Kemira

Report 2017

kemira

Adding to your everyday

At Kemira, we use our chemistry to improve your everyday. It means making your packaging lighter and stronger, your paper towels softer, and your colors brighter. We make your drinking water safe, your wastewater clean, and by adding our chemistry, you get more out of energy resources.

By adding our expertise, your everyday business runs smoother and more efficiently. You add a committed partner who innovates together with you and creates solutions for a profitable, sustainable future. Our job is to add value while adding peace of mind. We call it adding to your everyday.

THE KEMIRA ANNUAL REPORT 2017 consists of four modules: Business Overview, GRI Disclosures, Corporate Governance Statement, and Financial Statements. This interactive PDF version of the Annual Report has been enhanced with a 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.

BUSINESS OVERVIEW

CORPORATE GOVERNANCE STATEMENT

GRI DISCLOSURES

FINANCIAL STATEMENTS

All forward-looking statements in this report 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.

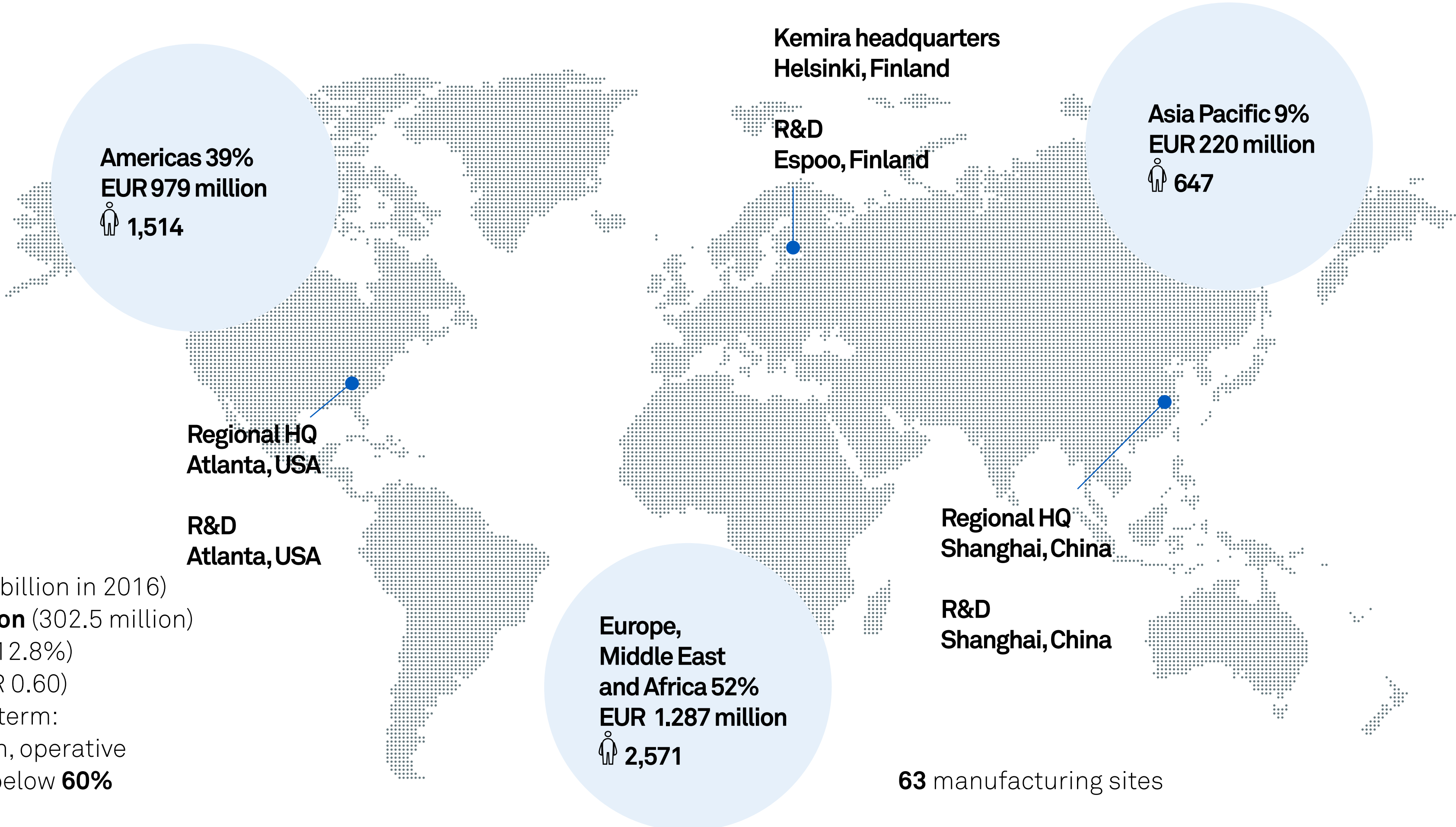
www.kemira.com

kemira

Business Overview 2017

The first choice in chemistry for water intensive industries

Kemira is a global chemicals company serving customers in water intensive industries. We provide expertise, application know-how and chemicals that improve our customers' product quality, process and resource efficiency. Our focus is on pulp & paper, oil & gas and water treatment. Kemira shares are listed in the Nasdaq Helsinki Ltd.



Revenue **EUR 2.5 billion** (EUR 2.4 billion in 2016)
Operative EBITDA **EUR 311.3 million** (302.5 million)
Operative EBITDA margin **12.5%** (12.8%)
Earnings per share **EUR 0.52** (EUR 0.60)
Financial targets on mid- to long-term:
Above-the-market revenue growth, operative EBITDA margin **14–16%**, gearing below **60%**

Performance 2017

Revenue 2017:
EUR **2,486** million
2016: 2,363

Operative EBITDA 2017:
EUR **311** million
12.5%
2016: 303 million
12.8%

Occupational health and safety
Target 2020: 2.0
2017: **3.9**
2016: 3.4

Innovation sales of total revenue
Target 2017: 10%
2017: **10%**
2016: 9%

Climate change:
Kemira Carbon Index
Target 2020: 80
2017: **85**
2016: 86

Leadership development
Two (2) leadership development activities per people manager position during 2016–2020
Target 2020: 1,500
2017: **1,036**
2016: 494

Business model

Inputs

Equity:
EUR 1,173 million

Interest-bearing liabilities:
EUR 861 million

Cash:
EUR 166 million

Legal entities in 40 countries, 63 manufacturing sites

Key relationships:
customers, suppliers, distributors & agents, industrial partners for secondary raw materials

4,732 professionals worldwide

244 R&D experts in 3 centers

1,525 patents

Total materials purchased:
- 3.5 million tonnes, 23% recycled
- Total energy purchased 4,875 GWh

Business Activities

Sustainable products and solutions:
- Unique strategy based on expertise, application knowhow and chemicals for customers in water intensive industries.
- Enabling our customers to improve their water, energy and raw material efficiency
- Product stewardship: Ensuring safety of our products

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

People and integrity
- Compliance to Kemira Code of Conduct
- Employee engagement
- Leadership development

Outputs

Sustainable products and solutions, market position
- Polyacrylamide polymers #2
- Coagulants #1
- Sizing #1
- Chlorate & peroxides #2

Revenue received from customers
- EUR 2,486 million

Services
- Technical expertice, incl application support and total chemistry management
- Process control & monitoring

Emissions and waste
- Scope 1 + Scope 2 market-based (CO_2 eq.) = 953,000 tonnes
- Total waste disposal 110,000 tonnes

Outcomes

Customers
- Product quality, product yield optimization, and minimizing environmental impacts
- Process and energy efficiency
- Water quality and regulatory compliance
- Customer Net Promoter Score 30 (2016: 28; industry average 26). Target 2020: 40.

Society
- Purified water, suitable for reuse
- Sustainable use of biobased materials: recycled fibers
- Less water and energy used in industrial processes
- More efficient extraction and use of non-renewable resources: oil, minerals and water
- Income taxes paid: EUR 24.7 million

Shareholders & lenders
- EUR 113 million paid in dividends and interests in 2017

CEO Statement

Growth investments and efficiency measures starting to bear fruit

The year 2017 was marked by revenue growth driven mainly by the uptake in the oil and gas markets, investments in new capacity, and operational efficiency measures that started to bear fruit.

Markets remained volatile with currencies being a headwind on revenue and higher raw material prices putting pressure on profitability. Despite these turbulent circumstances we were able to deliver solid financial performance and achieved our outlook for 2017.

Continued growth in 2017

Our full-year revenue amounted close to EUR 2.5 billion with organic growth of 6% which is a good achievement. We improved our operative EBITDA to EUR 311 million according to our outlook given in February 2017, and achieved an operative EBITDA margin of 12.5%. Our oil & gas business was the main driver for our revenue growth as especially demand for polymers used in North American shale oil & gas industry increased significantly. We also had solid volume growth in our pulp & paper and water treatment businesses.

In 2017, we consolidated our organization into two segments: Pulp & Paper and Industry & Water. Our operational excellence program BOOST advanced both in Europe and North America, and we opened new production lines in Nanjing, China, and in Joutseno, Finland, to serve the growing pulp and paper industry. To accelerate our profitable growth in the Asia-Pacific (APAC) region, we signed an agreement to form a new joint venture in China which will secure the supply of a key raw material for AKD wax, and strengthen further our position in the pulp & paper sizing chemicals market. We also announced an investment of EUR 30 million in polymer technology for Chemical Enhanced Oil Recovery (CEOR) on the basis of an anticipated uptake in customer demand. Looking forward, we continue the execution of our strategy with the goal of delivering revenue growth above-the-market with an operative EBITDA margin of 14–16%.

Building blocks for the future

Kemira is well positioned in terms of megatrends that drive our strategy – we add value to our customers through expertise and chemicals that improve their product quality, process and resource efficiency. Long-term drivers for Kemira's strategy and growth are related to recycling and

"Kemira has a strong foundation and good building blocks in place for the future."

JARI ROSENDAL
PRESIDENT AND CEO

the use of renewable materials, a growing middle-class and standards of living, e-commerce, regulation, and scarcity of resources. Increasing recycling requires chemistry to produce strong but light packaging materials. Urbanization, along with a growing middle-class and increased standards of living, impacts the use of water, energy, as well as board, tissue and paper, and there is a growing need to create more with less raw materials. Regulation is driving the water treatment requirements of our customers and we want to be their partner in creating more efficient, digital and sustainable water treatment solutions.

The increasing demand for low-carbon energy, through for example from sludge treatment to biogas, is an opportunity for Kemira. The need to better utilize the existing oil and gas reserves is offering new opportunity as Kemira's polymers can be used to prolong life of oil wells. E-commerce increases the need for packaging materials and Kemira is well-positioned in offering chemistry for lighter, stronger and more sustainable packages. Digitalization creates growth opportunities for us but also decreases the need for paper used in printing and writing. Our operating environment is also impacted by the continued raw material pricing volatility and this we need to mitigate in our operations.

Overall, the market is going in a direction that provides us with a continued opportunity to bring value to the market and to the end-customers, the everyday consumers. Through the bioeconomy, we have opportunities to diversify our raw material base, but also to offer chemicals and expertise which enable creating sustainable solutions for tomorrow in the value chains of our customer industries.

To summarize our strategy going forward: Kemira is aiming for profitable growth, while at the same time having a strict focus on improving and optimizing efficiency, and keeping prudent operating cost discipline. We aim to capture our future growth opportunities through several initiatives: new capacity expansions for pulp & paper chemicals, new Total Chemistry Management (TCM) contracts, using digital solutions in water treatment (Advanced Water Treatment), innovation developed in close cooperation with our customers and initiatives around oil sands and Chemical Enhanced Oil Recovery. We are especially seeking growth in the APAC region. I see that Kemira has a strong foundation and good building blocks in place for the future.

Corporate responsibility supporting our long-term value creation

Corporate responsibility is our contribution to sustainable development and it is at the core of what we do, e.g. our products are used to purify the equivalent of 320 million people's annual water usage. Our corporate responsibility work is guided by the increasing expectations of our customers, investors and other stakeholders, as well as by our own strategy and Code of Conduct, and internationally defined principles.

In 2017, we reviewed our corporate responsibility program to reflect the most important topics raised by our stakeholders and which relate to our overall value proposition and long-term risk profile. We focus the active management of corporate responsibility on three priorities which are: offering sustainable products and solutions, ensuring responsible operations and supply chain, and engaging people and fostering integrity.

We create sustainable value by innovating and improving product performance, by reducing the environmental footprint of our value chain, and by improving safety throughout product lifecycles. We reached the innovation sales target 10% by the end of 2017 (2016: 9%) and we launched 11 new products in 2017 (2016: 14). At the end of 2017, Kemira had 389 (348) patent families, 1,525 (1,236) granted patents, and 1017 (860) pending applications.

Despite our long-term efforts to enhance our health and safety culture, the safety performance did not improve

"Safety performance is included in everyone's bonus scorecards in Kemira."

JARI ROSENDAL
PRESIDENT AND CEO

in 2017, due to weaknesses in risk management and the implementation of some critical standards for safe working practices. The frequency of total recordable injuries (TRIF) per million work hours covering our employees and contractors working at Kemira sites increased to 3.9 (2016: 3.4). As a mitigation measure, we now focus our efforts on providing better support to the sites to implement safe working practices. Safety performance is also included in everyone's bonus scorecards in Kemira.

Our main environmental impact relates to the carbon emissions from our manufacturing. In 2017, we continued to invest in more energy efficient equipment and production lines through our E3Plus energy efficiency program. Our target is to reduce the Kemira Carbon Index by 20 percentage points by the end of 2020, compared to the baseline year 2012 (100). In 2017, the Kemira Carbon Index was 85 (2016: 86). We achieved a slight decrease in the carbon index compared to 2016 despite an approximately 7% production volume increase through the use of carbon neutral energy sources and the implementation of energy efficiency projects.

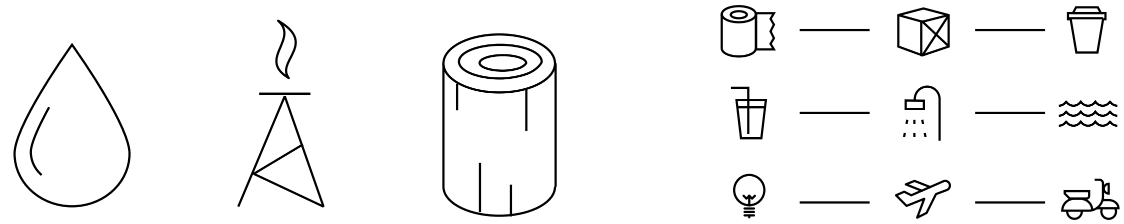
Number one globally

Kemira continues to be number one globally combined in bleaching, process and functional chemicals for the pulp and paper industry – and the market leader in chemical water treatment in Europe and North America. Kemira will turn 98 this year. During these near 100 years, we have gained extensive knowledge and technology and this allows us to serve our customers in pulp, paper, oil, gas and water treatment in the best possible way. Our goal is to be the most customer oriented company in the industry and we want to be the first choice in chemistry for our customers.

JARI ROSENDAL,
PRESIDENT AND CEO

OUR PURPOSE

We enable our customers to improve their water, energy and raw material efficiency



WHERE WATER MEETS CHEMISTRY™

GLOBAL TRENDS

Recycling and use of renewables leads to a need for more chemicals to e.g. make the board and paper strong again

E-commerce drives the need for packaging material

Growing middle class increases standards of living and urbanization leads to higher usage of water, energy, tissue, board and paper

Regulation increases the amount of water treatment

Scarcity of resources accelerates the need to produce more with less

OUR CUSTOMERS

Pulp & Paper
Water treatment
Oil & Gas

OUR OFFERING

We provide expertise, application knowhow and chemicals that improve our customers‘ product quality, process and resource efficiency.

OUR VISION

Our vision is to be the first choice in chemistry for water intensive industries

OUR STRATEGY

We aim to grow profitably through new product innovations and capacity expansions serving growing demand, as well as through selective acquisitions. Our target is to grow above-the-market with an operative EBITDA margin of 14–16%.

OUR VALUES

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

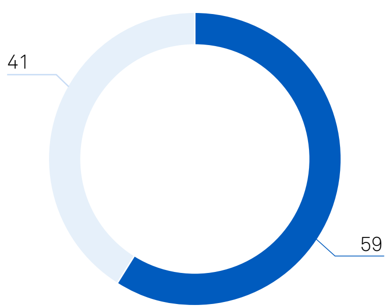
Kemira – where water meets chemistry

KEMIRA IS a global chemicals company, with revenue of around EUR 2.5 billion, serving customers in water-intensive industries. During 2017, we merged our previous Municipal & Industrial and Oil & Mining segments into one new segment, Industry & Water, to simplify the way of working and gain efficiencies.

In Pulp & Paper, we have unique expertise in applying chemicals and in helping pulp and paper producers to innovate and constantly improve their operational efficiency and environmental impacts. Kemira is the only company in the industry with a major global presence in pulp, packaging and paper chemicals. Thanks to an increased focus on this business, combined with strategic investments and selective acquisitions, we have been able to grow and become the global market leader.

