted equity		
Share capital on Jan 1	221,762	221,762
Share capital on Dec 31	221,762	221,762
Share premium account on Jan 1	257,878	257,878
Share premium account on Dec 31	257,878	257,878
Fair value reserve on Jan 1	19,387	5,216
Cash flow hedges	37,378	14,170
Fair value reserve on Dec 31	56,764	19,387
Total restricted equity on Dec 31	536,404	499,026
Unrestricted equity		
Unrestricted equity reserve on Jan 1	199,964	199,964
Unrestricted equity reserve on Dec 31	199,964	199,964
Retained earnings on Jan 1	275,443	365,658
Dividend distributions	-88,942	-88,809
Share-based incentive plan		
Shares given	1,689	1,465
Shares returned	-86	-19
Retained earnings on Dec 31	188,104	278,295
Profit (loss) for the financial period	314,734	-2,851
Total unrestricted equity on Dec 31	702,803	475,407
Total capital and reserves on Dec 31	1,239,207	974,433
Total distributable funds on Dec 31	702,803	475,407

CHANGE IN TREASURY SHARES

Thousand	EUR	Number of shares
Acquisition value / number on Jan 1, 2022	14,911	2,215
Change	-1,514	-225
Acquisition value/number on Dec 31, 2022	13,397	1,990

16. ACCUMULATED APPROPRIATIONS

Thousand EUR	2022	2021
Appropriations		
Accumulated depreciation difference	13,098	9,795
Deferred tax liabilities on accumulated appropriations	2,620	1,959

17. OBLIGATORY PROVISIONS

Thousand EUR	2022	2021
Non-current provisions		
Pension provisions	5,469	5,338
Environmental provisions	14,185	15,414
Restructuring	19,544	26,700
Total non-current provisions	39,197	47,452
Current provisions		
Environmental provisions	6,116	5,462
Restructuring	6,916	4,153
Total current provisions	13,032	9,615
Total provisions	52,230	57,066
Change in obligatory provisions		
Obligatory provisions on Jan 1	57,066	38,213
Utilised during the year	-8,338	-12,982
Cancellation of unused reservations	0	-998
Increase during the year	3,501	32,833
Obligatory provisions on Dec 31	52,230	57,066

Environmental risks and liabilities are disclosed in Note 4.6 in the Notes to the Consolidated Financial Statements.

18. NON-CURRENT LIABILITIES

Thousand EUR	2022	2021
Loans from financial institutions	312,359	279,891
Corporate bonds	397,853	397,258
Other liabilities	15,910	0
Total	726,122	677,148
Maturity later than five years		
Corporate bonds	200,000	200,000
Total	200,000	200,000
Deferred tax liabilities		
From foreign currency and electricity hedging	14,191	5,151
Total	14,191	5,151
Total non-current liabilities	740,313	682,299

19. CURRENT LIABILITIES

Thousand EUR	2022	2021
Liabilities to Group companies		
Loan liabilities	14,323	5,843
Trade payables	176,401	137,067
Other liabilities	250,316	395,643
Accrued expenses	1,130	40
Total	442,169	538,594
Liabilities to others		
Corporate Bonds	0	52,750
Commercial papers	29,815	0
Prepayments received	1,308	1,536
Trade payables	145,428	121,156
Other liabilities	24,330	7,528
Accrued expenses	128,822	60,495
Total	329,702	243,465
Total current liabilities	771,871	782,059
Accrued expenses and deferred income		
Personnel expenses	20,241	16,565
Interest expenses and exchange rate differences	10,563	13,690
Cost accruals	53,671	26,658
Income tax accruals	42,205	1,866
Other	2,142	1,716
Total	128,822	60,495

20. DERIVATIVES

	2022	2021
Nominal values, thousand EUR	**Total**	**Total**
Currency derivatives		
Forward contracts	645,600	520,161
of which cash flow hedges	71,572	62,044
Other derivatives		
Electricity contracts, bought (MWh)	1,034,472	1,518,286
Electricity forward contracts	1,034,472	1,518,286
of which cash flow hedges	1,034,472	1,518,286

		2022	
Fair values, thousand EUR	**Positive**	**Negative**	**Net**
Currency derivatives			
Forward contracts	14,971	4,740	10,232
of which cash flow hedges	1,652	1,386	266
Other derivatives			
Electricity forward contracts, bought [1]	70,771	—	70,771
of which cash flow hedges	70,771	—	70,771

1) Includes fair value of electricity forward contracts of EUR 21,107 thousand maturing after the year 2023 (6,088)

		2021	
Fair values, thousand EUR	**Positive**	**Negative**	**Net**
Currency derivatives			
Forward contracts	2,752	8,554	-5,802
of which cash flow hedges	144	1,577	-1,434
Other derivatives			
Electricity forward contracts, bought	25,753	—	25,753
of which cash flow hedges	25,753	—	25,753

21. COLLATERAL AND CONTINGENT LIABILITIES

Thousand EUR	2022	2021
Given guarantees		
On behalf of own commitments		
Business related delivery-, environmental and other guarantees	18,106	15,545
On behalf of companies belonging to the same Group		
Business and financing guarantees	535,479	522,446
On behalf of associated companies		
Business and financing guarantees	12,499	12,467
On behalf of others		
Guarantees	2,296	1,543
Other obligations		
Loan commitments	16,339	16,339
Rent liabilities		
Maturity within one year	2,714	2,221
Maturity after one year	6,693	7,511
Total	9,407	9,732
Leasing liabilities		
Maturity within one year	2,088	2,052
Maturity after one year	3,968	3,354
Total	6,056	5,407
Pledges given		
On behalf of own commitments	482	359

22. SHARES AND HOLDINGS OWNED BY KEMIRA OYJ

SHARES IN GROUP COMPANIES

	Group holding, %	Kemira Oyj holding, %
AS Kemivesi	100.00	100.00
Kemira Argentina S.A.	100.00	15.80
Kemira Cell Sp. z.o.o.	55.00	55.00
Kemira Chemicals (Nanjing) Co.,Ltd.	100.00	100.00
Kemira Chemicals (Shanghai) Co.,Ltd.	100.00	100.00
Kemira Chemicals (UK) Ltd.	100.00	100.00
Kemira Chemicals (Yanzhou) Co.,Ltd.	100.00	100.00
Kemira Chemicals Brasil Ltda	100.00	99.87
Kemira Chemicals Canada Inc.	100.00	100.00
Kemira Chemicals Korea Corporation	100.00	100.00
Kemira Chemie Ges.mbH	100.00	100.00
Kemira Chile Comercial Limitada	100.00	99.00
Kemira Europe Oy	100.00	100.00
Kemira Germany GmbH	100.00	100.00
Kemira Hong Kong Company Limited	100.00	100.00
Kemira International Finance B.V.	100.00	100.00
Kemira KTM d.o.o.	100.00	100.00
Kemira Świecie Sp. z o.o.	100.00	100.00
Kemira Water Danmark A/S	100.00	100.00
Kemira Water Solutions Brasil	100.00	100.00
PT Kemira Indonesia	100.00	74.80
PT Kemira Chemicals Indonesia	99.77	99.77

The Group's subsidiaries and investment in associates are presented in Note 6.2. in the Consolidated Financial Statements.

KEMIRA OYJ'S BOARD OF DIRECTORS' PROPOSAL TO THE ANNUAL GENERAL MEETING FOR THE DISTRIBUTION OF DISTRIBUTABLE FUNDS AND SIGNING OF THE FINANCIAL STATEMENTS AND BOARD OF DIRECTORS' REVIEW

On December 31, 2022, Kemira Oyj's distributable funds are EUR 702,802,752 of which the net profit for the period amounts to EUR 314,734,444.

The Board of Directors proposes to the Annual General Meeting to be held on March 22, 2023 that a dividend of EUR 0.62 per share be distributed. No dividend will be paid on own shares held by the company as treasury shares on the dividend record date.