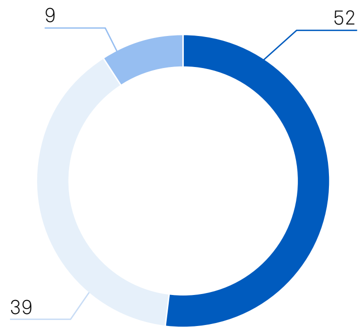
Industry & Water supports municipalities and water-intensive industries in the efficient and sustainable utilization of resources. In water treatment, we help in optimizing every stage of the water cycle. In oil and gas applications, our chemistries enable improved yield from existing reserves and reduced water and energy use.

Segment split %



- Pulp & Paper
  #1 globally
- Industry & Water
  #1 chemical water treatment in North America and Europe
  #1 in friction reducers used in shale in North America

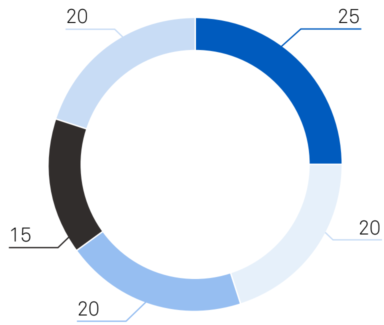
Geographies %



- **Europe**
  1. Finland, 2. Sweden, 3. Germany
- **Americas**
  1. USA, 2. Canada, 3. Brazil
- **APAC**
  1. China, 2. South-Korea 3. Indonesia

Products %

Revenue by product category rounded to the nearest 5%



- Bleaching and pulping
- Coagulants
- Polymers
- Sizing and strength
- Other: e.g. defoamers, dispersants, and biocides

8,000
Sold-to customers

16,000
Ship-to customers

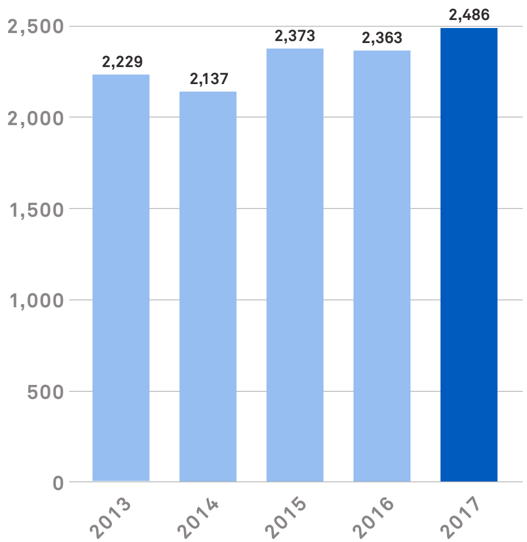
Revenue and operative EBITDA are on positive trend

KEMIRA HAS grown its revenue organically and with selective acquisitions to EUR 2.5 billion from EUR 2.2 billion since 2013.

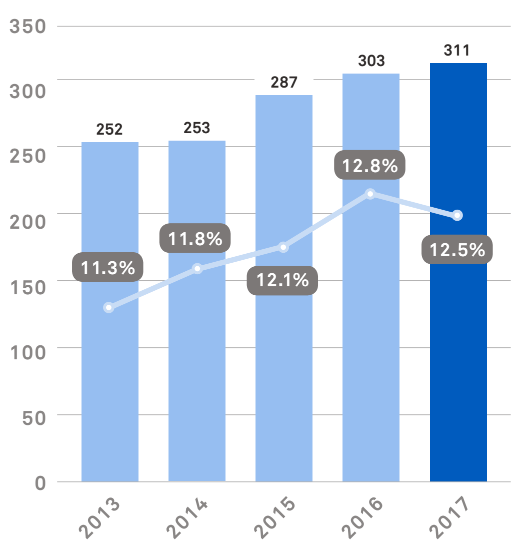
During the previous five-year time period, the acquisition of AkzoNobel's paper chemicals in 2015 was the largest acquisition. In 2013, we completed multiple divestments from formic acid to food and pharmaceutical businesses, and since then the focus has been on serving water-intensive industries, namely pulp & paper, oil & gas and water treatment. The transactions have enabled Kemira to become one of the leading chemical companies in those chosen categories. In 2017, the Group's revenue growth was +5% driven by strong demand in the North American oil & gas business which grew 56%. Our water treatment business continued to grow and pulp & paper revenue grew by 1% due to volume growth.

Operative EBITDA has increased during 2015–2017 due to acquisition of AkzoNobel paper chemicals business, investments into new production capacity and operational efficiences. In 2017, operative EBITDA increased by 3% to EUR 311 million. Kemira's guidance for 2018 expects operative EBITDA to increase from the prior year. Our mid- to long-term profitability target is an operative EBITDA margin of 14–16% and actions to reach the target are shown on page 16.

Revenue
EUR million



Operative EBITDA
EUR million



Kemira operates in growing markets

Both our segments, Pulp & Paper and Industry & Water, operate in growing markets with an expected annual market growth rate of 3% until 2022. In 2017, organic growth in Pulp & Paper was 2% and in Industry & Water 12%, driven by sales volume growth. Kemira is targeting to achieve mid- to long-term above-the-market growth.

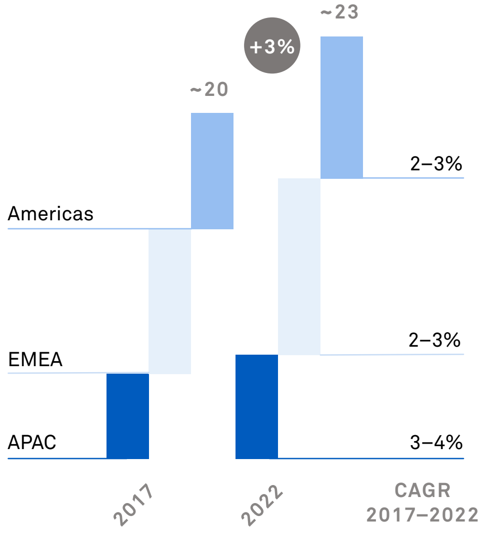
The market growth is driven by multiple global trends, for example:

- E-commerce drives the need for packaging material
- Growing middle class, increased standards of living and urbanization leads to higher usage of water, energy, tissue, and board
- Recycling and use of renewables leads to e.g. higher usage of strength chemicals
- Regulation increases water treatment
- Scarcity of resources accelerates need to produce more with less

Challenges

- Risks to global GDP growth
- Decline in demand for printing and writing paper
- Regulatory changes

Relevant target market
EUR billion
Management estimation based on various sources

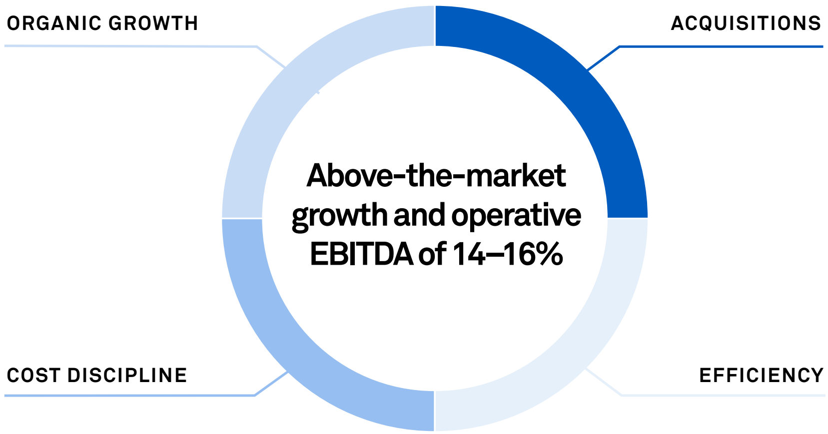


Cornerstones of Kemira's strategy

THE FOUR AREAS OF Kemira's strategy illustrate how we plan, operate and execute our strategy to achieve our financial targets.

To fuel **organic growth**, we have been investing into capacity in areas where we see further growth and where we see our capacity being constrained, for example sodium chlorate, a bleaching chemical for the growing pulp business. We capture growth opportunities, whether it's new geographies, new customers, or new applications. Notable examples include oil sands and Chemical Enhanced Oil Recovery. Both applications did not generate any revenue a few years ago, but are now becoming meaningful new businesses with revenue in tens of millions of euros.

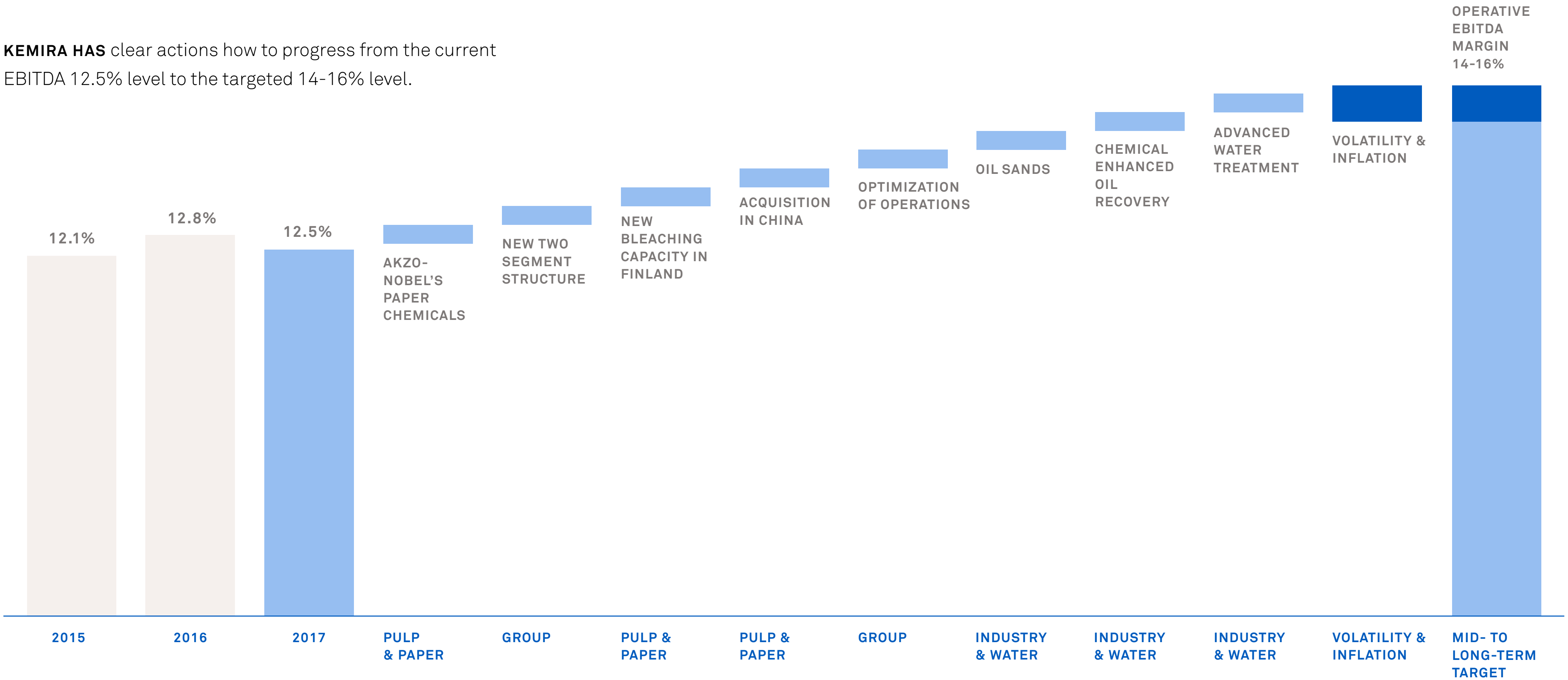
We are both very selective and careful with regards to **acquisitions**. In 2016 and 2017, we did not complete any acquisitions. In September 2017, Kemira signed an agreement to form a joint venture in China, which is 'practically' an acquisition of paper chemical manufacturer, and the transaction is expected to close in the first half of 2018. The deal represents an excellent strategic fit and is accretive to Kemira's profitability in 2019.



In the area of **efficiency**, there is an inherent complexity in the environment where Kemira operates, with its 63 manufacturing sites, 200 warehouses and 16,000 ship-to locations. This means we need to continuously strive for efficiency in our operations. In 2016, we introduced our BOOST program which mainly aims to simplify our processes from the sourcing of materials to the customer delivery. In 2017, we have also adjusted our organizational structure and worked to simplify our complexity. **Cost discipline** in daily operations is self-evident and a way to keep the business in good financial shape.

Our key actions to improve profitability

KEMIRA HAS clear actions how to progress from the current EBITDA 12.5% level to the targeted 14-16% level.



	Akzo-Nobel's paper chemicals	New two segment structure	New bleaching capacity in Finland	Acquisition in China	Optimization of operations	Oil sands	Chemical enhanced oil recovery	Advanced water treatment
Estimated end of 2017 run-rate	100%	100%	75%	0%	Low	25%	Low	Low
Full run-rate by	EO 2017	EO 2017	2018	2019	1–2 yrs	2–3 yrs	2–5 yrs	3–5 yrs

Core elements driving Kemira towards the targets

KEMIRA HAS opportunities to grow by investing in growing applications. However, the investments will be implemented with strict focus on maintaining a solid balance sheet and improving cash flow. Kemira's capital expenditure is targeted to be around EUR 160–200 million in 2018, and was EUR 190 million in 2017 and EUR 213 million in 2016.

Innovation will also be a key tool to fuel growth in the future and we want to capture market opportunities, for example in Chemical Enhanced Oil Recovery, where we see good potential for long-term growth. We continue to increase efficiency and work hard to reach our financial targets.

Investments will be implemented with strict focus on maintaining a solid balance sheet and improving cash flow.

BALANCED CASH FLOW AND CAPEX

GROW BY INVESTING, INNOVATING AND CAPTURING MARKET OPPORTUNITIES

INCREASE EFFICIENCY

GROUP'S MID- TO LONG-TERM TARGETS

Above-the-market growth

Operative EBITDA 14–16%

Gearing below 60%

Dividend policy: stable and competitive dividend

Innovation is supporting Kemira's growth

Our innovation work is addressing global trends for recycling, e-commerce, growing middle class, regulation and scarcity of resources.

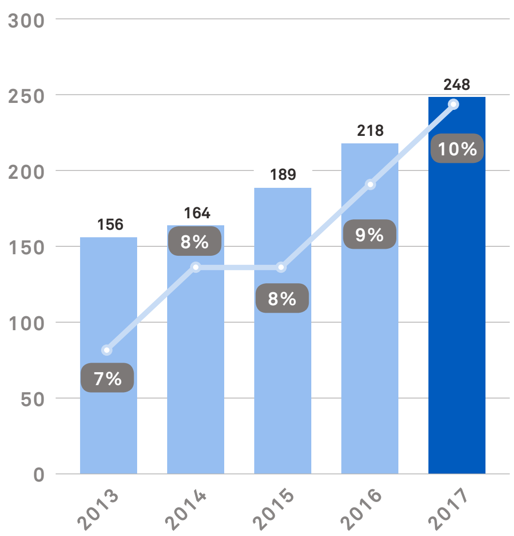
PRODUCT AND SOLUTIONS addressing our customers´ needs are an crucial part of Kemira's long-term strategy and growth.

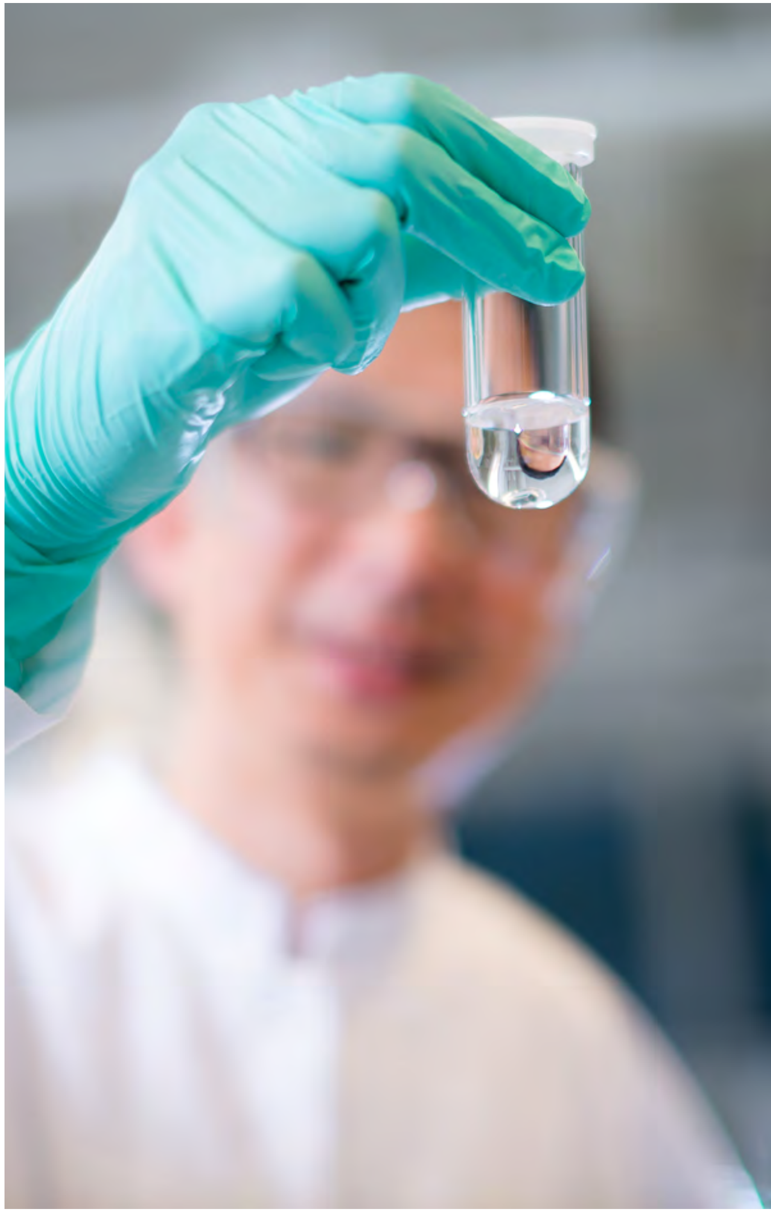
We have 240 experts in our three R&D and Technology centers in Atlanta (US), Espoo (Finland), and Shanghai (China). During 2017 Kemira received 52 (48) new patents and introduced 11 (14) new products.

Our innovation capability is measured through an innovation sales target to ensure portfolio renewal with new and more sustainable products. We define innovation sales as new chemistries, product upgrades and tailored chemistries sold into new applications, developed and launched within the last 5 years.

In 2017, we invested about EUR 30 million (1.2% of revenue) into R&D and technical customer service. Technical customer service is an important part of launching new products, supporting customers and also getting continuous feedback from customer processes.

Kemira´s innovation revenue
EUR million





People

We strive to attract, develop and retain the right mix of talented people for the continued success and growth of Kemira.

To implement our strategy, we must ensure that we have committed people, a strong leadership bench and the indispensable competencies in place to implement our strategy. This is achieved by focusing on our culture and commitment to people.

Safety culture is our priority in all our locations globally. We are continuously developing safety awareness to prevent incidents and mitigating health and safety risks.

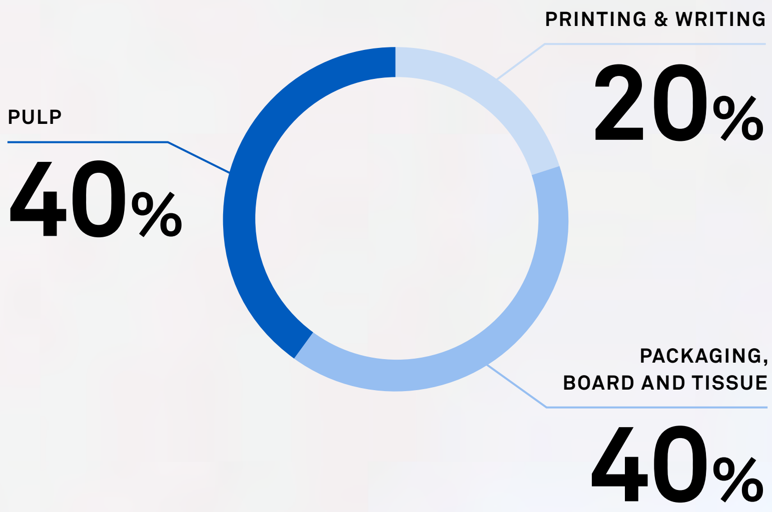
Skilled leaders are key to the successful execution of Kemira's strategy. We continue to help our leaders to develop by running on-the-job learning, stretch projects, coaching and mentoring schemes, and development programs. Kemira's performance management process aligns our strategic targets with each employee's personal targets, performance evaluation, competencies and development plans.

Pulp & Paper

From wood to fiber-based materials

We enable pulp to turn into tissue that is a little bit softer, but stronger. Our application expertise, technology and smart process management help our customers to improve their process efficiency, productivity and end-product quality.

Kemira Pulp & Paper customers



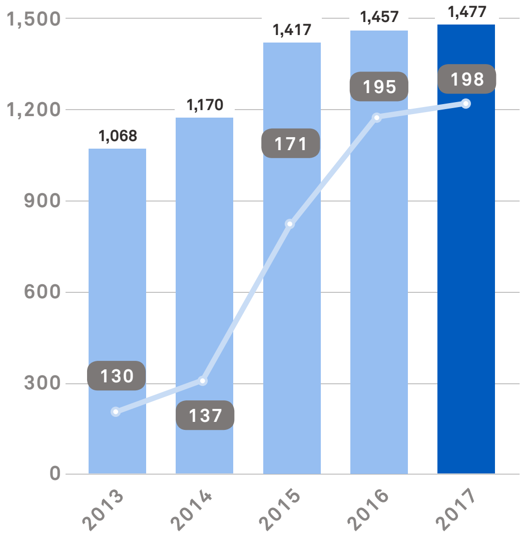
Pulp & Paper – driving growth as market leader

During the last 10 years, Pulp & Paper has worked its way from position #5 to #1 with organic growth and carefully selected acquisitions. Pulp & Paper has a global market share of around 16%.

GROWTH IN the use of pulp & paper chemicals is driven by higher production volumes for board and tissue grades. Kemira has unique expertise in chemical applications, and we are well-placed to help our pulp & paper producing customers to innovate and constantly improve their operational efficiency and end-product quality. We are working to support our customers through the transition to a bio-based economy, by enabling production with fewer inputs, lower environmental impacts and a reduced water footprint.

Our pulp & paper business is expected to grow at an above-the-market growth rate. The relevant market's compounded annual growth rate (CAGR) is estimated to be 1%. The majority of the growth is expected to occur in emerging markets in South America and the APAC region. There is also an increased demand for pulp chemicals in the Nordic region, where several expansion projects are ongoing or have been announced. Thanks to our comprehensive offering, our global reach and our strong application knowhow, Kemira is well positioned to serve the pulp and paper industry globally.

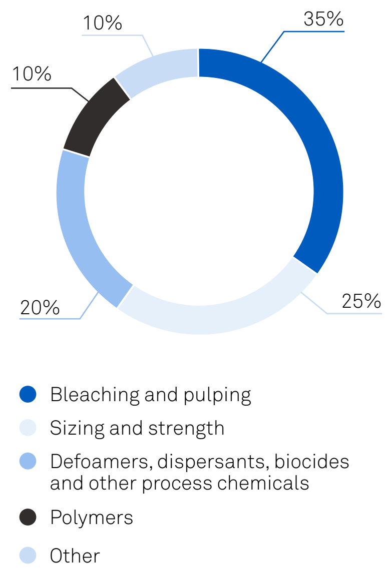
Revenue and operative EBITDA
EUR million



Market positions

#1	Kemira (pulp and paper)
#2	BASF (paper)
#3	Solenis (paper)
#4	AkzoNobel (pulp)
#5	Ecolab (paper)

Revenue by product category



Successful value creating investments – case Joutseno

Successful value creating investments

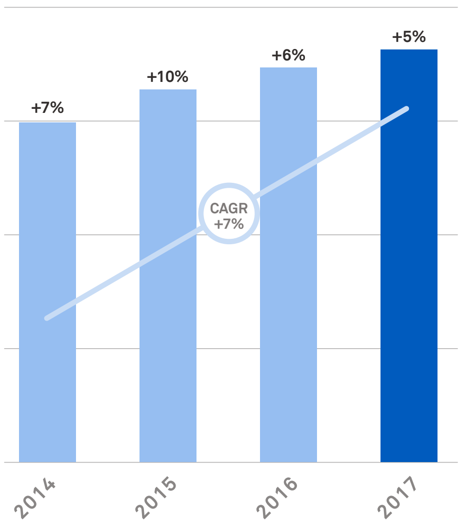
Growing global demand in packaging, board and tissue is driving the need for pulp. In the pulp producing process, bleaching chemistry is a key component. Kemira as one of the leading pulp chemical providers is benefiting from the growth in the pulp & paper market.

The most recent example of our successful investments is the sodium chlorate capacity addition in Joutseno, Finland. The investment doubles tonnage at the site.

Key elements of the investment:

- Customer demand for bleaching chemicals is steadily increasing in a tight Nordic market, hence the need for additional capacity
- Capacity doubled in Joutseno with approximately EUR 50 million investment
- Investment completed according to budget and start-up was ahead of schedule in autumn 2017
- Targeting maximum capacity utilization in from beginning of 2018
- Part of the production will be shipped to other regions to support growth

Kemira bleaching chemicals revenue growth



Pulp & Paper – case APAC

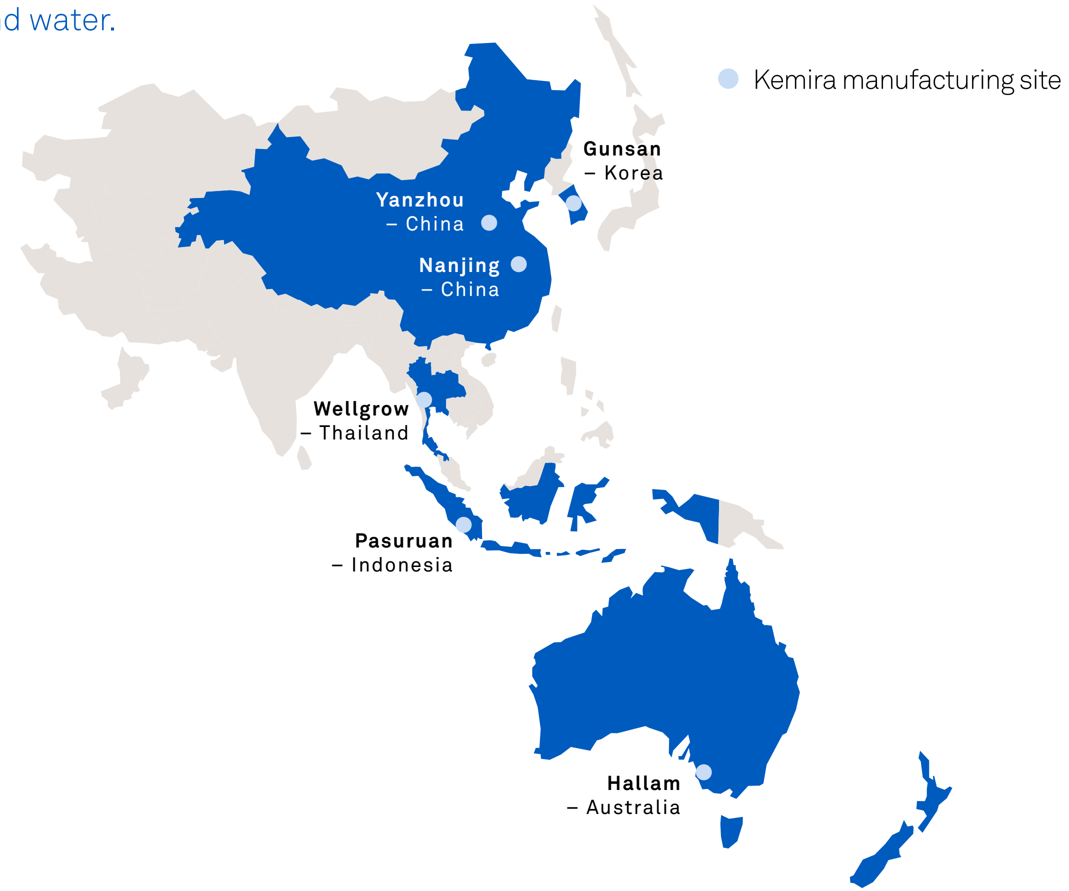
APAC is the fastest growing region

E-commerce, a growing middle class, increased standards of living and urbanization are the main factors behind economic growth in the Asia-Pacific region. Kemira benefits from these megatrends as the growth leads to higher usage of board, tissue and water.

APAC is the fastest growing region with around 3–4% annual growth in chemicals. Our business has doubled in the last three years. A new manufacturing site in Nanjing, China, opened in 2014 and the acquisition of AkzoNobel's paper chemicals in 2015 have helped to grow the business in the region.

During the last five years, our growth in APAC region has been strong, and we have been able to achieve #1 market position. In addition, our water treatment business continues to grow, albeit from a smaller base.

In the first half of 2018, we expect to close the acquisition of 80% of Tiancheng. The joint venture with Tiancheng (NewCo), will mainly produce AKD wax and its key raw material, fatty acid chloride. AKD wax is a sizing chemical used in board and paper manufacturing to create resistance against liquid absorption. Kemira is the global market leader in sizing chemicals. In addition, NewCo plans to produce polyaluminum chloride which is a coagulant for water treatment. We are really excited about the transaction and expect it to further enhance our growth and profitability in APAC.

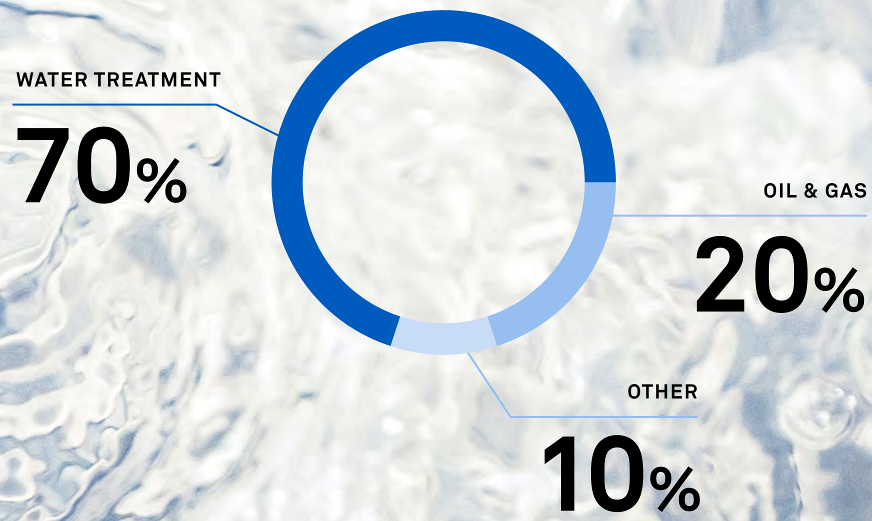


Industry & Water

Chemistry solutions for sustainable water treatment and resource extraction

We help in optimizing every stage of the water cycle. In oil and gas applications, our chemistries enable improved yield from existing reserves and reduced water and energy use.

Industry & Water application split



Industry & Water - stronger platform for profitable growth

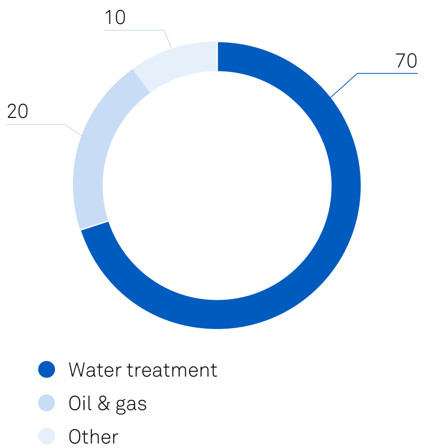
Industry & Water focuses on water treatment and selected oil & gas applications. We are the leading chemicals supplier for raw water, waste water and sludge treatment applications in Europe and North America. In oil & gas, we have focused on polymers used in the shale fracking industry, more precisely in friction reduction, where we have a leading position with over 30% market share. In addition, we have a growing business in oil sands and Chemical Enhanced Oil Recovery which brings stability to the more volatile shale oil & gas business.

The water treatment market is driven by regulation. We are the only manufacturer offering a full product portfolio of coagulants, polyacrylamide polymers and other water treatment chemicals. This makes our position in the market unique.

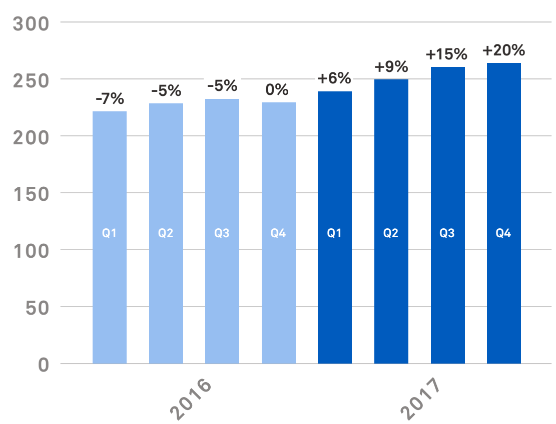
In oil & gas, we are well-positioned in the shale industry and growing fast in water treatment related to unconventional oil recovery in Canada, and polymers used in Chemical Enhanced Oil Recovery (CEOR). In CEOR, we are currently investing in new polymer manufacturing capacity in Europe.

Our Industry & Water segment is expected to grow faster than the market. The water treatment market is estimated to grow around 2–3% and the oil & gas market around 5–6% per annum until 2022.

Industry & Water application split



Revenue and organic growth (Y-O-Y)
EUR million



Main competitors

Main competitors in coagulants: Chemtrade, Feralco, Kronos, PVS, and USAlco.
Main competitors in polymers: BASF, SNF, and Solenis.