On the date of this proposal for the distribution of profits, a total of 153,352,360 shares are held outside the company, the total dividends paid would amount to EUR 95,078,463. The distributable funds of EUR 607,724,289 to be retained as equity.

There have been no material changes in the company's financial position since December 31, 2022. The liquidity of the company remains good, and the proposed dividend payment does not risk the solvency of the company.

Helsinki, February 9, 2023

Matti Kähkönen
Chairman

Annika Paasikivi
Vice Chairman

Wolfgang Büchele

Shirley Cunningham

Werner Fuhrmann

Timo Lappalainen

Kristian Pullola

Tina Sejersgård Fanø

Jari Rosendal
CEO

Auditor's report (Translation of the Finnish original)

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To the Annual General Meeting of Kemira Oyj

REPORT ON THE AUDIT OF FINANCIAL STATEMENT

OPINION

We have audited the financial statements of Kemira Oyj (business identity code 0109823-0) for the year ended 31 December 2022. The financial statements comprise the consolidated balance sheet, income statement, statement of comprehensive income, statement of changes in equity, statement of cash flows and notes, including a summary of significant accounting policies, as well as the parent company's balance sheet, income statement, statement of cash flows and notes.

In our opinion

- the consolidated financial statements give a true and fair view of the group's financial position as well as its financial performance and its cash flows in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU.
- the financial statements give a true and fair view of the parent company's financial performance and financial position in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements.

Our opinion is consistent with the additional report submitted to the Audit Committee.

BASIS FOR OPINION

We conducted our audit in accordance with good auditing practice in Finland. Our responsibilities under good auditing practice are further described in the Auditor's Responsibilities for the Audit of Financial Statements section of our report.

We are independent of the parent company and of the group companies in accordance with the ethical requirements that are applicable in Finland and are relevant to our audit, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

In our best knowledge and understanding, the non-audit services that we have provided to the parent company and group companies are in compliance with laws and regulations applicable in Finland regarding these services, and we have not provided any prohibited non-audit services referred to in Article 5 (1) of regulation (EU) 537/2014. The non-audit services that we have provided have been disclosed in note 2.2 to the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

KEY AUDIT MATTERS

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

We have fulfilled the responsibilities described in the Auditor's responsibilities for the audit of the financial statements section of our report, including in relation to these matters. Accordingly, our audit included the performance of procedures designed to respond to our assessment of the risks of material misstatement of the financial statements. The results of our audit procedures, including the procedures performed to address the matters below, provide the basis for our audit opinion on the accompanying financial statements.

We have also addressed the risk of management override of internal controls. This includes consideration of whether there was evidence of management bias that represented a risk of material misstatement due to fraud.

Key audit matter	How our audit addressed the Key Audit Matter
Valuation of goodwill *The accounting principles and disclosures concerning goodwill are disclosed in Note 3.1.* Valuation of goodwill was a key audit matter because • the assessment process is judgmental, • it is based on assumptions relating to market or economic conditions extending to the future, and • because of the significance of the goodwill to the financial statements. As of balance sheet date 31 December 2022, the value of goodwill amounted to 511 million euro representing 14 % of the total assets and 30 % of the total equity. The valuation of goodwill is based on management's estimate about the value-in-use calculations of the cash generating units. There are number of underlying assumptions used to determine the value-in-use, including the revenue growth, EBITDA and discount rate applied on net cash-flows. Estimated value-in-use may vary significantly when the underlying assumptions are changed and the changes in above-mentioned individual assumptions may result in an impairment of goodwill.	Our audit procedures regarding the valuation of goodwill included involving EY valuation specialists to assist us in evaluating methodologies, impairment calculations and underlying assumptions applied by the management in the impairment testing. In evaluation of methodologies, we compared the principles applied by the management in the impairment tests to the requirements set in IAS 36 Impairment of assets standard and ensured the mathematical accuracy of the impairment calculations. The key assumptions applied by the management in impairment tests were compared to • approved budgets and long-term forecasts, • information available in external sources, as well as • our independently calculated industry averages such as weighted average cost of capital used in discounting the cashflows. In addition, we compared the sum of discounted cash flows in impairment tests to Kemira's market capitalization. We also assessed the sufficiency and appropriateness of the disclosures given in respect of goodwill and its sensitivity.

Key audit matter	How our audit addressed the Key Audit Matter
Fair value measurement of other shares *The accounting principles and disclosures concerning other shares are disclosed in Note 3.5.* Fair value measurement of other shares was a key audit matter because • the value of other shares is material to the financial statements, and because • the fair value assessment process requires significant management judgment. As of balance sheet date 31 December 2022, the value of PVO / TVO shares included in other shares amounted to 381 million euro representing 10 % of the total assets and 23 % of the total equity. PVO / TVO shares represent majority of the balance sheet value of other shares. In determining the fair value of PVO / TVO shares, the management must make among other things an assessment regarding • future electricity production cost for PVO and TVO, • future electricity market prices applicable for Finland, and • discount rate applied on discounting the cashflows. Fair values of PVO and TVO shares may vary significantly when above-mentioned assumptions are changed. Fair value measurement of other shares was determined to be a key audit matter and a significant risk of material misstatement referred to in EU Regulation No 537/2014, point (c) of Article 10 (2).	Our audit procedures regarding the fair values of other shares to address the risk of material misstatement included involving EY valuation specialists to assist us in evaluating appropriateness of methodologies, fair value calculations and underlying assumptions applied by the management. The key assumptions made by the management were compared to • estimates of future electricity production costs available on external sources, • estimates of future electricity market prices in Finland available on external sources, and • our independently calculated discount rate applicable for discounting of expected cashflows. In addition, we assessed the overall reasonableness of management's judgments. We also assessed the sufficiency and appropriateness of the disclosures regarding the other shares.

RESPONSIBILITIES OF THE BOARD OF DIRECTORS AND THE MANAGING DIRECTOR FOR THE FINANCIAL STATEMENTS

The Board of Directors and the Managing Director are responsible for the preparation of consolidated financial statements that give a true and fair view in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU, and of financial statements that give a true and fair view in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements. The Board of Directors and the Managing Director are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors and the Managing Director are responsible for assessing the parent company's and the group's ability to continue as going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting. The financial statements are prepared using the going concern basis of accounting unless there is an intention to liquidate the parent company or the group or cease operations, or there is no realistic alternative but to do so.

AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF FINANCIAL STATEMENTS

Our objectives are to obtain reasonable assurance on whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with good auditing practice will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with good auditing practice, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the parent company's or the group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of the Board of Directors' and the Managing Director's use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the parent company's or the group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the parent company or the group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events so that the financial statements give a true and fair view.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

OTHER REPORTING REQUIREMENTS

INFORMATION ON OUR AUDIT ENGAGEMENT

We were first appointed as auditors by the Annual General Meeting on 21 March 2019 and our appointment represents a total period of uninterrupted engagement of four years.

OTHER INFORMATION

The Board of Directors and the Managing Director are responsible for the other information. The other information comprises the report of the Board of Directors and the information included in the Annual Report, but does not include the financial statements and our auditor's report thereon. We have obtained the report of the Board of Directors prior to the date of this auditor's report, and the Annual Report is expected to be made available to us after that date.

Our opinion on the financial statements does not cover the other information.

In connection with our audit of the financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. With respect to report of the Board of Directors, our responsibility also includes considering whether the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

In our opinion, the information in the report of the Board of Directors is consistent with the information in the financial statements and the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

If, based on the work we have performed on the other information that we obtained prior to the date of this auditor's report, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

OTHER OPINIONS ON ASSIGNMENT OF THE BOARD OF DIRECTORS

We support that the financial statements should be adopted. The proposal by the Board of Directors regarding the use of the profit shown on the balance sheet is in compliance with the Limited Liability Companies Act. We support that the Board of Directors of the parent company and the Chief Executive Officer should be discharged from liability for the financial period audited by us.