Innovation case – KemConnect Smart Dewatering

Next generation of water treatment

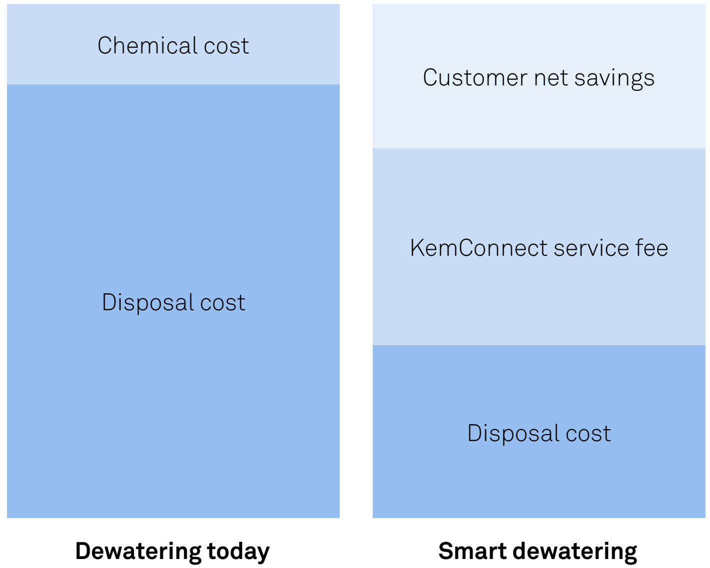
The water treatment market provides growth opportunities for Kemira.

The KemConnect Smart Dewatering application is an innovation which works well for many of our customers. Sludge is the residual product of the wastewater treatment operation. More than half of the cost structure of the operator comes from the disposal cost of the sludge. Chemicals are only a small part of that. With the digital tools and our chemistry, we can help operators to significantly increase the dry solids content in the sludge. This means savings in their energy and transportation costs, i.e. disposal costs.

Business model

The next generation of sludge treatment will focus on customer performance and value created

KemConnect Smart Dewatering combines a complete chemicals portfolio, continuous chemistry optimization and real-time monitoring to a new business model



Chemical Enhanced Oil Recovery

Kemira growing fast in Chemical Enhanced Oil Recovery

Kemira has tailored and offered polymers to its clients in pulp & paper and water treatment for decades. This vast knowledge is also utilized in oil & gas applications where the largest growth potential is in Chemical Enhanced Oil Recovery.

With the help of polymers, oil operators can extend the life of an existing reservoir by up to 7–15 years. This means huge savings in terms of capital expenditure for our clients, as new exploration is not needed if more can be recovered from current fields.

CEOR does not work in every field but it provides a huge growth opportunity. Approximately one million barrels of oil is extracted daily with CEOR compared to more than 90 million barrels of total oil extraction. The use of CEOR is expected to grow rapidly in the coming years.

We have recently signed a multi-year contract with one of the major oil companies, which gives us confidence to continue to grow in this field.

Oil recovery methods

	Primary recovery Less than 30%	• Natural flow • Artificial lift
	↓	
	Secondary recovery 30-50%	• Waterflooding • Pressure maintenance
	↓	
EOR	**Tertiary recovery** >50% up to 80+%	• Chemical methods • Gas injection methods • Thermal methods

Risks & Opportunities

Changes in market demand

Opportunities
- → Rising demand for products enabling our customers' product quality, process and resource efficiency: packaging, board and tissue grades; water recycling and reuse; and unconventional oil and gas recovery and enhanced conventional oil recovery
- → New geographical markets with growing middle class are emerging

Risks
- → Declining demand for printing and graphical paper grades
- → Shift towards water treatment technologies with lower chemical consumption
- → Volatility in oil and gas activity

Management Approach
- → Systematic market and business monitoring
- → Market differentiation by geographies and customer-industries
- → Active product portfolio management
- → Flexible manufacturing network with competitive scale

Changes in competition

Opportunities
- → Large customers looking for strategic suppliers with global supply capability
- → Comprehensive product and service concepts enabled by digital solutions
- → Competitive advantage through externally recognized sustainability performance

Risks
- → Major competitor or customer consolidations that could reshape market positions
- → New standard commodity chemical producers entering the market, and/or new type of competition

Management Approach
- → Close monitoring of competitive activities and regular strategy reviews to act on the observed changes
- → Development of new product and service concepts based on comprehensive chemistry management and increased use of digitalization
- → Participation in market consolidation and active M&A monitoring
- → Competence and capability development to enable differentiation by market changes

Changes in laws and regulations

Opportunities
- → Increased amount of water treatment driven by stricter regulation and enforcement
- → New opportunities for chemicals is created by regulatory developments to promote recycling and reuse of resources

Risks
- → Alternative, non-chemical water treatment technologies
- → Bans or restrictions on substances used as raw material due to stricter chemical legislation
- → Increased complexity in global trade compliance due to trade regulation changes
- → Political instability resulting in changes of laws and regulations

Management Approach
- → Active follow-up of developments in chemical legislation and regulations relating to the use of chemicals PSRA personnel in US, Brazil, China, South Korea and European countries having early visibility to regional regulatory initiatives and possibility to impact through local industry associations
- → Pro-active evaluation of alternative substances to replace substances of concern
- → Innovation of solutions enabling improved resource efficiency in customes' processes
- → Compliance management (e.g. trade compliance, selection 3rd party business partners) with dedicated resources and formalized management processes

Risks & Opportunities

Sourcing and supply chain management

Opportunities
- Operational efficiency improvement through active tracking of raw material and energy prices, and demand based inventory management
- Industrial by-products and bio-based materials as an alternative to virgin and fossil-based raw materials

Risks
- Rising or volatile energy and raw material prices can impact profitability
- Dependency on a single source for some key raw materials
- Breaks or disturbances in the availability of key raw materials

Management Approach
- Improving the overall efficiency of our processes through e.g. BOOST program
- Strategic sourcing through segmentation and performance management of our suppliers
- Backward integration for critical raw materials
- Securing energy supply though strategic investments and by hedging
- Portfolio management to simplify raw material base

Innovation capability

Opportunities
- Ability to innovate addressing global trends for recycling, e-commerce, growing middle class, regulation and scarcity of resources

Risks
- New disruptive technologies by competitors
- Slow renewal of product portfolio and lack of differentiation
- Failing to commercialize new products and service concepts

Management Approach
- Active technology scouting to enable responsiviness to changing market needs
- Collaborative product development to ensure fast response to market needs
- R&D project management by the New Product Development process covering checks also for improved economic, environmental and social performance
- Ensuring effective product launches through targeted marketing activities and training of sales

Environmental, health, safety and quality (EHSQ) management

Opportunities
- Ability to demonstrate high performance and compliance with applicable legal requirements, standards and stakeholder expectations, providing us a competitive edge

Risks
- Possible negative impact through incidents such as process safety deficiencies, machinery breakdowns, environmental incidents or employee health and safety incidents, together with the consequent financial losses and brand damage

Management Approach
- Systematic risk management and continuous improvements in competences, procedural, technical and physical protection mechanisms
- Systematic focus on achieving set targets and implementing certifiable management systems and related reporting, crisis management procedures
- Insurance programs against potential hazards

People and leadership

Opportunities
- Ability to attract, retain and develop the right mix of talent leveraging our strong employer brand and globally diverse, result orientated, and collaborative work environment
- Culture of talent management, performance management and development leading to employee engagement
- Strong leadership competences, skilled technical expertize/industry know-how and competent workforce

Risks
- Losing key talents to competitors and other industries
- Competence development needs to match the rate of digital transformation

Management Approach
- Continued emphasis on talent and succession development to ensure we have a strong platform for the future, through growing leadership and talents from within the organization
- Focus on performance management, employee engagement, learning and development, and building a strong employer brand. Investment in competence and capability development to develop technical and leadership competences for the future

Kemira

GRI Disclosures 2017

Corporate responsibility at Kemira

Corporate responsibility program

Corporate responsibility is our contribution to sustainable development and it is at the core of what we do.

In 2017, we reviewed our corporate responsibility program to reflect the most material economic, environmental and social impacts through our business model. These material impacts relate to our overall value proposition and long-term risk profile. We focus the active management of corporate responsibility on three priority areas:
1) Sustainable products and solutions
2) Responsible operations and supply chain
3) People and integrity.
These three priorities cover six material topics and we have a commitment to guide our management of these topics and their impacts.

The six most important material impacts are related to products improving our customers´ sustainability, chemical safety management throughout its lifecycle, responsible management of our own operations, responsible performance and good governance throughout our supply chains, engagement and competence development of our employees and responsible business practices in our own operations or with our business partners. Kemira measures progress in the priority areas through the Group level targets and KPIs, which are approved by the Management Board and reviewed by the Board of Directors.

Commitments

1. Incorporating sustainability into our products and solutions
2. Proactive product stewardship throughout the products' lifecycle

Commitments

3. Ensuring responsible operations to protect our assets, our environment, employees, contractors, customers and communities
4. Ensuring compliance with responsible business practices in our supply chain

Commitments

5. Culture and commitment to people
6. Ensuring compliance with Kemira Code of Conduct

Contribution to value creation

Our corporate responsibility work is based on the material impacts of our business model and the consequent operations, on the increasing expectations of our customers, investors and other stakeholders, and on our commitment to Kemira Code of Conduct and internationally defined principles.

Our corporate responsibility program supports the execution of our strategy and long-term value creation. The active management of corporate responsibility priorities contribute to creating value for Kemira and to stakeholders, improving our operational efficiency, and ensuring compliance and managing risks. For Kemira, corporate responsibility means being both responsible throughout our own operations, and contributing to sustainable development across our entire value chain.

Bases of materiality

BUSINESS MODEL
Vision, Values, Purpose, Strategic goals and choices

STAKEHOLDERS EXPECTATIONS

COMMITMENTS
Kemira Code of Conduct
UN Global Compact
Responsible Care®

Priorities of our corporate responsibility work

Sustainable products and solutions

Responsible operations and supply chain

People and integrity

Execution of our strategy

Creating value for Kemira and stakeholders

Improving operational efficiency and reliability

Ensuring compliance and managing risks

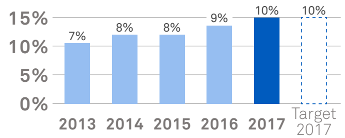
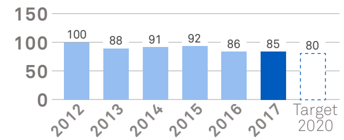
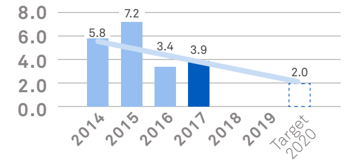
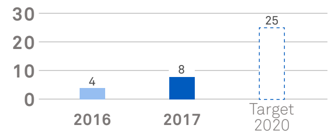
Value creation targets

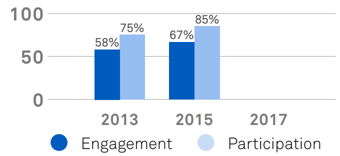
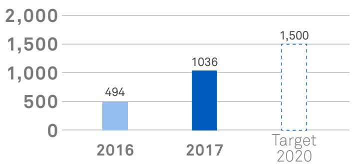
Above-the-market revenue growth

Operative EBITDA 14-16%

Targets, performance and recognitions

Corporate responsibility performance

<table>
<tr><th>Priority</th><th>Target</th><th>Performance 2017</th><th>Comments</th><th></th></tr>
<tr><td>Sustainable products and solutions</td><td>Innovation sales
Share of innovation revenue of total revenue, 10% by the end of 2017</td><td>
</td><td>Innovation sales target of 10% of total revenue was reached. Commercialization of new sustainable products have succeeded in replacing the sales of old bestselling products from the previous five years.</td><td>ACHIEVED</td></tr>
<tr><td rowspan="3">Responsible operations and supply chain</td><td>Climate change
Kemira Carbon Index ≤ 80 by end of 2020 (2012 = 100)</td><td>
</td><td>Slight decrease in carbon index compared to 2016, due to increased use of carbon neutral energy sources and continuous implementation of energy efficiency projects.</td><td>IN PROGRESS</td></tr>
<tr><td>People, health and safety
Achieve zero injuries on long term; TRIF* 2.0 by end of 2020</td><td>
</td><td>In 2017, TRIF increased to 3.4. The increase in incidents were related to contracted work at our premises. Also the severity of incidents increased, including 3 permanent disabilities.</td><td>BEHIND TARGET</td></tr>
<tr><td>Supplier management
5 sustainability audits for highest risk** suppliers every year during 2016–2020, average, cumulative target 25 by 2020</td><td>
</td><td>Four SMETA (Sedex Members Ethical Trade Audit) audits in collaboration with an external service provider was conducted with no business stopping results. Majority of the corrective actions were related to health and safety and labor practices.</td><td>IN PROGRESS</td></tr>
<tr><td rowspan="2">People and integrity</td><td>Employee engagement index based on Voices@Kemira biennial survey
The index at or above the external industry norm

Participation rate in Voices@Kemira 75% or above</td><td>
</td><td>Due to the reorganization, the biennial employee engagement survey was postponed from autumn 2017 until spring 2018, to give managers at least six months with their new teams before engaging in the survey.</td><td>BEHIND TARGET</td></tr>
<tr><td>Leadership development activities provided, average
Two (2) leadership development activities per people manager position during 2016–2020, cumulative target 1500 by 2020</td><td>
</td><td>Steady rate of participation in both internal and external leadership development activities continued in 2017 at 542 and actual cumulative total so far 1,036. The activities also included on-the-job learning opportunities in corporate development projects.</td><td>IN PROGRESS</td></tr>
</table>

* TRIF = Number of Total Recordable Injury Frequency per million hours, Kemira + contractor, year-to-date
** Suppliers with lowest sustainability assessment score

Recognitions in 2017

CDP

Kemira reached the Leadership A- level in CDP's Climate Change evaluation for the second consecutive year. This result reflects strong commitment to environmental stewardship, actions to reduce carbon emissions, and management of climate change related risks and opportunities. This Leadership A- level indicates that the company is implementing current best practices in its actions to combat climate change. Kemira was rated above the chemical industry average in all of the categories assessed, i.e. governance and strategy, risk and opportunity management, emissions management, and verification.

EcoVadis

Kemira has been awarded the Gold Recognition Level for the company's sustainability management for the third consecutive year by EcoVadis, a collaborative platform providing sustainability ratings and performance improvement tools for global supply chains. With a score of 75/100 points, Kemira is in the top 1% of suppliers assessed by EcoVadis in all categories.

The EcoVadis methodology framework assesses the policies and measures put in place by companies with regard to environmental issues, labor practices, human rights, fair business practices and sustainable procurement, as well as the related reporting. The results indicate that we have a structured and proactive corporate responsibility approach, with appropriate engagements, policies and tangible actions on major issues, as well as effective corporate responsibility reporting on our actions and performance.

Our management approach

Our corporate responsibility work is guided by materiality deducted from the impacts through our business model, stakeholder expectations, and our commitments to Code of Conduct and internationally defined principles.

Materiality

Commitments

Kemira Code of Conduct is the foundation for our business conduct in Kemira. Our values are embedded in our corporate culture and connect each of us around the world. Our Code puts a framework around our values and reflects our commitments towards our key stakeholders. We also expect our suppliers and other business partners to maintain the same high standards in their own operations, as defined in our Code of Conduct for Suppliers, Distributors and Agents (COC-SDA).

The United Nations Global Compact is signed by Kemira Oyj as our commitment to respect and promote human rights, implement decent work practices, reduce our environmental impact, and combat corruption.

The Responsible Care® initiative is a voluntary commitment made by the global chemical industry to improve health, environmental performance and security, and to communicate with stakeholders about products and processes. The Responsible Care Global Charter expands and extends the process of continuous improvement beyond the manufacturing of chemicals to other activities, especially those associated with the safe use and handling of products along the value chain. Kemira Oyj has signed both the Responsible Care initiative and the Responsible Care Global Charter.

Stakeholder expectations

Our key stakeholders include our shareholders, lenders, customers, 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 practise Socially Responsible Investing (SRI). Among 20 largest institutional shareholders which own 60% of Kemira shares, 16 investors have signed the Principles of Responsible Investment (PRI). These PRI signatories represent 18% ownership of Kemira shares.
- Many of our customers are sustainability leaders in their respective industrial sectors. Kemira forms part of their value chains, and we are expected to demonstrate the same high 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.

Stakeholder engagement

GRI 102-40 List of stakeholder groups	GRI 102-42 Identifying and selecting stakeholders	GRI 102-43 Approach to stakeholder engagement	GRI 102-44 Key topics and concerns raised	GRI 102-44 Kemira's response
Shareholders and lenders	• Share of value creation through dividends and interest payments • Expectations for return on investment, good corporate governance practices and sustainability performance	• Regular events like Capital Markets Day, roadshows, conference calls and one-to-one meetings. In 2017, we had 23 roadshow days, and 331 institutions were met in 200 meetings	• Management approach to sustainability issues • Potential business risks and opportunities related to sustainability issues	• Responses to investor questionnaires • Transparent reporting and disclosure (e.g. participation in CDP climate change questionnary)
Customers	• Our customers are Kemira's main source of value creation • Our customers' expectations and needs drive Kemira's product portfolio and offerings	• Direct customer contacts • Annual customer survey: In 2017, nearly 1,000 customers participated in Customer Voices survey. 62% of our customers globally are very or absolutely satisfied with their business relationship with Kemira. • Exhibitions (20) • Product testing and plant trials	• Improve our ability to offer new solutions • Improve our proactivity and overall communication with customers • Sustainable products • Kemira's overall sustainability performance	• Increase customer communication and face-time, and further improve the understanding of customer needs • Sustainability checks in New Product Development and Product stewardship • Sustainability performance data submitted on request
Employees	• Share of value creation through compensation and benefits • Employees' engagement, well-being and capabilities influence our operational performance and value creation	• Performance management and development process • Kemira European Forum • Professional competence development for employees facing customers • Town hall meetings • Ethics & compliance hotline	• Reorganization and new ways of working • Ways of developing competences for the future	• Performance and development discussions • Leadership development • Professional development • Developing systematic competence development model during 2018 • Engagement survey to be conducted in spring 2018
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 core suppliers to help them meet our sustainability performance expectations, and take corrective actions if needed	• The expectations of our customers regarding responsible business practices in our supply chain • Business ethics and compliance	• Suppliers are asked to commit to Kemira Code of Conduct for Suppliers, Distributors and Agents • Supplier sustainability assessments and audits
Local communities	• Our value creation in the form of tax payments and employment • The safety and environmental performance of our operations 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	• Safety and environmental risks • Employment opportunities	• Transparency • Regular and open dialogue with local communities, e.g. open door days • Environmental impact and process safety risk assessments
Regulatory bodies, trade associations, decision-makers and opinion leaders	• These stakeholders have the capability to influence or make political decisions on environmental issues and legislation relevant to Kemira's business.	• Memberships in industrial trade associations • Subject-specific dialogue with regulatory bodies on national and EU level	• Resource efficiency • Chemicals safety	• Participation in the European Chemical Industry Council CEFIC and its member organizations such as INCOPA (the European Inorganic Coagulants Producers Association) • Kemira has contributed through INCOPA to the evaluation of the Urban Waste Water Treatment Directive 91/271/EEC and to the fitness check of the Water Framework Directive 2000/60/EC and to the Floods Directive (2007/60/EC)

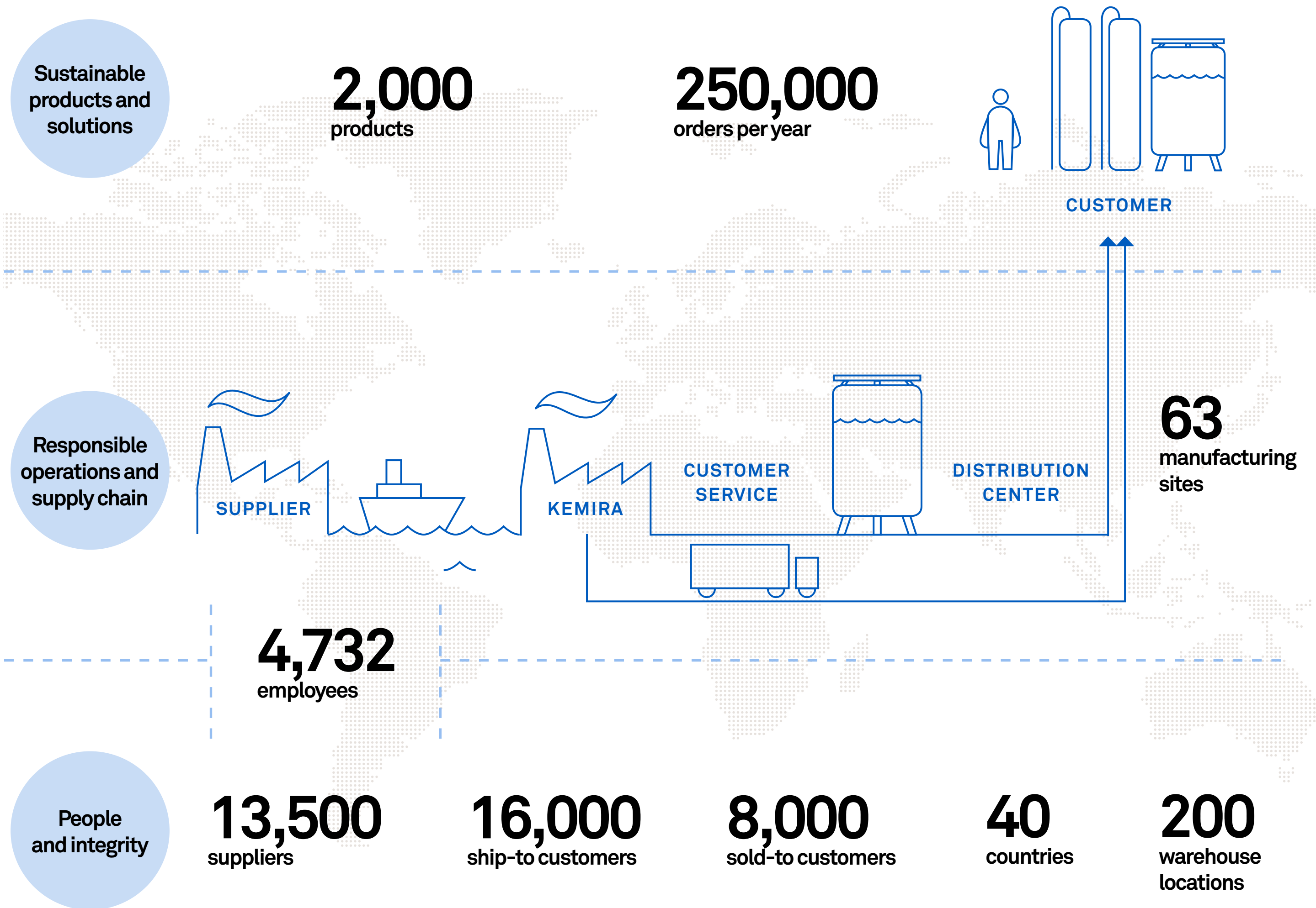
Principal material impacts

Our corporate responsibility program addresses our principal impacts and related risks and opportunities through our business model. Our management priorities are Sustainable products and solutions, Responsible operations and supply chain, and People and integrity. The management activities are integrated into company-wide management systems.

Our vision, mission, strategic goals and choices define which customer segments we focus on, what products we manufacture, the reach of our geographical presence, and how we get our products to the market. These decisions result in various economic, environmental and social impacts either due to our own activities or as a result of our business relationships. Direct impacts relate to the performance of our own operations, while indirect impacts are generated in our supply chain and in the use of our products by our customers. We recognize that having approximately 2,000 products, 8,000 customers, 16,000 ship-to-ship customers, 13,500 suppliers, and that operating in 40 countries with sales to over 100 countries creates an environment characterized by multiple economic, environmental and social impacts.

Our principal material impacts are related to products improving our customers´ sustainability, chemical safety management throughout its lifecycle, responsible management of our own operations, responsible performance and good governance throughout our supply chains, engagement and competence development of our employees and responsible business practices in our own operations or with our business partners.

Impacts of our operation and business activities



Description of value chain impacts

Economic

- We generate revenue by selling chemical products for industrial uses in the pulp and paper, oil and gas, mining, and water treatment industries.
- We have a direct economic impact on suppliers and service providers through the payments we make for raw materials 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, sponsorships and donations. Unethical business behavior could impact Kemira's reputation and thus financial position.

Environmental

We have a positive environmental impact through our products and solutions which enable our customers to improve their water, energy and raw material efficiency. Our main environmental risks relate to carbon emissions from our own manufacturing and in the value chain due to our business activities, and potential incidents through accidental release of chemicals or process safety deficiencies.

- Direct impacts of our manufacturing: We convert input materials into products through processes which result in wastes and emissions. The main environmental impacts of our manufacturing relate to carbon emissions, failure of process safety, and waste generation and disposal. Some of our major product lines are very energy-intensive, leading to significant carbon emissions. Potential impacts on the environment may take place through incidents such as process safety deficiencies or accidental release of chemicals.
- Direct impacts of our products: Our manufacturing and supply operations involve the transportation, handling and processing of various kinds of chemicals, including certain harmful and hazardous substances.
- Indirect impacts of our products: Global resource scarcity is an important business driver for our customers. Our customers process, extract and refine natural resources such as oil, gas, minerals or fibers. Kemira is not directly involved in the utilization of natural resources as such, but we develop and provide solutions to enable the effective utilization of these resources with the lowest possible environmental impact.
- Indirect impacts of our supply chain: Our logistics operations involve an extensive network of suppliers and customers. Upstream and downstream transportation and production of raw materials and feedstock have environmental impacts mainly through carbon emissions.

Social

- Our main social impacts, and related risks, concern the safe use of our products along the value chain and any possible non-compliance with responsible business practices in our own operations or those of our business partners.
- Direct impacts on product responsibility: Our product portfolio includes about 2,000 products. All products and raw materials must be registered and documented according to regional, national and global legislation and standards in order to ensure they are safely used throughout their lifecycle.
- Direct impacts on workforce education and training: Our manufacturing operations are not labor intensive, but we do require qualified and skilled employees in every country where we operate. Our R&D and sales operations also require highly qualified professionals.
- Direct impacts on compliance requirements: Our external business environment is extensively regulated by legislation and industry norms covering business conduct, product life cycle management, and occupational health, safety and environmental aspects of our products and manufacturing processes.
- Indirect impacts on compliance requirements in supply chains: Our suppliers' performance in terms of labor practices, human rights and ethical business behavior can represent a risk in terms of negative indirect impacts in our value chain.

Value chain impacts and respective GRI disclosures

	INDIRECT IMPACT		DIRECT IMPACT	INDIRECT IMPACT	
	Production of input materials and energy	**Upstream services**	**Kemira's own operations**	**Downstream services**	**Use of Kemira products**
ECONOMIC IMPACT	• Anti-corruption • Anti-competitive behavior	• Anti-corruption • Anti-competitive behavior	• Economic performance* • Anti-corruption • Anti-competitive behavior	• Anti-corruption • Anti-competitive behavior	
ENVIRONMENTAL IMPACT	• Emissions (Scope 3) • Supplier performance for their environmental impacts	• Emissions (Scope 2 & 3) • Supplier performance for their environmental impacts	• Materials • Energy • Water • Emissions (Scope 1) • Effluents and waste • Environmental compliance	• Emissions (Scope 3) • Supplier performance for their environmental impacts	• Emissions (Scope 3) • Performance of our products and services
SOCIAL IMPACT	• Supplier performance for their social impacts and ethical business behavior	• Supplier performance for their social impacts and ethical business behavior	• Employment*, and Labor/Management relations* • Occupational health and safety • Training and education • Diversity and equal opportunity • Non-discrimination • Freedom of association and collective bargaining • Human rights assessment • Public policy • Customer health and safety: Product stewardship • Marketing & labeling: Product & service information • Socioeconomic compliance: Product regulatory	• Supplier performance for their social impacts and ethical business behavior	

* Not material but reported because considered useful based on continuity

Governance

The Management Board approves our corporate responsibility priorities, key performance indicators (KPIs) and targets. The Board of Directors is duly informed about these targets, and our related performance, and its members also approve the Business overview and GRI disclosures of Kemira's Annual Report. Responsibilities for individual targets are shared between the members of the Management Board (MB), as outlined here.

The Director, Corporate Responsibility is responsible for management processes relating to economic, environmental, and social topics. The Corporate Responsibility Management Team, chaired by Director, Corporate Responsibility, supports and coordinates the implementation and follow-up of our corporate responsibility program.

	Areas of accountability	Responsibility by position
Sustainable products and solutions	• Economic impact (Tax policy)	• Chief Financial Officer
	• Innovation • Product stewardship	• Chief Technology Officer • EVP, Operational Excellence

Responsible operations and supply chain	• Energy efficiency and carbon emissions
	  • Carbon Index (Emissions from our own energy production, Scope 1)
	  • Carbon Index (Emissions based on purchased energy, Scope 2)
		• Segment Presidents
		• EVP, Operational Excellence

	• Employee safety target	EVP, Operational Excellence
	• Responsible supply chain	EVP, Operational Excellence
People and integrity	• Leadership and employee engagement targets	EVP, Human Resources
	• Responsible business practices	Group General Counsel (reports directly to the CEO and is a secretary of the MB)

Sustainable products and solutions

Kemira's purpose is to help our customers to improve their water, energy and raw material efficiency by introducing sustainable products and solutions to the market. For us, it is also important that all health, safety and environmental aspects of our products throughout their lifecycle are properly addressed in all what we do.

Our products

Our commitment

Products and solutions addressing the sustainability requirements of our customers are a crucial part of Kemira's long-term strategy and core business. Our innovation capability is measured through an innovation sales target to ensure portfolio renewal with more sustainable new products. We define innovation sales as new chemistries, product upgrades and tailored chemistries sold into new applications, developed and launched within the last five years.

Material topics

Sustainable products, materials

Principal risks

Our products and solutions present an opportunity for Kemira because we focus on chemistries and technologies to improve the water, energy and raw material efficiency. Our innovation work is addressing global trends for recycling, e-commerce, growing middle class, regulation and scarcity of resources. Our potential risks relate to new disruptive technologies by competitors, slow renewal of our product portfolio and lack of differentiation, and failure to commercialize new products and service concepts.

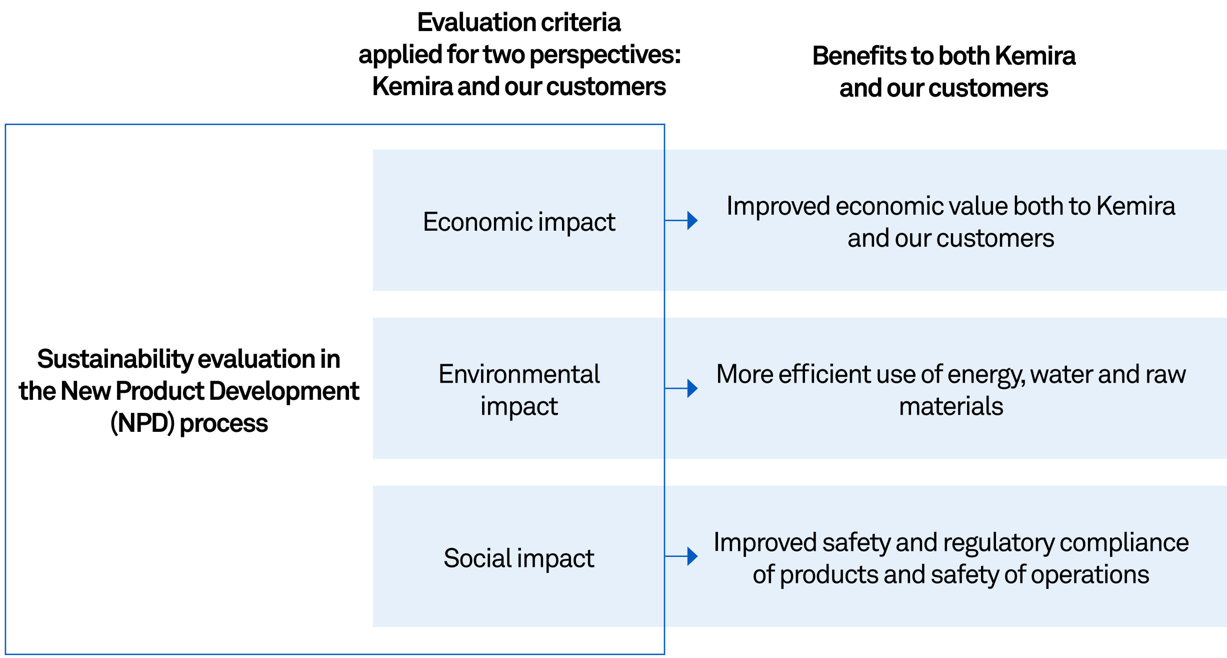
Management approach

The use of our products and solutions benefits our customers by:

- Optimizing product quality and yield
- Enhancing process and energy efficiency
- Ensuring that water quality meets end-use specifications and regulatory requirements

Our business model is business-to-business, and we sell products that are used in industrial scale processes mainly as processing aids. Only in a few cases, namely in paper and packaging board and in waste water sludge, our products are a part of the end-product.

Sustainability evaluation throughout the new product development process



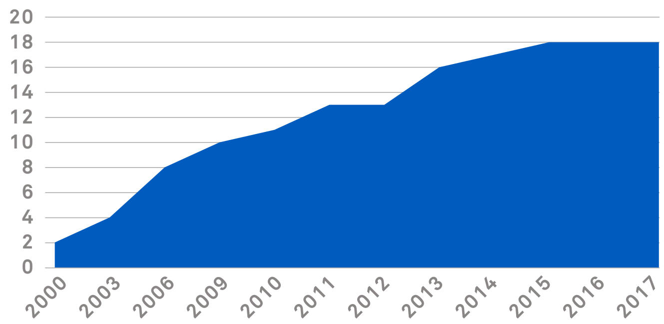
All our new product development projects apply sustainability checks at each project stage. We prioritize solutions that have improved sustainability performance compared to solutions already available on the market. We are actively looking for alternative, more sustainable raw materials, and provide expertize and application know-how to improve our customers' resource efficiency and product quality.