Helsinki, 9 February 2023

Ernst & Young Oy
Authorized Public Accountant Firm

Mikko Rytilahti
Authorized Public Accountant

ESEF Financial Statement Report

(Translation of the Finnish original)

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Building a better working world

INDEPENDENT AUDITOR'S REPORT ON KEMIRA OYJ'S ESEF CONSOLIDATED FINANCIAL STATEMENTS

TO THE BOARD OF DIRECTORS OF KEMIRA OYJ

We have performed a reasonable assurance engagement on the iXBRL tagging of the consolidated financial statements included in the digital files 74370031Y7RK5H88CQ48-2022-12-31-fi.zip of Kemira Oyj for the financial year 1.1.-31.12.2022 to ensure that the financial statements are marked up with iXBRL in accordance with the requirements of Article 4 of EU Commission Delegated Regulation (EU) 2018/815 (ESEF RTS).

Responsibilities of the Board of Directors and Managing Director

The Board of Directors and Managing Director are responsible for the preparation of the Report of Board of Directors and financial statements (ESEF financial statements) that comply with the ESEF RTS. This responsibility includes:

- preparation of ESEF-financial statements in accordance with Article 3 of ESEF RTS
- tagging the consolidated financial statements included within the ESEF- financial statements by using the iXBRL marks in accordance with Article 4 of ESEF RTS
- ensuring consistency between ESEF financial statements and audited financial statements

The Board of Directors and Managing Director are also responsible for such internal control as they determine is necessary to enable the preparation of ESEF financial statements in accordance the requirements of ESEF RTS.

Auditor's Independence and Quality Control

We are independent of the company in accordance with the ethical requirements that are applicable in Finland and are relevant to the engagement we have performed, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

The auditor applies International Standard on Quality Control (ISQC) 1 and therefore maintains a comprehensive quality control system including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Auditor's Responsibilities

In accordance with the Engagement Letter we will express an opinion on whether the electronic tagging of the consolidated financial statements complies in all material respects with the Article 4 of ESEF RTS. We have conducted a reasonable assurance engagement in accordance with International Standard on Assurance Engagements ISAE 3000.

The engagement includes procedures to obtain evidence on:

- whether the tagging of the consolidated financial statements complies in all material respects with Article 4 of the ESEF RTS
- whether the tagging of the notes to the financial statements and the entity identifier information in the consolidated financial statements complies in all material respects with Article 4 of the ESEF RTS
- whether the ESEF-financial statements are consistent with the audited financial statements

The nature, timing and extent of the procedures selected depend on the auditor's judgement including the assessment of risk of material departures from requirements sets out in the ESEF RTS, whether due to fraud or error.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our statement.

Opinion

In our opinion the tagging of the consolidated financial statement included in the ESEF financial statement of Kemira Oyj for the year ended 31.12.2022 complies in all material respects with the requirements of ESEF RTS.

Our audit opinion on the consolidated financial statements of Kemira Oyj for the year ended 31.12.2022 is included in our Independent Auditor's Report dated 9.2.2023. In this report, we do not express an audit opinion any other assurance on the consolidated financial statements.

Helsinki 16.2.2023

Ernst & Young Oy
Authorized Public Accountant Firm

Mikko Rytilahti
Authorized Public Accountant

Group key figures

Kemira provides certain financial performance measures (alternative performance measures), which are not defined by IFRS. Kemira believes that alternative performance measures followed by capital markets and Kemira management, such as organic growth*, EBITDA, operative EBITDA, cash flow after investing activities as well as gearing, provide useful information about Kemira's comparable business performance and financial position. Selected alternative performance measures are also used as performance criteria concerning remuneration.

Kemira's alternative performance measures should not be viewed in isolation to the equivalent IFRS measures and alternative performance measures should be read in conjunction with the most directly comparable IFRS measures. Definitions of the alternative performance measures can be found in the Definitions of the key figures in these Financial Statements, as well as at **www.kemira.com** > Investors > Financial information.

Kemira adopted the IFRS 16 Leases standard on January 1, 2019. The comparative figures were not restated on the date of transition to IFRS 16. In 2019, the key figures (except revenue and capital expenditure) of the Income Statements, Balance Sheet and cash flow have been impacted by the adoption of IFRS 16.

* Revenue growth in local currencies, excluding acquisitions and divestments.

	2022	2021	2020	2019	2018
INCOME STATEMENT AND PROFITABILITY					
Revenue, EUR million	3,570	2,674	2,427	2,659	2,593
Operative EBITDA, EUR million	572	426	435	410	323
Operative EBITDA, %	16.0	15.9	17.9	15.4	12.5
EBITDA, EUR million	559	373	413	382	315
EBITDA, %	15.7	14.0	17.0	14.4	12.1
Operative EBIT, EUR million	362	225	238	224	174
Operative EBIT, %	10.1	8.4	9.8	8.4	6.7
Operating profit (EBIT), EUR million	348	170	216	194	148
Operating profit (EBIT), %	9.7	6.4	8.9	7.3	5.7
Finance costs (net), EUR million	39	27	35	40	25
% of revenue	1.1	1.0	1.4	1.5	1.0
Profit before tax, EUR million	308	143	181	155	123
% of revenue	8.6	5.4	7.5	5.8	4.8
Net profit for the period (attributable to equity owners of the parent company), EUR million	232	108	131	110	89
% of revenue	6.5	4.0	5.4	4.1	3.4
Return on investment (ROI), %	12.5	7.2	9.1	8.4	7.0
Return of equity (ROE), %	15.4	8.6	10.9	9.2	7.6
Capital employed, EUR million [1)]	2,238	1,995	1,965	1,998	1,781
Operative return on capital employed (ROCE), % [1)]	16.2	11.3	12.1	11.2	9.8
Return on capital employed (ROCE), % [1)]	15.5	8.5	11.0	9.7	8.3
Research and development expenses, EUR million	33	28	29	30	30
% of revenue	0.9	1.1	1.2	1.1	1.2
Organic growth, %	27	11	-7	0	7

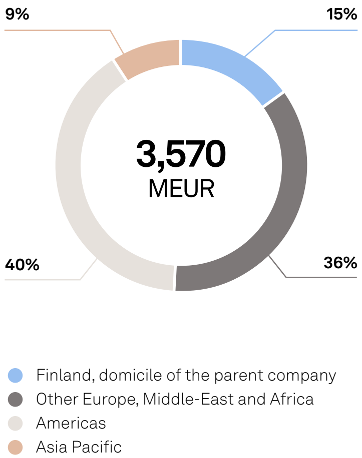
	2022	2021	2020	2019	2018
CASH FLOW					
Net cash generated from operating activities, EUR million	400	220	375	386	210
Proceeds from sale of subsidiaries and property, plant and equipment and intangible assets, EUR million	19	7	2	8	7
Capital expenditure, EUR million	198	170	198	204	194
% of revenue	5.5	6.3	8.2	7.7	7.5
Capital expenditure excl. acquisitions, EUR million	198	169	196	201	150
% of revenue	5.5	6.3	8.1	7.6	5.8
Cash flow after investing activities, EUR million	222	57	173	190	29
BALANCE SHEET AND SOLVENCY					
Non-current assets, EUR million	2,323	2,155	2,018	2,090	1,901
Shareholders' equity (Equity attributable to equity owners of the parent company), EUR million	1,670	1,329	1,192	1,218	1,190
Total equity including non-controlling interests, EUR million	1,685	1,343	1,205	1,231	1,203
Total liabilities, EUR million	1,966	1,797	1,590	1,660	1,561
Total assets, EUR million	3,651	3,139	2,796	2,891	2,764
Net working capital	362	287	197	211	260
Interest-bearing net liabilities, EUR million	771	850	759	811	741
Equity ratio, %	46	43	43	43	44
Gearing, %	46	63	63	66	62
Interest-bearing net liabilities per EBITDA	1.4	2.3	1.8	2.1	2.4

	2022	2021	2020	2019	2018
PERSONNEL					
Personnel at period-end	4,902	4,926	4,921	5,062	4,915
Personnel (average)	4,936	4,947	5,038	5,020	4,810
of whom in Finland	780	784	790	812	821
Wages and salaries, EUR million	339	288	303	304	278
EXCHANGE RATES					
Key exchange rates on Dec 31					
USD	1.067	1.133	1.227	1.123	1.145
CAD	1.444	1.439	1.563	1.460	1.561
SEK	11.122	10.250	10.034	10.447	10.255
CNY	7.358	7.195	8.023	7.821	7.875
BRL	5.639	6.310	6.374	4.516	4.444
PER SHARE FIGURES					
Earnings per share (EPS), basic, EUR [2]	1.51	0.71	0.86	0.72	0.58
Earnings per share (EPS), diluted, EUR [2]	1.50	0.70	0.86	0.72	0.58
Net cash generated from operating activities per share, EUR [2]	2.61	1.44	2.45	2.53	1.38
Dividend per share, EUR [2] [3]	0.62	0.58	0.58	0.56	0.53
Dividend payout ratio, % [2] [3]	41.0	82.2	67.5	77.6	90.7
Dividend yield, % [2] [3]	4.3	4.4	4.5	4.2	5.4
Equity per share, EUR [2]	10.89	8.68	7.80	7.98	7.80
Price per earnings per share (P/E ratio) [2]	9.48	18.88	15.07	18.37	16.85
Price per equity per share [2]	1.32	1.54	1.66	1.66	1.26
Price per cash flow from operations per share [2]	5.49	9.27	5.28	5.24	7.14
Dividend paid, EUR million [3]	95.1	88.8	88.7	85.5	80.8

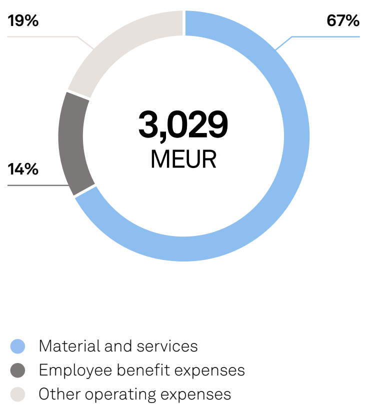
	2022	2021	2020	2019	2018
SHARE PRICE AND TRADING					
Share price, high, EUR	14.94	14.66	14.24	14.99	12.03
Share price, low, EUR	10.36	12.64	8.02	9.77	9.34
Share price, average, EUR	12.57	13.67	11.55	12.56	11.00
Share price on Dec 31, EUR	14.33	13.33	12.94	13.26	9.85
Number of shares traded (1,000) [4]	37,017	57,478	75,885	53,048	43,837
% on number of shares	24	38	50	35	29
Market capitalization on Dec 31, EUR million [2]	2,198	2,041	1,979	2,024	1,502
NUMBER OF SHARES AND SHARE CAPITAL					
Average number of shares, basic (1,000) [2]	153,320	153,092	152,879	152,630	152,484
Average number of shares, diluted (1,000) [2]	154,261	153,785	153,373	153,071	152,768
Number of shares on Dec 31, basic (1,000) [2]	153,352	153,127	152,924	152,649	152,510
Number of shares on Dec 31, diluted (1,000) [2]	154,894	154,068	153,744	153,385	152,927
Increase (+) / decrease (-) in number of shares outstanding (1,000)	225	203	275	139	156
Share capital, EUR million	221.8	221.8	221.8	221.8	221.8

1) 12-month rolling average
2) Number of shares outstanding, excluding the number of treasury shares.
3) The dividend for 2022 is the Board of Directors' proposal to the Annual General Meeting.
4) Shares traded in Nasdaq Helsinki only

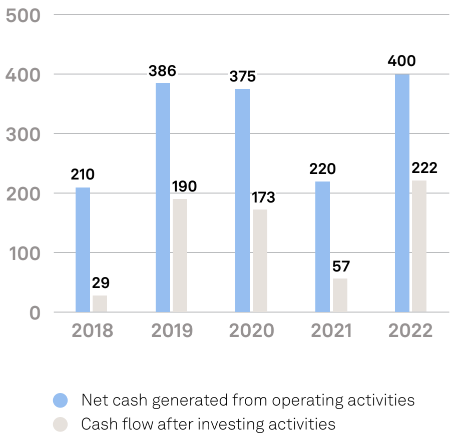
REVENUE BY GEOGRAPHICAL AREAS



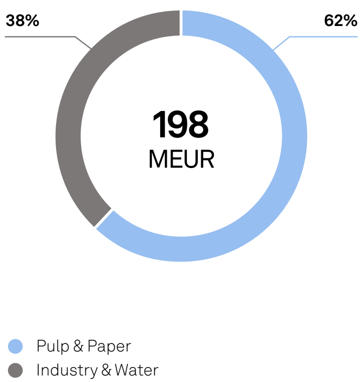
OPERATING EXPENSES



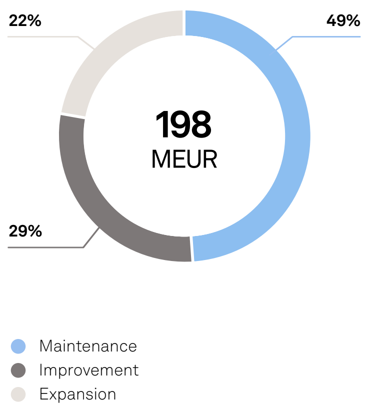
CASH FLOW
EUR MILLION



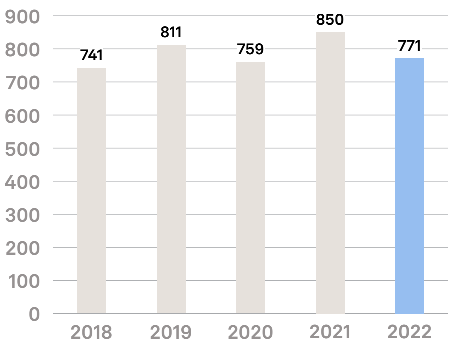
CAPITAL EXPENDITURE BY SEGMENT EXCLUDING ACQUISITIONS



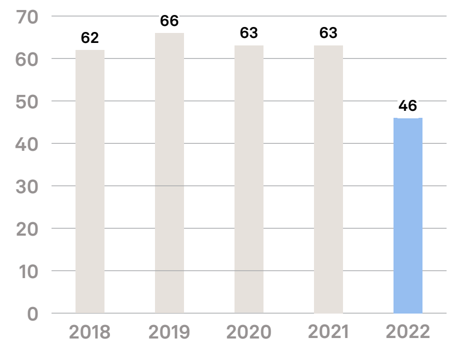
CAPITAL EXPENDITURE EXCLUDING ACQUISITIONS



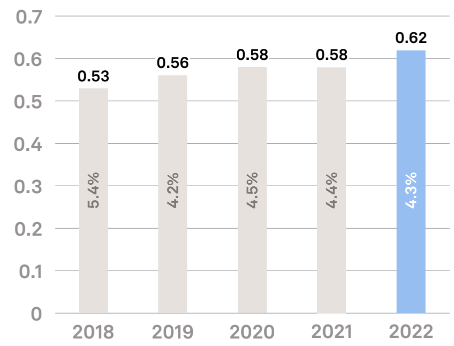
INTEREST-BEARING NET LIABILITIES
EUR MILLION



GEARING
%

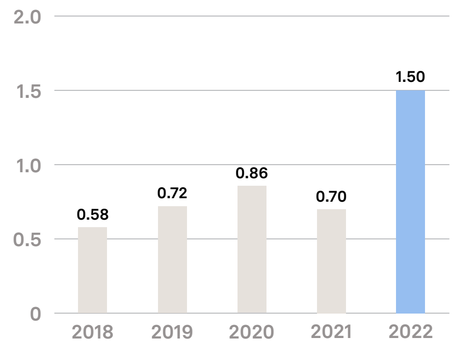


DIVIDEND PER SHARE, EUR AND DIVIDEND YIELD, %*



*The dividend for 2022 is the Board of Directors' proposal to the Annual General Meeting.