Kemira's New Product Development (NPD) process is following a stage-gate model. The process starts with idea generation, and continues with five stages and decision gates until commercialization and closing of project. 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 sustainability evaluations examine the economic, environmental and social impacts of any new product both on Kemira's operations and on our customers' operations. The NPD process also aims to identify and evaluate more sustainable alternatives for raw materials, in terms of safety and sources.

Key achievements in 2017

- In 2017, we reached our innovation sales target of 10% of total revenue. Our innovation revenue totaled EUR 248 million. Commercialization of new sustainable products or solutions have succeeded in replacing the sales of old bestselling products from the previous five years.
- New NPD process governance model was taken in use in Q1/2017 in order to improve new innovations time to market.
- Our products aimed for water treatment have positive environmental impacts by preventing and reducing eutrophication and pollution of water bodies. In 2017, the volume of water purified with Kemira's water treatment chemicals for public and industrial purposes was equal to the annual need of pure water to 320 million people.

Water purified with Kemira products
1,000 million m^3



The volume of water purified with Kemira products is based on the share of product sales to water purification applications and using an experience based average chemicals dosage. It is assumed that in Europe the average water consumption is about 155 liters per day per person.

Product stewardship

Our commitment

Proactive product stewardship throughout the products' lifecycle. Our management commitment is to ensure the safe use of our products throughout their lifecycle.

Material topics

Customer health and safety; Marketing and labeling; Socioeconomic (product) compliance.

Principal risks

Regulatory requirements related to product safety are always evolving. These requirements can both influence and reflect our stakeholders concerns. The outcome of regulatory processes can lead to authorization or restrictions of use which can be a risk to Kemira.

Management approach

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 impacts are incorporated in decision-making relating to our business. Product stewardship is the key pillar in the Responsible Care program.

Product Stewardship involves the proactive management of the health, safety and environmental aspects of a product throughout its lifecycle. Our customers have their own health, safety and environmental requirements for their input materials, and they typically follow several voluntary

Product stewardship management approach

certification schemes, including eco-labeling schemes, which set further expectations on our product offerings. Public discussion and concerns relating to specific chemicals and their hazards also affect our approach to product stewardship and chemical management. Product stewardship provides a platform that helps us to identify risks at an early stage and manage those risks along the value chain to fulfill the expectations of different stakeholders.

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 to each substance, 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.

Product lifecycle management

All our products 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 impacts, 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.

Commitment to animal welfare

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. Some Kemira chemicals which are used by our customers as raw materials in the production of cosmetics or consumer goods may have been tested on animals where specifically required by legislation or for product safety purposes.

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 the business compliance and plays a key role in ensuring product safety for customers, the value chain and stakeholders.

Key achievements in 2017

- We have continued to prepare for the remaining REACH registrations in the EU, and we are able to meet our obligations before the third and final transitional registration deadline at the end of May 2018. By end 2017, we have submitted 85% of substance dossiers being identified relevant at present for registration. Already registered substances are also regularly evaluated by the authorities. This can result in additional testing requirements, new risk management measures or inclusion in the REACH authorization process. During 2017, one substance, used as a raw material, received authorization for specified usage for the next 12 years.
- Priority substance management model was defined.
- Product Lifecycle Management (PLM) system was upgraded to integrate product master data, documents and basic product management as a central information hub to facilitate communication and collaboration throughout the product lifecycle.

Responsible operations and supply chain

Safety and minimized environmental impact are of utmost importance to our operations. High-performing environmental, health, safety and quality management is fundamental to Kemira. It is an integral part of our daily business management and daily work. We want to work as a responsible company within our entire value chain, from procurement of raw materials to the manufacturing and delivery of the right quality products to our customers on time and safely.

Responsible operations

Commitment

Ensuring responsible operations to protect our assets, our environment, employees, contractors, customers and communities.

Material topics

Energy; Water; Emissions; Effluents and waste; Environmental compliance; Occupational health and safety.

Principal risks

Chemical operations involve harmful and hazardous substances which are converted to other substances or products in on-line or batch processes controlled with a wide range of physical and chemical parameters. Malfunction in processess can lead to incidents with possible impacts on environment, or employees health and safety, or our assets. This can take place due to human behavior, technical failures or process safety deficiences. Some of our major product lines are very energy-intensive with environmental impact through carbon emissions.

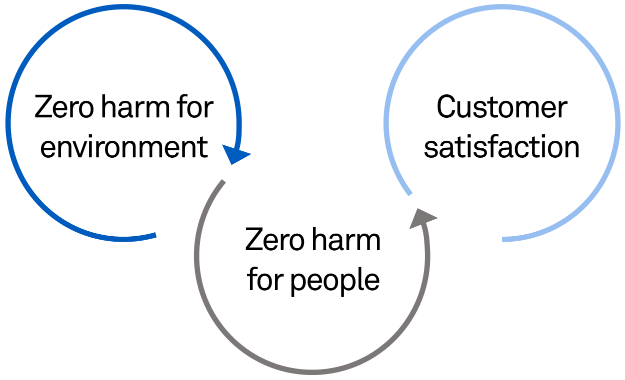
Management approach

High-performing Environmental, Health, Safety and Quality (EHSQ) management is fundamental to Kemira. It is integrated to Kemira´s business management and daily work. We want to work as a responsible company within our entire value chain, from sourcing of raw materials to the delivery of final products to our customers. We want to manufacture and deliver the right quality product to our customers on time and safely. The way to reach this goal is to work systematically, to do proactive risk assessment, identify improvement needs and engage our employees and business partners to implement precautionary EHSQ behaviour.

Our daily EHSQ work and practises are guided by legislation and regulations, our EHSQ Vision and Policy, and by the expectations of our stakeholders in our operating environment.

Integrated management system

Our EHSQ vision



EHSQ policy

The EHSQ Policy sets out our responsibilities to shareholders, customers, employees, business partners and society. They set the overall framework for the way we conduct business, with integrity and respect for people, the environment and communities. All ventures that we operate must conduct their activities in line with our policy.

Our EHSQ management systems

Our aim is to globally bring together all of our operations under the Kemira Integrated Management System. Our Code of Conduct and respective policies cover all areas of Kemira operations and define the framework for our Integrated Management System. The framework defines requirements and accountabilities at each level of the organization, and sets out the procedures and processes people are required to follow. Compliance with the Integrated Management System is ensured by regularly monitoring the performance indicators and by conducting internal and external EHSQ audits and management reviews. The management reviews are performed by segment or regional management and by the Management Board. We have several internal KPIs with annual targets, for example: Loss of primary containment (LOPC), environmental incidents, transport incidents, and process incidents.

Kemira has a principle that all operations under our Integrated Management System fulfill international standards ISO 9001 for Quality, ISO 14001 for Environment and OHSAS 18001 for Occupational Health & Safety. Our EHSQ Management System is externally audited through a three-year audit scheme.

Our energy policy is part of our EHSQ policy. Our ISO 50001 Energy Management System is applied to the most energy intensive maufacturing sites located in the European Union in order to meet the requirements of the EU's Energy Efficiency Directive.

Process safety management

Process Safety Management (PSM) is a critical element in Kemira's operations to avoid and manage consequences of process incidents or accidental releases of chemicals.

Kemira continuously improves PSM practices and processes. Our PSM standard (2014) sets out minimum requirements for all Kemira locations above any applicable legal requirements such as the USA's OSHA/PSM or EU's Seveso-III Directive. It resulted in improved reporting of Process Incidents, and has been driving improvement plans at all of Kemira's locations.

Key achievements in 2017

Management system audits

In 2017, we had 60 internal and external management systems audits (58 in 2016), including manufacturing sites, major office locations and R&D centers. 85% of the manufacturing sites were certified to ISO 9001 for Quality; 84% for ISO 14001 for Environment and OHSAS 18001 for Occupational Health & Safety.

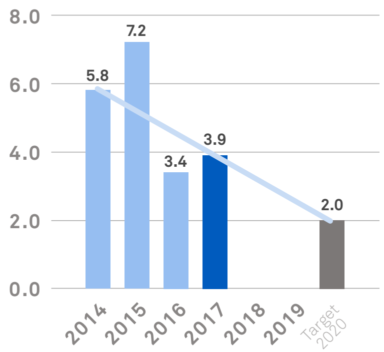
In 2017, the manufacturing sites in San Giorgio (Italy) and Fredrikstad (Norway) were certified to ISO 50001 (Energy Management Standard). Previously, Kemira Oyj's energy management system in Europe and the manufacturing sites in Helsingborg (Sweden), and Äetsä and Joutseno (Finland) have been certified against ISO 50001.

Safety in the workplace

Our long-term vision for safety is "Zero harm for people". Our performance target is to be in the "World Class" in Safety. This means that we want to achieve TRIF ≤ 2.0 by 2020.

Unfortunately, we saw a rise in the number of reported injuries in 2017, compared to 2016. By the end of year, we reported 3.9 injuries per million working hours. However, a long-term improvement trend is visible. One of our challenges was to manage contractors' safety; it will be one of our special focus areas in 2018.

Our safety performance (TRIF)



TRIF = number of total recordable injury frequency per million hours, Kemira + contractors.

During 2017, we continued our work for improving health and safety culture to prevent incidents and mitigating health and safety risks. The Behavior Based Safety program (BBS) was initiated in 2016 and continued in 2017. The overall aim of this program is to assist Kemira in improving safety performance by focusing on the action of people. Generally, behavioral human factors are involved in more than 90% of incidents. In September 2017, Phase Two was introduced and 11 additional Kemira sites joined the BBS program. We will also continue in 2018, and around 20 manufacturing locations will be added to this BBS program.

Safety was an important part of our internal audit and review systems. We further developed our internal EHS standards and focused on the implementation of safety critical standards. We also improved safety awareness through regional and global communications regarding incidents, and their root causes, to avoid repeating similar types of incidents.

In 2017, all Kemira employees had safety as a bonus KPI, based on safety performance (TRIF) and hazardous conditions and activities reporting (leading indicator).

Climate change - Energy and carbon emissions

In 2017, our operations in Finland accounted for 39% of our total energy consumption. The USA accounted for 36%, and other countries 25%.

Approximately 90% of our total energy consumption is used by 14 large manufacturing sites. These sites also account for 85% of our CO_2 emissions. A substantial portion of our energy management activities is focused on these most energy-intensive sites, which include seven sodium chlorate manufacturing plants in Finland, USA, Uruguay and Brazil. Sodium chlorate plants use approximately 90% of the electricity we purchase. Electricity prices consequently play an important role in the capacity utilization planning of our chlorate plants. The globally high demand for pulp has increased the need for sodium chlorates as pulp bleaching agents, and has contributed to the maintaining of our high level of investments in chlorate production.

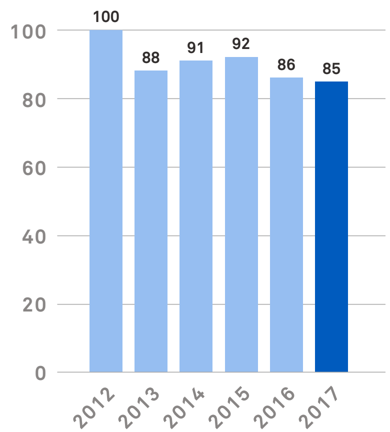
Kemira´s carbon reduction target

Kemira introduced a climate change target in 2014 to reduce the Kemira Carbon Index by 20 percentage points by the end of 2020, compared to the baseline year 2012. The key measures to reduce our carbon dioxide (CO_2) emissions include:

- Purchasing electricity and steam, which are generated using renewable, or less carbon-intensive energy sources
- Shifting our use of fuels towards less carbon-intensive energy sources
- Improving energy efficiency at our manufacturing sites

In 2017, the Kemira Carbon Index decreased to 85 (baseline year 2012: 100). We achieved a slight decrease in the carbon index compared to 2016, due to increased use of carbon neutral energy sources and continuous implementation of energy efficiency projects.

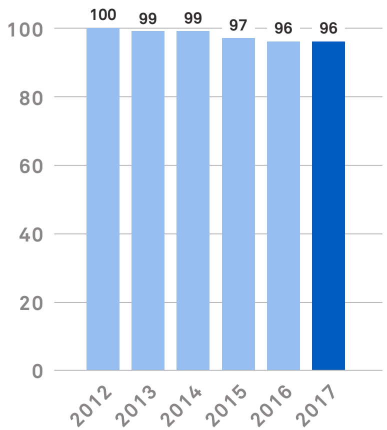
Kemira Carbon Index
Based on Scope 1 and Scope 2 emissions



The Kemira Carbon Index measures our CO_2 performance both on a consolidated basis and for individual manufacturing sites. It includes 14 large manufacturing sites covering approximately 90% of energy consumption (14 in 2016). The index covers the CO_2 emissions of fuel consumption for direct energy production at our sites ("Scope 1" emissions), as well as emissions from purchased steam and electricity ("Scope 2"), but it excludes direct emissions from chemical processing and transportation (upstream/downstream).The index is independent of the impacts of any changes in production volumes, but may be affected by the product mix.

Kemira energy efficiency
Our Energy Efficiency Index enables us to monitor energy efficiency both on a consolidated basis and for each major energy consuming site, reflecting the improvements we have achieved.

Kemira Energy Efficiency Index



The Kemira Energy Efficiency Index measures the ratio of energy use and production normalized to a 2012 benchmark for our 14 large manufacturing sites covering approximately 90% of energy consumption (14 in 2016), The index is not affected by changes in production volumes, but may be affected by the product mix.

Our energy efficiency enhancement program – E3plus
Energy costs amount to approximately 10% of our total sourcing spend. By continually improving energy efficiency at manufacturing sites, we are consistently reducing our energy usage and equivalent costs. During 2017, we continued upgrading 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 all 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, facilitating ISO 50001 certification in selected major energy consuming sites

During 2016-2017, we have established and empowered a global energy management team (EMT), whose members represent manufacturing sites, as well as our global energy sourcing management. The EMT coordinates, steers and supports energy management activities across all regions. Our energy efficiency measures and activities have a special focus on sites, which have the highest energy consumption. During 2017, site-specific energy efficiency targets were defined for the largest energy consuming sites, based on energy consumption data collected in 2015-2017, the findings of E3 Energy Reviews and the availability of resources.

In 2017, we continued to focus on large-scale manufacturing processes, with investments made in more energy efficient equipment and production lines. The continuous modernization of the process equipment used in our highly energy-intensive sodium chlorate plants, expecially those in Joutseno (Finland), Äetsä (Finland) and Fray Bentos (Uruguay) has enabled us to sustain a desired energy efficiency level. In 2017, the manufacturing sites in San Giorgio (Italy) and Fredrikstad (Norway) were certified to ISO 50001 (energy management standard). Previously, Kemira Oyj's Energy Management System in Europe and the manufacturing sites in Helsingborg (Sweden), and Äetsä and Joutseno (Finland) have been certified to ISO 50001.

Energy savings were additionally achieved during 2017 through the implementation of 23 projects (20 in 2016) across Kemira's operations. The resulting energy savings totaled 16,296 MWh (11,068 MWh in 2016) with cost savings of EUR 0.6 million (EUR 0.5 million in 2016). The cumulative cost savings that were achieved through about 480 such initiatives completed globally since 2010, now total EUR 9.8 million.

Responsible energy sourcing

The Kemira sites using the highest shares of the electricity we purchase are our energy intensive chlorate manufacturing sites in Finland and the United States. Our chlorate sites in Finland count for 42% (41% in 2016) of total purchased electricity during 2017.

The electricity price risk is mitigated through strategic investments in energy-generating companies, and by hedging a portion of our energy and electricity spend. Kemira owns shares in the Finnish energy companies Pohjolan Voima Oy (PVO) and Teollisuuden Voima Oyj (TVO). We purchase the rest of the electricity we use in Finland from Nord Pool. In other countries, energy is purchased from local suppliers, taking into account the favorability of the energy source. During 2017, Kemira received Guarantee of Origin certificates for 80,360 MWh (111,678 MWh in 2016) of electricity purchased from hydropower suppliers. All the certificates granted to Kemira were cancelled i.e. made non-tradable, with their benefits exclusively redeemed by Kemira.

Supply chain

Our commitments

Ensuring compliance with responsible business practices in our supply chain.

Material topics

Supplier environmental assessment; Supplier social assessment.

Principal risks

Our supplier management program aims to manage and develop performance and good governance throughout our supply chains, to reduce our risks related to the availability of raw materials, price volatility, and non-compliance to responsible business practices.

Description of our supply chain

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 1.9 billion in 2017. The Direct materials cover all raw materials and energy, while Indirect goods and services include all non-raw material related spending, for example, on equipment, services, and logistics.
- We have approximately 13,500 suppliers consisting of 1,600 Direct material suppliers and 11,900 Indirect suppliers. Despite the large number of suppliers, approximately 10% of all suppliers account for around 80% of the total spend. Geographically, approximately half of our suppliers reside in Europe.