EARNINGS PER SHARE, DILUTED
EUR



Definition of key figures

FINANCIAL FIGURES

KEY FIGURES		DEFINITION OF KEY FIGURES	PURPOSE OF KEY FIGURES
EBITDA	=	Operating profit (EBIT) + depreciation and amortization + impairments	EBITDA describes the profitability of a business when depreciation, amortization and impairments are added to EBIT. The key figure is used to monitor the development of business results.
OPERATIVE EBITDA	=	Operating profit (EBIT) + depreciation and amortization + impairments +/- items affecting comparability	Operative EBITDA describes the profitability of a business when depreciation, amortization and impairments are added to EBIT. The key figure is used to monitor the development of business results. The key figure is calculated by adjusting the items affecting from EBITDA, which improves the comparability of operating profitability between different periods.
ITEMS AFFECTING COMPARABILITY [1]	=	Restructuring and streamlining programs + transaction and integration expenses in acquisitions + divestment of businesses and other disposals + other items	Used as a component in the calculation of operative EBITDA and operative EBIT.
EBIT	=	Revenue + other operating income - operating expenses - depreciation and amortization - impairments + share of the results of associates	EBIT is used to monitor the development of business results. The key figure describes the profitability of the business before financial items and taxes.
OPERATIVE EBIT	=	Operating profit (EBIT) +/- items affecting comparability	Operative EBIT is used to monitor the development of business results. The key figure describes the profitability of the business before financial items and taxes. The key figure is calculated by adjusting the items affecting operating comparability from operating profit, which improves the comparability of operating profitability between different periods.
INTEREST-BEARING NET LIABILITIES	=	Interest-bearing liabilities - cash and cash equivalents	Interest-bearing liabilities is used to monitor the Group's gearing.
EQUITY RATIO (%)	= 100 x	Total equity ――― Total assets - prepayments received	Equity ratio (%) indicates what proportion of the assets is covered by equity.
GEARING (%)	= 100 x	Interest-bearing net liabilities ――― Total equity	Gearing (%) measures the ratio of interest-bearing net liabilities to equity.
RETURN ON INVESTMENTS (ROI) (%)	= 100 x	Profit before tax + interest expenses + other financial expenses ――― Total assets - non-interest-bearing liabilities [2]	Return on investment (%) measures how efficiently invested capital is used.

KEY FIGURES		DEFINITION OF KEY FIGURES	PURPOSE OF KEY FIGURES
RETURN ON EQUITY (ROE) (%)	= 100 x	Net profit attributable to equity owners of the parent company / Equity attributable to equity owners of the parent company [2]	Return on equity (%) is used to measure how effectively the equity owned by the owners of the parent company is used.
RETURN ON CAPITAL EMPLOYED (ROCE) (%)	= 100 x	Operating profit (EBIT) [3] / Capital employed [4]	Return on capital employed (%) is used to measure how efficiently capital is employed.
OPERATIVE RETURN ON CAPITAL EMPLOYED (OPERATIVE ROCE) (%)	= 100 x	Operating profit (EBIT) [3] / Capital employed [4]	Operative return on capital employed (%) is used to measure how efficiently capital is employed.
CASH FLOW AFTER INVESTING ACTIVITIES	=	Net cash generated from operating activities + net cash used in investing activities	Cash flow after investments is a key figure that describes the cash flow from operating activities after investments. This is free cash flow that remains, for example, in the payment of dividends and liabilities.
INTEREST-BEARING NET LIABILITIES / EBITDA	=	Interest-bearing net liabilities / Operating profit (EBIT) + depreciation and amortization + impairments	Interest-bearing net liabilities / EBITDA ratio measures the Group's capital structure. The key figure describes how long it would take to pay interest-bearing net liabilities at the current level of profitability if the EBITDA in its entirety were used to repay the debt.
NET FINANCIAL COST (%)	= 100 x	Finance costs, net - dividend income +/- exchange rate differences / Interest-bearing net liabilities [2]	Net financial cost (%) describes the financial expense structure and the key figure can be compared to the existing average interest rate level.
NET WORKING CAPITAL	=	Inventories + trade receivables + other receivables, excluding derivatives, accrued interest income and other financing items - trade payables - other liabilities, excluding derivatives, accrued interest expenses and other financing items	Net working capital is the amount of capital tied up in business operations. It describes the amount of cash needed to run the Group's day-to-day operations.
CAPITAL EMPLOYED	=	Property, plant and equipment + right-of-use assets + intangible assets + net working capital + investments in associates	Capital employed describes the capital committed to the Group's operations (e.g. production facilities), which is a premise for the manufacture of the Group's products for sale. Restricted capital is used as a component in calculating the return on capital employed.
CAPITAL EXPENDITURE	=	Property, plant and equipment + intangible assets + other shares + investments in associates	Investments excluding acquisitions are cash used on the acquisition of non-current assets. The key figure is part of the cash flow statement.
CAPITAL EXPENDITURE EXCL. ACQUISITIONS	=	Property, plant and equipment + intangible assets + other shares + investments in associates - acquisitions	Investments excluding acquisitions are cash used on the acquisition of non-current assets, excluding acquisitions. The key figure is part of the cash flow statement.

KEY FIGURES		DEFINITION OF KEY FIGURES	PURPOSE OF KEY FIGURES
ORGANIC GROWTH (%)	=	Revenue growth in local currencies, excluding acquisitions and divestments	Organic growth describes revenue growth in local currencies excluding acquisitions and divestments.
INTRINSIC VALUE	=	Operative EBITDA x 8 - interest-bearing net liabilities	Intrinsic value is used as a remuneration criteria in the Group's share-based payments incentive plans.

1) Financial performance measures which are not defined by IFRS may include items of income and expenses that affect the comparability of the financial reporting of Kemira Group. Restructuring and streamlining programs, transaction and integration expenses in acquisitions, divestments of businesses and other disposals are considered the most common items affecting comparability.

2) Average

3) Operating profit (EBIT) taken into account for 12-month rolling figure at the end of the review period.

4) 12-month rolling average

PER SHARE FIGURES

KEY FIGURES		DEFINITION OF KEY FIGURES
EARNINGS PER SHARE (EPS)	=	Net profit attributable to equity owners of the parent company / Average number of shares
NET CASH GENERATED FROM OPERATING ACTIVITIES PER SHARE	=	Net cash generated from operating activities / Average number of shares
DIVIDEND PER SHARE	=	Dividend paid / Number of shares on Dec 31
DIVIDEND PAYOUT RATIO (%)	= 100 x	Dividend per share / Earnings per share (EPS), basic
DIVIDEND YIELD (%)	= 100 x	Dividend per share / Share price on Dec 31
EQUITY PER SHARE	=	Equity attributable to equity owners of the parent company on Dec 31 / Number of shares on Dec 31

KEY FIGURES		DEFINITION OF KEY FIGURES
SHARE PRICE, YEAR AVERAGE	=	Shares traded (EUR) / Shares traded (volume)
PRICE PER EARNINGS PER SHARE (P/E)	=	Share price on Dec 31 / Earnings per share (EPS), basic
PRICE PER EQUITY PER SHARE	=	Share price on Dec 31 / Equity per share attributable to equity owners of the parent company
PRICE PER NET CASH GENERATED FROM OPERATING ACTIVITIES PER SHARE	=	Share price on Dec 31 / Net cash generated from operating activities per share
SHARE TURNOVER (%)	= 100 x	Number of shares traded in main stock exchange / Average number of shares

Reconciliation to IFRS figures

EUR million	1–3	4–6	7–9	10–12	2022 Total	1–3	4–6	7–9	10–12	2021 Total
ITEMS AFFECTING COMPARABILITY IN EBITDA AND EBIT										
Operative EBITDA										
Pulp & Paper	71.3	73.6	92.3	110.9	348.0	62.9	57.8	63.5	60.5	244.7
Industry & Water	48.8	48.5	60.3	66.1	223.7	41.7	49.5	52.3	37.3	180.8
Total	120.0	122.1	152.5	177.0	571.6	104.6	107.3	115.9	97.8	425.5
Total items affecting comparability	-6.5	1.2	-15.3	7.8	-12.8	-1.6	-16.2	-6.3	-28.3	-52.4
EBITDA	113.5	123.2	137.3	184.8	558.8	103.0	91.1	109.5	69.5	373.2
Operative EBIT										
Pulp & Paper	40.7	42.8	61.8	80.3	225.7	33.2	28.1	32.5	30.4	124.3
Industry & Water	28.2	26.9	37.7	43.1	135.9	22.5	30.1	31.9	16.6	101.2
Total	68.9	69.7	99.5	123.4	361.6	55.7	58.2	64.5	47.0	225.4
Total items affecting comparability	-6.7	-0.7	-15.0	8.4	-14.0	-1.6	-16.3	-8.0	-29.5	-55.4
EBIT	62.2	69.1	84.5	131.8	347.6	54.2	41.9	56.4	17.5	170.1
Operative EBITDA	120.0	122.1	152.5	177.0	571.6	104.6	107.3	115.9	97.8	425.5
Restructuring and streamlining programs	-3.1	0.1	0.1	-1.6	-4.5	-1.4	-4.7	-6.2	-0.1	-12.3
Transaction and integration expenses in acquisition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
Divestment of businesses and other disposals	0.0	2.0	-15.6	8.9	-4.6	-0.2	0.0	0.0	-28.1	-28.3
Other items	-3.5	-0.9	0.3	0.5	-3.6	0.0	-11.5	-0.1	0.0	-11.6
Total items affecting comparability	-6.5	1.2	-15.3	7.8	-12.8	-1.6	-16.2	-6.3	-28.3	-52.4
EBITDA	113.5	123.2	137.3	184.8	558.8	103.0	91.1	109.5	69.5	373.2
Operative EBIT	68.9	69.7	99.5	123.4	361.6	55.7	58.2	64.5	47.0	225.4
Total items affecting comparability in EBITDA	-6.5	1.2	-15.3	7.8	-12.8	-1.6	-16.2	-6.3	-28.3	-52.4
Items affecting comparability in depreciation, amortization and impairments	-0.1	-1.9	0.3	0.6	-1.2	0.0	-0.1	-1.7	-1.2	-3.0
Operating profit (EBIT)	62.2	69.1	84.5	131.8	347.6	54.2	41.9	56.4	17.5	170.1

EUR million	1–3	4–6	7–9	10–12	2022 Total	1–3	4–6	7–9	10–12	2021 Total
ROCE AND OPERATIVE ROCE										
Operative EBIT	68.9	69.7	99.5	123.4	361.6	55.7	58.2	64.5	47.0	225.4
Operating profit (EBIT)	62.2	69.1	84.5	131.8	347.6	54.2	41.9	56.4	17.5	170.1
Capital employed [1]	2,045.4	2,113.6	2,194.9	2,238.0	2,238.0	1,958.8	1,956.1	1,966.7	1,995.0	1,995.0
Operative ROCE, %	11.7	11.8	13.0	16.2	16.2	11.9	11.9	12.0	11.3	11.3
ROCE, %	8.7	9.7	10.6	15.5	15.5	10.7	10.0	9.8	8.5	8.5
NET WORKING CAPITAL										
Inventories	408.0	490.6	474.1	433.7	433.7	268.8	280.6	324.3	352.1	352.1
Trade receivables and other receivables	530.5	620.4	701.4	603.7	603.7	378.0	406.8	430.7	475.2	475.2
Excluding financing items in other receivables	-30.4	-78.6	-105.9	-71.1	-71.1	-9.9	-13.6	-29.1	-35.4	-35.4
Trade payables and other liabilities	624.5	647.5	684.8	635.2	635.2	505.0	451.8	510.4	538.3	538.3
Excluding financing items in other liabilities	-123.1	-82.7	-82.1	-31.4	-31.4	-121.9	-70.0	-72.3	-33.5	-33.5
Net working capital	406.7	467.6	466.9	362.4	362.4	253.8	292.0	287.8	287.2	287.2
INTEREST-BEARING NET LIABILITIES										
Non-current interest-bearing liabilities	795.5	811.2	814.3	838.1	838.1	819.1	773.4	778.3	776.9	776.9
Current interest-bearing liabilities	258.8	295.1	266.1	183.7	183.7	160.8	203.1	206.2	215.3	215.3
Interest-bearing liabilities	1,054.4	1,106.3	1,080.4	1,021.8	1,021.8	979.9	976.6	984.5	992.2	992.2
Cash and cash equivalents	154.5	147.3	173.9	250.6	250.6	203.0	145.3	184.4	142.4	142.4
Interest-bearing net liabilities	899.8	959.0	906.4	771.2	771.2	776.9	831.3	800.1	849.8	849.8

1) 12-month rolling average

Quarterly Earning Performance

EUR million	1–3	4–6	7–9	10–12	2022 Total	1–3	4–6	7–9	10–12	2021 Total
Revenue										
Pulp & Paper	446.5	487.6	537.3	556.2	2,027.7	369.5	378.4	391.3	420.4	1,559.6
Industry & Water	321.5	373.8	434.6	412.0	1,541.9	236.6	279.1	301.4	297.8	1,114.8
Total	768.1	861.4	971.9	968.2	3,569.6	606.1	657.5	692.7	718.2	2,674.4
EBITDA [1]										
Pulp & Paper	66.4	74.9	77.2	118.1	336.6	62.2	42.2	62.3	31.6	198.3
Industry & Water	47.1	48.4	60.1	66.7	222.2	40.8	48.9	47.3	37.9	174.9
Total	113.5	123.2	137.3	184.8	558.8	103.0	91.1	109.5	69.5	373.2
EBIT [1]										
Pulp & Paper	35.7	42.3	47.0	88.1	213.1	32.4	12.4	31.2	1.6	77.7
Industry & Water	26.5	26.8	37.5	43.7	134.5	21.7	29.5	25.2	16.0	92.4
Total	62.2	69.1	84.5	131.8	347.6	54.2	41.9	56.4	17.5	170.1
Finance costs, net	-7.9	-8.9	-7.4	-15.3	-39.4	-1.6	-8.5	-7.8	-8.9	-26.7
Profit before tax	54.4	60.2	77.1	116.5	308.2	52.6	33.4	48.7	8.7	143.3
Income taxes	-12.1	-13.3	-16.9	-26.3	-68.5	-11.8	-8.5	-9.1	1.2	-28.2
Net profit for the period	42.2	46.9	60.3	90.3	239.7	40.8	24.9	39.6	9.8	115.2
Net profit attributable to										
Equity owners of the parent	40.6	45.0	57.9	88.2	231.7	39.0	23.0	37.7	8.3	108.1
Non-controlling interests	1.7	2.0	2.4	2.1	8.0	1.8	1.9	1.9	1.5	7.1
Net profit for the period	42.2	46.9	60.3	90.3	239.7	40.8	24.9	39.6	9.8	115.2
Earning per share, basic, EUR	0.26	0.29	0.38	0.58	1.51	0.25	0.15	0.25	0.05	0.71
Earning per share, diluted, EUR	0.26	0.29	0.38	0.57	1.50	0.25	0.15	0.25	0.05	0.70

1) Includes items affecting comparability.

Shares and shareholders

SHARES AND SHARE CAPITAL

On December 31, 2022, Kemira Oyj's share capital amounted to EUR 221.8 million and the number of shares was 155,342,557. Each share entitles the holder to one vote at the Annual General Meeting.