STRUCTURE OF KEMIRA'S SUPPLIER BASE	Direct materials	Indirect goods and services
Number of suppliers, approximately	**1,600**	**11,900**
EMEA	720 (45%)	6,400 (~54%)
Americas	580 (36%)	4,000 (~33%)
APAC	300 (19%)	1,500 (~13%)
Number of suppliers that form 80% of the category spend	**190 (~10%)**	**1,220 (~10%)**

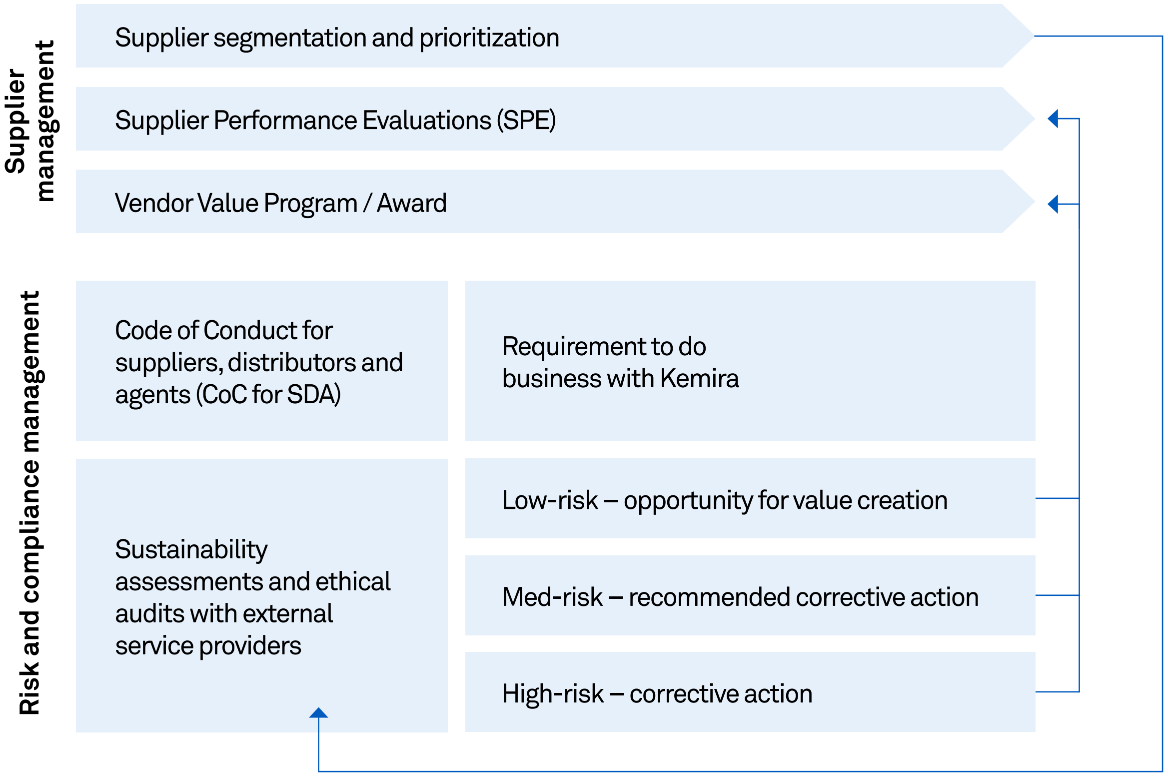
Management approach

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.

- Supplier Segmentation is a foundation not only for supplier risk and compliance management, but also for supplier relationship development. 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 is our official program to collect and provide 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 to support our management of the most important supplier relationships. The 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. In 2017, we introduced the first supplier awards based on a combination of Supplier excellence in operative performance, Contractual commitment and best value proposals provided to Kemira.

Supplier and supplier risk and compliance management



Our **Supplier risk and compliance** management defines the requirements for the suppliers to do business with (CoC-SDA) Kemira, as well as provides tools and processes for mitigating sustainablity risk with our suppliers (sustainability assessments and audits).

Code of Conduct for Suppliers, Distributors and Agents (COC-SDA)

- All of our suppliers must follow our Code of Conduct for Suppliers, Distributors and Agents (CoC-SDA) in relation to all of their dealings with Kemira. This Code contains requirements on issues including responsible business conduct, respect for human rights and provision of appropriate working conditions, and environmental responsibility.
- Supplier adherence to these principles is confirmed 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-SDA 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 (GRI 308-1: Supplier Environmental assessment; GRI 414-1: Supplier social assessment).
- If we cannot otherwise confirm that the supplier adheres to acceptable ethical principles, or should a supplier refuse to give such a confirmation, an evaluation is performed by our Sourcing personnel to assess whether we need to cease all purchases from them. We follow up with suppliers who do not confirm compliance. Compliance to our CoC-SDA within our supply chain is mandatory.

Supplier sustainability assessments and audits

- We use Supplier Assessments and Audits to evaluate and understand better how well our suppliers are acting in a way that is consistent with our principles and values i.e. CoC-SDA. We choose suppliers to be assessed or audited based on the supplier segmentation process and risk-based prioritization. Our aim is to have the majority of our strategic, critical and large spend suppliers evaluated via assessment or audit.
- The assessment platform is provided by an external third party company which is specialized in standardized supplier sustainability evaluation based on the principles of the UN Global Compact and the Responsible Care program.
- Supplier audits are conducted by an external auditor as an on-site audit. Audits follow the Sedex Members Ethical Trade Audit (SMETA) four-pillars method covering Labor standards, Health & Safety, Environment and Business Ethics criteria. We have targeted the conduct 25 audits during 2016-2020. The auditors summarize their findings in an detailed report which also contains a corrective action plan which is then reviewed and followed-up with the supplier as needed, and depending on the case. The assessment and audit results also feed into our SPE program and depending on the results, have different consequences. If audits or assessments indicate a high risk and room for improvement, this is also discussed with the supplier when we provide feedback on the general SPE results.

Key achievements in 2017

- By the end of 2017, a total of 96% (89%) of Kemira's contracted repeat suppliers had signed CoC-SDAs.
- Sustainability assessments: We continued enrolling new suppliers into our Sustainability program. A total of 135 suppliers have now gone through the assessment and have recorded an average score of 55, 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 70% of the reassessed suppliers were able to improve their score.
- In 2017, we conducted four (4) SMETA (Sedex Members Ethical Trade Audit) audits in collaboration with an external service provider with no business stopping results. Based on the audit results, follow-up schemes and an implementation timeframe are in preparation. The majority of the corrective actions, for example, were related to health and safety and labor practices (working hours, holidays, paying minimum wage). Some of the completed corrective actions include the established child labor policy, improved safety etc. It was also noted that there are some improvement actions that Kemira has only very little influencing power over, such as working hours and overtime and those have to be reviewed on a case by case basis.
- In 2017, as part of our Vendor Value Program, the first Supplier Awards were given to best performers based on excellence in operative performance, contractual commitment, and in value propositions.
- Quality audits: Large spend suppliers also undergo quality audits, which include workplace health and safety standards, production quality and supply security. In 2017, 19 quality audits were conducted.
- For the particular case of palm oil derivatives, we are sourcing palm oil fatty acids for our AKD wax production in Yanzhou, China. The majority (~ 80%) of our fatty acid demand is covered by suppliers that are certified by the RSPO (Round Table of Sustainable Palm Oil) to comply with the RSPO Supply Chain Standard for sustainable palm oil and we are striving to further expand the portion of certified sources.

People and integrity

Our commitment to people is our foundation for succeeding now and in the future. Integrity starts with each one of us, and this is best exemplified in our Code of Conduct.

People

Our commitment

Culture and commitment to people

Material topics

Diversity and Equal Opportunity; Non-discrimination, Training and Education.

Principal risks

To implement our strategy, we must ensure that we have committed people, a strong leadership bench and the indispensable competencies in place to implement our strategy. Competence and leadership gaps could prevent Kemira from successfully executing its strategy and maintaining customer satisfaction. We need to invest in a strong culture and commitment to people to retain our talents in a highly competitive employee market.

Management approach

Our values and the principles of our Code of Conduct are the foundation for creating a strong company culture and commitment to people. We aim to offer employees the right mix of opportunities and challenges in a global and diverse working environment. Our result-oriented and collaborative culture empowers employees to solve the challenges of tomorrow. Together we can have a major impact on our future. Our offering to employees includes talent management, leadership development, performance management and competence development, reward and recognition, and safety and well-being.

Key achievements in 2017

Simplified way of working

During 2017, we merged the Municipal & Industrial and Oil & Mining segments into one new segment, Industry & Water. The main objectives of the change were to simplify our way of working and further improve service to our customers. We adjusted our organizational structure to support the two segment model, reduced the senior management layers and implemented other cost efficiencies. We were able to retain key leadership talent by offering them new opportunities for growth and development.

Employee engagement survey

Due to the reorganization, we postponed the biennial employee engagement survey from autumn 2017 until spring 2018, to give managers at least six months with their new teams before engaging in the survey. From 2018–2020, we will begin to also look at more agile methods of getting employee feedback and employee engagement action planning.

Talent management and leadership development

We have continued to build a strong leadership bench to meet our business needs in relation to executing our strategy and driving our long-term growth. Our global Talent Management process is well established. It provides a structured way to identify and develop employees with potential for leadership positions. We are working to ensure that strong development plans are in place. Our leadership development target 2016–2020 is to provide, on average, at least two leadership development activities per people manager position during the period 2016–2020. In 2017, a total of 542 such activities were realized (target = 300), representing a strong performance comparable to 2016. Leadership development activities included also on-the-job learning opportunities in corporate development projects.

Performance management and competence development

Kemira's performance management process aligns our strategic targets with each employee's personal targets, performance evaluation, competencies and development plans. This process is now well-established within Kemira as part of our leadership culture, and it forms the backbone of our management system. Our employees are encouraged to take an active role in their own learning and development which includes keeping their competencies up to date in relation to their work and their career aspirations at Kemira. In 2017, we developed a continuous performance management concept using digital tools. It will be piloted in 2018. Also, as part of one corporate development project, we started the design for a sales and marketing competence development frame which will result in a more simplified and systematic approach to learning and development for customer-facing teams globally. This competence development approach will be aligned for the rest of the organization during 2018–2020.

Integrity

Our commitment

Ensuring compliance with Kemira Code of Conduct.

Material topics

Anti-corruption; Anti-competitive behavior; Diversity and equal opportunity; Non-discrimination; Freedom of association and collective bargaining; Human rights assessment; Public policy.

Principal risks

We are committed to ensureing compliance with regulatory requirements and high ethical standards. We recognize that operating in 40 countries with sales to over 100 countries creates an environment characterized by multiple ethics and compliance risks, including risk of corruption, fraud, competition compliance, trade compliance and human rights. These risks are mitigated via our global Ethics & Compliance program and related activities.

Management approach

Our values and Code of Conduct

Our management approach for integrity and responsible business practices is based on our corporate values and our Code of Conduct. These principles demonstrate our commitment to conduct our business in compliance with all applicable laws and regulations, and according to ethical standards.

Our Code of Conduct sets 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. The renewal of the Code was followed by an extensive global training and communication campaign. 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 training, which is currently available in 21 languages. The new eLearning, based on our updated Code, will be launched in 2018. We also train selected employee groups on more specific compliance matters, such as anti-bribery, competition compliance and insider information.

We expect our business partners to follow our Code of Conduct for Suppliers, Distributors and Agents (CoC-SDA) in their business activities. Both of these Code of Conduct documents, as well as our corporate values can be found at www.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 & compliance breaches.

Organizational structure for ethics and compliance

- Our **Ethics and Compliance** function is responsible for overseeing the effective implementation of Kemira's Ethics & 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 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 who support our regional ethics and compliance activities as part of their work.

Mechanisms for seeking ethics advice and 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 & Compliance function to express their concerns and ask questions.

All of our employees have also 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, wherever such channels are not restricted by local legislation. We provide regular training and communications to our employees on all of our available channels to report concerns. The Hotline system and the process of handling the reports are managed by the Ethics & Compliance function.

The email address responsibility(at)kemira.com 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 the Kemira Code of Conduct for Suppliers, Distributors and Agents.

All allegations of potential violations of our Code of Conduct made in good faith will receive a fair and comprehensive investigation utilizing relevant internal and/or external assistance. Any reporting of potential Code violations is treated strictly confidentially and anonymously to the extent possible.

During 2017, 32 concerns or allegations of potential Code of Conduct violations were reported via the Ethics & Compliance Hotline, or via other channels, such as direct reporting to the Ethics & Compliance function, local HR or to the Internal Audit. 14 cases were closed with merit – these are categorized in the following tables.

CONCERNS OR ALLEGATIONS OF POTENTIAL CODE OF CONDUCT VIOLATIONS REPORTED IN 2017	Number of cases	Cases closed with merit	Cases closed without merit	Open cases as of Dec 31, 2017
Cases reported via hotline	11	3	8	0
Cases reported via other channels	21	11	9	1
TOTAL NUMBER OF CASES	**32**	**14**	**17**	**1**

CASES CLOSED WITH MERIT BY ISSUE CATEGORY	Number of cases
Corruption and bribery	0
Anti-competitive behaviour	0
Employee relations and fair treatment	4
Harrassment	3
Other*	7
GRAND TOTAL	**14**

*Other includes following categories: conflict of interest, cyber fraud, EHSQ-issues, privacy and transactions and company records.

Key achievements in 2017

The following initiatives have taken place as part of Kemira's Ethics & Compliance Program and related activities during 2017:

- Our revised Code of Conduct was approved by Kemira's Board of Directors in June and launched globally to all employees via compherensive communications plan consisting of multiple learning channels such as mobile application, internal blog, videos and brochures in all local languages. All employees are required also to regulary conduct the Code of Conduct eLearning.
- We have reviewed our existing practices for effective Third party due diligence for our potential agents and distributors and introduced a new process to further develop our third party risk management. This process includes risk assessment, evaluating and training the third parties and ensuring their commitment to our Code of Conduct.
- To strengthen our commitment to comply with export control and international sanctions, we have established new internal controls to ensure compliance and implemented a Sanctioned Party Screening process enabling to identify sanctions related restrictions followed by a proper execution of any necessary measures.
- We have initiated a privacy development program in order to ensure compliance with the EU General Data Protection Regulation (GDPR) by May 25, 2018. Actions taken during the year include designing and rolling out a data flow mapping process, designing a process and tool for conducting privacy impact assessments, and creating and revising internal documentation such as privacy statements and intra-group data transfer agreements. We have also launched an awareness-building campaign by providing targeted briefings about the upcoming law to HR, IT, Legal and Sourcing professionals, as well as general information to employees and employee representatives.

Our performance indicators

Economic

ECONOMIC PERFORMANCE

GRI 201-1: Direct economic value generated and distributed

Kemira generates economic value from expertise, products and sustainable solutions enabling our customers to improve their water, energy and raw material 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. The economic value retained is reinvested in the company for capital investments, R&D and technology development. The economic value retained decreased to EUR 118 million (184) due to the settlement for the damage claim relating to the alleged old infringement of competition law, restructuring costs and changes in net working capital.

Kemira's financial mid- to long-term targets are above the market revenue growth (market growth estimate 2015–2020, CAGR: ~2.0%), operative EBITDA margin of 14–16% and gearing level below 60%. These group level financial targets are translated into business goals and performance measures for each business segment and further down to individual performance targets for employees.

The management approach to economic value generated and distributed is based on the Finnish Corporate Governance Code and the Limited Liability Companies Act, which states that the purpose of a company is to generate profits for its shareholders, unless otherwise provided in the Articles of Association. The overall responsibility for financial performance at group level belongs to the Board of Directors and CEO. Kemira has organized its global activities into two business segments, which bear full profit and loss responsibility. The segment heads are members of the Management Board. Kemira reports and discloses its financial statements in accordance with the International Financial Reporting Standards (IFRS). For detailed information, see the sections Corporate Governance Statement and the Financial Statement in the Kemira Annual Report 2017.

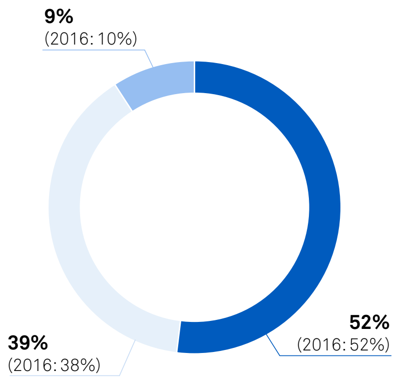
Economic value (cash flow based)

Stakeholder	ECONOMIC VALUE, EUR million	2017	2016	2015	2014	2013
	Direct economic value generated: revenues					
Customers	Income from customers on the basis of products and services sold, and financial income	**2,453**	2,386	2,350	2,100	2,268
	Direct economic value distributed					
Suppliers	Payments to suppliers of raw materials, goods and services	**1,831**	1,701	1,709	1,684	1,686
Employees	Employee wages and benefits	**362**	364	356	283	327
Investors & Lenders	Dividends, interests paid and financial expenses	**117**	114	113	112	113
Government & Public sector	Corporate income taxes	**25**	23	12	33	27
	Economic value retained	**118**	**184**	**160**	**-12**	**115**

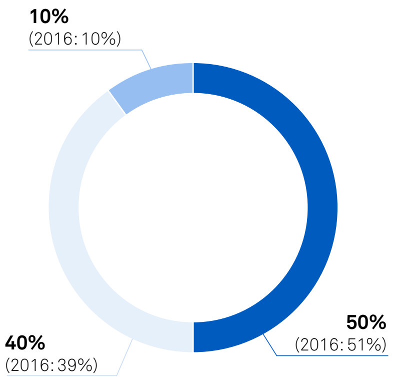
Community investments were EUR 0.23 (0.32) million through sponsorships and donations.