SHAREHOLDERS

At the end of December 2022, Kemira Oyj had 48,403 registered shareholders (49,484 on December 31, 2021). Non-Finnish shareholders held 31.5% of the shares (28.4% on December 31, 2021), including nominee-registered holdings. Households owned 19.3% of the shares (19.8% on December 31, 2021). Kemira held 1,990,197 treasury shares (2,215,073 on December 31, 2021), representing 1.3% (1.4% on December 31, 2021) of all company shares.

A list of Kemira's largest shareholders is updated monthly and can be found on the company website at **kemira.com/investors**.

LISTING AND TRADING

Kemira Oyj's shares are listed on Nasdaq Helsinki. The trading code for the shares is KEMIRA and the ISIN code is FI0009004824.

Kemira Oyj's share price increased by 8% during the year and closed at EUR 14.33 on the Nasdaq Helsinki at the end of December 2022 (13.33 on December 31, 2021). The shares registered a high of EUR 14.94 and a low of EUR 10.36 in January-December 2022, and the average share price was EUR 12.57. The company's market capitalization, excluding treasury shares, was EUR 2,198 million at the end of December 2022 (2,041 December 31, 2021).

In January-December 2022, Kemira Oyj's share trading turnover on the Nasdaq Helsinki was EUR 462 million (EUR 787 million in January-December 2021). The average daily trading volume was 146,311 shares (228,087 in January-December 2021). The total volume of Kemira Oyj's share trading in January-December 2022 was 49 million shares (72 million shares in January-December 2021), 25% (20% in January-December 2021) of which was executed on other trading platforms (e.g. Turquoise, CBOE DXE). Source: Nasdaq and Kemira.com.

Up-to-date information on Kemira's share price is available on the company's website at **kemira.com/investors**.

DIVIDEND POLICY AND DIVIDEND DISTRIBUTION

On December 31, 2022, Kemira Oyj's distributable funds totaled EUR 702,802,752 of which net profit for the period was EUR 314,734,444. No material changes have taken place in the company's financial position after the balance sheet date.

Kemira Oyj's Board of Directors proposes to the Annual General Meeting to be held on March 22, 2023 that a dividend of EUR 0.62 per share, totaling EUR 95 million, be paid on the basis of the adopted balance sheet for the financial year that ended on December 31, 2022. The dividend will be paid in two installments. The first installment, of EUR 0.31 per share, will be paid to shareholders who are registered in the company's shareholder register maintained by Euroclear Finland Oy on the record date for the dividend payment: March 24, 2023. The Board of Directors proposes that the first installment of the dividend be paid out on April 5, 2023. The second installment, of EUR 0.31 per share, will be paid in November 2023. The second installment will be paid to shareholders who are registered in the company's shareholder register maintained by Euroclear Finland Oy on the record date for the dividend payment. The Board of Directors will decide the record date and the payment date for the second installment at its meeting in October 2023. The record date is planned to be October 26, 2023, and the dividend payment date November 2, 2023 at the earliest.

Kemira's dividend policy is to pay a competitive dividend that increases over time.

BOARD AUTHORIZATIONS

The Annual General Meeting on March 24, 2022 authorized the Board of Directors to decide upon repurchase of a maximum of 5,800,000 company's own shares (“Share repurchases authorization”). This corresponds to approximately 3.7% of all shares and votes in the company. Shares will be repurchased by using unrestricted equity either through a tender offer with equal terms to all shareholders at a price determined by the Board of Directors or otherwise than in proportion to the existing shareholdings of the company’s shareholders in public trading on the Nasdaq Helsinki Ltd (the “Helsinki Stock Exchange”) at the market price quoted at the time of the repurchase. The price paid for the shares repurchased through a tender offer under the authorization shall be based on the market price of the company’s shares in public trading. The minimum price to be paid would be the lowest market price of the share quoted in public trading during the authorization period and the maximum price the highest market price quoted during the authorization period.

Shares shall be acquired and paid for in accordance with the Rules of the Helsinki Stock Exchange and Euroclear Finland Ltd. Shares may be repurchased to be used in implementing or financing mergers and acquisitions, developing the company’s capital structure, improving the liquidity of the company’s shares or to be used for the payment of the annual fee payable to the members of the Board of Directors or implementing the company’s share-based incentive plans. In order to realize the aforementioned purposes, the shares acquired may be retained, transferred further or cancelled by the company. The Board of Directors will decide upon other terms related to share repurchases. The share repurchase authorization is valid until the end of the next Annual General Meeting. The Board had not exercised its authorization by December 31, 2022.

The AGM authorized the Board of Directors to decide to issue a maximum of 15,600,000 new shares (corresponding to approximately 10% of company's all shares and votes) and/or transfer a maximum of 7,800,000 company's own shares (corresponding to approximately 5% of company's all shares and votes) held by the company (“Share issue authorization”). The new shares may be issued and the company’s own shares held by the company may be transferred either for consideration or without consideration. The new shares may be issued and the company's own shares held by the company may be transferred to the company’s shareholders in proportion to their current shareholdings in the company, or by displaying the shareholders’ pre-emption right, through a directed share issue, if the company has a weighty financial reason to do so, such as financing or implementing mergers and acquisitions, developing the capital structure of the company, improving the liquidity of the company’s shares or if this is justified for the payment of the annual fee payable to the members of the Board of Directors or implementing the company’s share-based incentive plans. The directed share issue may be carried out without consideration only in connection with the implementation of the company’s share-based incentive plan. The subscription price of new shares shall be recorded to the invested unrestricted equity reserves. The consideration payable for company's own shares shall be recorded to the invested unrestricted equity reserves. The Board of Directors will decide upon other terms related to the share issues. The share issue authorization is valid until May 31, 2023. The share issue authorization has been used and shares owned by the Group were conveyed to members of the Board and key employees in connection with the remuneration.

MANAGEMENT SHAREHOLDING

The members of the Board of Directors as well as the President and CEO and his Deputy held 330,988 (518,636) Kemira Oyj shares on December 31, 2022 or 0.21% (0.33%) of all outstanding shares and voting rights (including treasury shares and shares held by the related parties and controlled corporations). Jari Rosendal, President and CEO, held 169,069 shares (140,800) on December 31, 2022. Members of the Management Board, excluding the President and CEO and his Deputy, held a total of 237,515 shares on December 31, 2022 (223,111), representing 0.15% (0.14%) of all outstanding shares and voting rights (including treasury shares and shares held by the related parties and controlled corporations). Up-to-date information regarding the shareholdings of the Board of Directors and Management is available on Kemira’s website at **kemira.com/investors**.

LARGEST SHAREHOLDERS DEC 31, 2022

	Shareholder	Number of shares	% of shares and votes
1	Oras Invest Ltd	32,000,000	20.6
2	Solidium Oy	15,782,765	10.2
3	Ilmarinen Mutual Pension Insurance Company	3,750,000	2.4
4	Varma Mutual Pension Insurance Company	3,522,678	2.3
5	Nordea Funds	3,497,587	2.3
6	Elo Mutual Pension Insurance Company	1,949,000	1.3
7	Etola Group Oy	1,000,000	0.6
8	Veritas Pension Insurance Company Ltd.	951,757	0.6
9	Laakkonen Mikko Kalervo	770,000	0.5
10	Nordea Life Assurance Finland Ltd.	734,810	0.5
11	The State Pension Funds	560,000	0.4
12	Paasikivi Pekka Johannes	462,000	0.3
13	Valio Pension Fund	379,450	0.2
14	OP-Henkivakuutus Ltd.	359,022	0.2
15	Jenny and Antti Wihuri Foundation	311,250	0.2
	Kemira Oyj	1,990,197	1.3
	Nominee registered and foreign shareholders	48,885,051	31.5
	Others, Total	40,940,089	26.4
	Total	**155,342,557**	**100.0**

SHAREHOLDINGS BY NUMBER OF SHARES HELD ON DEC 31, 2022

Number of shares	Number of shareholders	% of shareholders	Shares total	% of shares and votes
1–100	17,665	36.5	882,162	0.6
101–500	18,186	37.6	4,841,457	3.1
501–1,000	5,993	12.4	4,608,730	3.0
1,001–5,000	5,511	11.4	11,476,086	7.4
5,001–10,000	601	1.2	4,313,601	2.8
10,001–50,000	361	0.7	6,869,670	4.4
50,001–100,000	39	0.1	2,854,485	1.8
100,001–500,000	31	0.1	5,749,926	3.7
500,001–1,000,000	7	0.0	5,262,078	3.4
1,000,001–	9	0.0	108,484,362	69.8
Total	**48,403**	**100.0**	**155,342,557**	**100.0**

Information for investors

FINANCIAL REPORTS IN 2023

Kemira will publish three financial reports in 2023.

April 25, 2023: Interim report for January–March
July 18, 2023: Half-year financial report for January–June
October 24, 2023: Interim report for January–September

The financial reports and related presentation material are available on Kemira's website at **kemira.com/investors**. Furthermore, Kemira's stock exchange and press releases, Annual Reports (incl. Corporate Responsibility Report and Financial Statements) and other investor information are also available on the website. On the site, visitors can register to receive releases by e-mail and order the company's Financial Statements.

INVESTOR COMMUNICATIONS

The purpose of Kemira's investor communications is to provide capital markets with open and reliable information on the company and its operating environment in order to give market participants a factual overview of Kemira as an investment.

Kemira's investor communications aims to ensure that everyone operating in the markets has equal access to sufficient and correct information concerning the company, and to ensure that information is disclosed consistently and without delay.

Kemira Oyj is domiciled in Helsinki, Finland, and the company's shares are listed on Nasdaq Helsinki. Kemira Oyj complies with the laws of Finland and the regulations of Nasdaq Helsinki and Finland's Financial Supervisory Authority.

SILENT PERIOD

Kemira observes a silent period before issuing financial statements or interim reports. During the period, Kemira's representatives do not comment on Kemira's financial statements or interim reports for the ongoing reporting period the specific silent period relates to. The schedule for the silent period and publication of financial information and closed periods is displayed on Kemira's website under Investors > Investor Calendar. Kemira's Investor Relations function is responsible for keeping the calendar up-to-date.

ANNUAL GENERAL MEETING

Kemira's Annual General Meeting will be held on Wednesday, March 22, 2023 at 1.00 p.m. EET at Marina Congress Center, Katajanokanlaituri 6, Helsinki, Finland. Shareholders who on the record date of the Annual General Meeting, March 10, 2023, are registered in the company's shareholders' register maintained by Euroclear Finland Ltd, are entitled to attend in the Annual General Meeting and exercise their rights as shareholders by voting in advance. Registered shareholders who are not attending the meeting in person, have the possibility to follow the Annual General Meeting via a live webcast, which is not deemed as official participation.

Registration for the Annual General Meeting will begin on February 21, 2023 and invitation and registration instructions have been published on February 10, 2023 as a stock exchange release and at Kemira's web site at **kemira.com/agm2023**.

Kemira will release a stock exchange release on the Annual General Meeting's decisions immediately after the meeting.

DIVIDEND DISTRIBUTION

For dividend proposal, please see page 232.

CHANGE OF ADDRESS

Kemira's shareholders are kindly requested to report any change of address to the bank or brokerage firm in which they have their book-entry account. This will also update information in registers, maintained by Euroclear Finland Ltd, which Kemira uses to send mail to its shareholders.

INVESTOR RELATIONS

Mikko Pohjala, Vice President, Investor Relations
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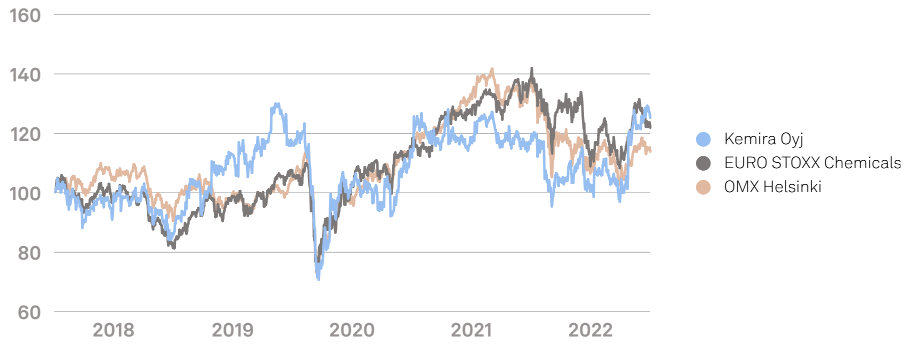
mikko.pohjala@kemira.com

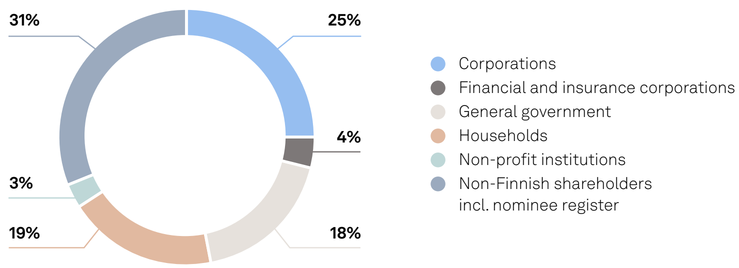
BASIC SHARE INFORMATION

Listed on: Nasdaq Helsinki Ltd
Trading code: KEMIRA
ISIN code: FI0009004824
Industry group: Materials
Industry: Chemicals
Number of shares on December 31, 2022: 155,342,557
Listing date: November 10, 1994

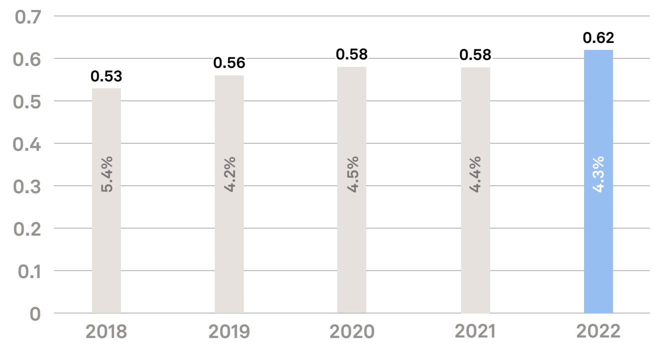
SHARE PRICE 2018–2022



OWNERSHIP DECEMBER 31, 2022

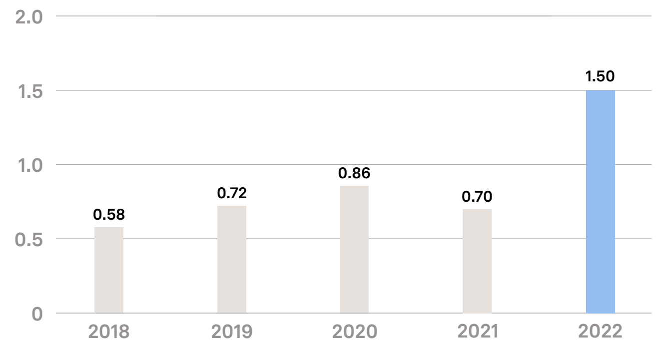


DIVIDEND PER SHARE, EUR AND DIVIDEND YIELD, %*



*The dividend for 2022 is the Board of Directors' proposal to the Annual General Meeting.

EARNINGS PER SHARE, DILUTED EUR



KEMIRA s a global leader in sustainable chemical solutions for water-intensive industries. We provide the best-suited products and services to improve our customers' product quality, process, and resource efficiency. Our focus is on pulp & paper, water treatment, and energy sectors. In 2022, Kemira had annual revenue of around 3.6 billion and around 5,000 employees. Kemira shares are listed on the Nasdaq Helsinki Ltd.

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