Economic value distributed by region

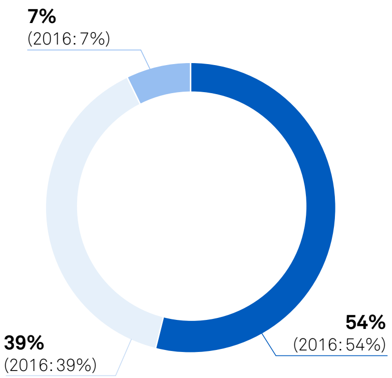
Revenue by customer location %



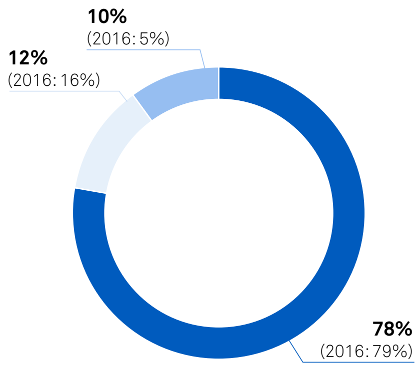
Payments to suppliers of raw materials, goods and services by region%



Employee wages and benefits by region %



Corporate income taxes by region %



- EMEA
- Americas
- APAC

Kemira as a tax payer

Kemira's approach to tax is to support responsible business performance in a sustainable way. Taxation is one of the essential factors in our current business environment. Taxes have a significant impact on our businesses, financing and growth opportunities.

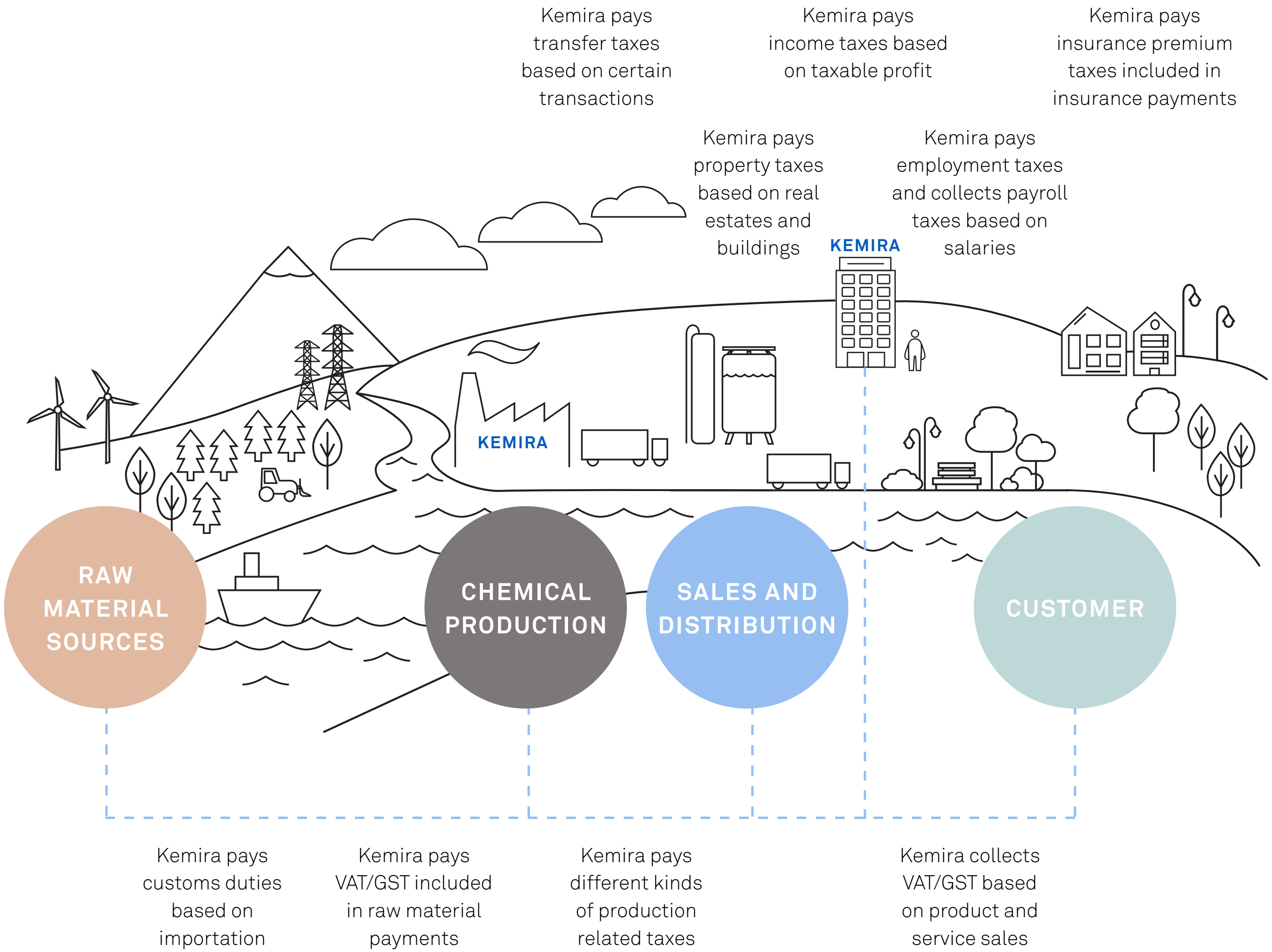
Kemira manages taxes according to the principles set in Kemira's Global Tax Policy ("Tax Policy"). The purpose of the Tax Policy is to set standards in how tax matters are managed and executed across the Kemira Group companies. The Tax Policy is aligned with our corporate strategy, values and the Kemira Code of Conduct.

The chemical industry is a capital-intensive sector, which is why it is essential to ensure that our operations and financing are arranged in an efficient and prudent manner from all tax perspectives. Kemira operates in over 100 countries and has globally subsidiaries. Our business is built upon a combination of centralized business processes and local performance. Consequently, our profits are generated both in Finland, our headquarter jurisdiction, and locally to arm's length transfer pricing principles.

Demanding and uncertain tax environment in 2017

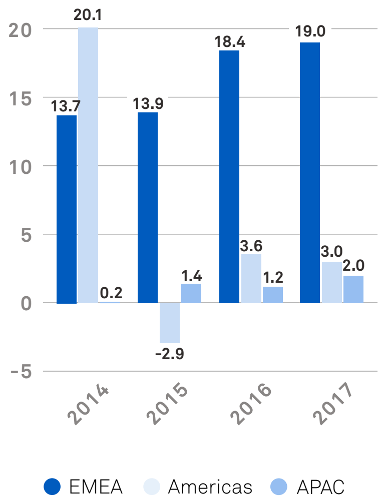
The constantly changing tax landscape causes increased complexity for corporations operating globally. Many changes around tax laws relate to the OECD's Base Erosion and Profit Shifting (BEPS) actions, the EU Commission's anti-tax avoidance directive (ATAD), as well as political reasons with regard to climate change and resource efficiency.

Kemira tax footprint



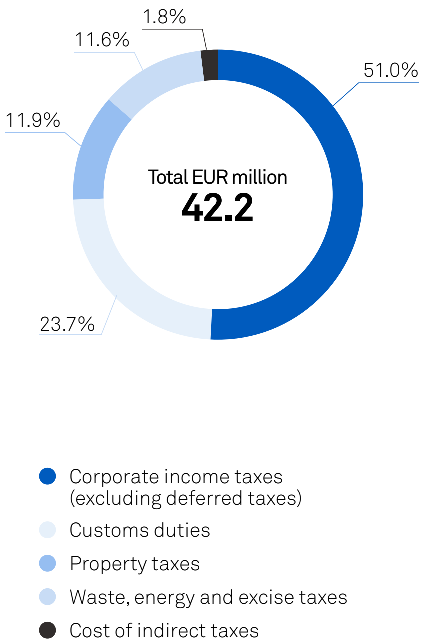
Taxes through the full value chain from raw material supply to finished goods deliveries to customers.

Corporate income taxes
EUR million



In 2015, Americas was refunded the overpaid taxes of 2014.

Estimated taxes borne 2017
EUR million and %



One of the most important developments in 2017 was the June signing of the OECD's Multilateral Instrument (MLI), a part of the OECD BEPS actions. Not all countries where Kemira operates signed the MLI, and the signatory countries, including Finland, also expressed reservations to the MLI.

Overall, the form of the future tax landscape is clearing up, now that both EU actions and the OECD's BEPS project are proceeding to the implementation phase. Kemira has analyzed and re-designed its tax structures to be aligned with the new requirements.

In addition, the new US tax reform legislation, signed into law in December 2017. Overall impacts of the US tax reform on Kemira´s tax position shall be depend on Kemira´s future growth and profitability in the US. Transition tax and base erosion and anti-abuse tax have immediate negative impacts. The US federal tax rate reduction shall have positive impact in the future.

Kemira has recognized the following general tax trends which may have an impact on our future tax position:

- Further decrease of corporate income tax rates;
- Increasing tax burden due to BEPS related international tax measures; and
- High VAT burden and spreading of implementation of VAT regimes worldwide continues.

Kemira is well prepared to be compliant with new requirements when they are enforced.

Information about companies registered in countries considered to be tax havens
Criteria for tax haven jurisdictions have been defined by the OECD, the EU and Global Forum, although currently only the EU has published a list of jurisdictions considered as tax havens.

Kemira does not operate in tax haven countries or countries with preferential tax regimes for tax reasons. With respect to countries listed by the EU, Kemira has a subsidiary, Kemira Chemicals Korea Corporation in South Korea, where we have production and sales operations for chemicals products. We pay taxes in South Korea based on the local rules and tax laws (South Korea corporate tax rate 22%). Additionally, Kemira has a branch in Dubai, United Arab Emirates, Turkey and Columbia for sales operations.

Kemira has had some treasury activities in the Netherlands since the 1980s. We pay taxes in the Netherlands based on the local rules and tax laws (at 25% corporate tax rate). Kemira's subsidiaries are listed in the Note 6.2 of the consolidated financial statement.

In addition to registered companies, Kemira's global sourcing and sales operations continues to take place in a number of countries which are listed, like tax havens by OECD, EU and Global Forum. Because Kemira is a multinational company with operations in over 100 countries, in order to run our business efficiently, we cannot avoid business operations in these countries.

More information on our tax management is published in Kemira's Tax Footprint Report 2017 which is available at **www.kemira.com** > Investors.

GRI 201-3: Defined benefit plan obligations and other retirement plans

The coverage of Kemira's defined benefit plans are reported in the Notes to the Consolidated Financial Statements: Note 4.5 Defined benefit plans. Kemira has various pension plans in accordance with local conditions and practices. The percentage of salary contributed by employee or employer to the benefit plan, and the level of participation in retirement plans are defined according to local legislation and practices.

GRI 201-4: Financial assistance received from government

Financial assistance received from governments is reported in the Notes to the Consolidated Financial Statements: Note 2.2 Other operating income and expenses. Kemira received in 2017 EUR 0.7 million (EUR 0.8 million) in government grants mainly for R&D in Finland.

ANTI-CORRUPTION

GRI 205-1: Operations assessed for risks related to corruption

Kemira conducted a global ethics & compliance risk assessment in 2016, covering key business operations and functions in all regions. Anti-corruption was one of the key focus areas in the assessment and the results of the assessments were utilized in Kemira's ethics & compliance and internal audit plans for 2017. No significant risks related to corruption were identified through ethics & compliance risk assessment or internal audits in 2017.

GRI 205-2: 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 **www.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.

100% of the members of Kemira's Board of Directors have received training on our Anti-Corruption Principles during 2017.

Kemira provides mandatory Anti-Bribery training to its white collar employees, who need to have 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.

		NUMBER OF PERMANENT EMPLOYEES, NOT ABSENT	Number of employees received training on anti-corruption	% of employees received training on anti-corruption
Americas	White collars	849	824	97
	Blue collars	649	0	0
APAC	White collars	412	401	97
	Blue collars	232	0	0
EMEA	White collars	1,573	1,495	95
	Blue collars	911	0	0
TOTAL		**4,626**	**2,270**	

We expect our suppliers and other business partners to conduct their business with integrity and commit to Kemira's Code of Conduct for Suppliers, Agents and Distributors (CoC-SDA) in their business activities with Kemira. The CoC-SDA states that Kemira expects its business partners to adhere to local legislation and avoid corruption in all its forms. We aim to communicate the CoC-SDA to all of our suppliers, agents and distributors. All of our suppliers (engaged with a SAP Purchased Order) receive a written reference to Kemira's Code of Conduct for Suppliers (Code) as part of the Kemira general terms of purchase on the back the Purchase Order. Our anti-corruption policy has been communicated to all of them through the Code.

GRI 205-2: Total number and percentage of suppliers that the organizations anti-corruption policy has been communicated to

REGION	TOTAL NUMBER OF SUPPLIERS*	Total number suppliers* that our anti-corruption principles have been communicated to	Percentage of suppliers* that our anti-corruption principles have been communicated to
EMEA	7,343	7,343	100%
Americas	4,776	4,776	100%
APAC	1,837	1,837	100%
TOTAL	**13,956**	**13,956**	**100%**

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

GRI 205-3: Confirmed incidents of corruption and actions taken

There were no confirmed incidents of corruption or public legal cases regarding corruption in 2017.

ANTI-COMPETITIVE BEHAVIOR

GRI 206-1: Legal actions for anti-competitive behavior, anti-trust, and monopoly practices

In 2017, Kemira had the following pending or completed legal actions initiated under national or international laws designed for regulating anti-competitive behavior, antitrust, or monopoly practices:

Kemira was a defendant in a damage claim litigation in Dortmund, Germany, where CDC Cartel Damage Claims Hydrogen Peroxide SA and CDC Holding SA (jointly referred to as “CDC”) claimed compensation for alleged damages relating to alleged historical infringements of competition law in the hydrogen peroxide business between 1994 and 2000. In October 2017, the parties to the litigation reached a settlement whereby Kemira agreed to pay to CDC as compensation and costs the total of EUR 12.7 million.

Kemira continues to defend itself against a legal action filed by CDC against Kemira Chemicals Oy (former Finnish Chemicals Oy) in Amsterdam, Netherlands, related to an alleged historical infringement of competition law in the sodium chlorate business by Finnish Chemicals Oy between 1994 and 2000. Kemira acquired Finnish Chemicals in 2005.

Two class action suits and four individual suits have been filed in the United States during 2015–2017 based on alleged violations of antitrust laws relating to the sale of certain water treatment chemicals. In some of those suits, Kemira has been named as a defendant among other defendants. The four individual legal suits are opt-out suits, whereby the plaintiffs opted out of one of the class actions. According to Kemira’s assessment, all of these class action suits and individual suits against Kemira in the US lack merit.

Environmental

MATERIALS

GRI 301-1: Materials used by weight or volume
GRI 301-2: Recycled input materials used

The majority of Kemira's raw materials are non-renewable materials. The renewable materials used include mainly starches, tall oil, and fatty acid derivatives.

The recycled input materials used by Kemira are industrial by-products and recycled materials from external partners. These materials include inorganic materials such as scrap iron, ferrous sulphate and spent pickling liquor bath, and organic materials such as tall oil and by-product fatty alcohols. Industrial by-products are mainly from smelters, as well as steel and metal manufacturing. Inorganic by-products and recycled materials are mainly used in the production of inorganic coagulants, the product group used in water treatment. In this product group, recycled input material may account for up to 70 – 80% of all raw materials used. In 2017, approximately 23% (27% in 2016) of raw materials across all Kemira business segments were recycled input materials. Volume of recycled materials dropped because we were not able to buy ferrous sulphate due to the cease of the operations of one of our main suppliers.

MATERIALS, million tonnes	GRI	2017	2016	2015	2014	2013
TOTAL MATERIALS USED	301-1	**3.510**	**3.536**	**3.293**	**3.276**	**3.521**
Non-renewable materials	301-1	**3.438**	3.458	3.222	3.217	3.461
Renewable materials	301-1	**0.072**	0.078	0.071	0.059	0.060
Share of renewable materials, %	301-1	**2.1**	2.2%	2.2%	1.8%	1.7%
RECYCLED INPUT MATERIALS USED Industrial by-products and recycled material from external partners	301-2	**0.799**	**0.945**	**0.904**	**0.897**	**0.911**
Share of recycled materials, %	301-2	**22.8%**	26.7%	27.5%	27.4%	25.9%

CLIMATE CHANGE: ENERGY AND CARBON EMISSIONS

Energy balance

FUEL 818 (897) GWH
- Renewable 0 (0)
- Non-renewable 818 (897)

HEAT 735 (699) GWH
- Renewable 410 (388)
- Non-renewable 324 (311)

ELECTRICITY 3,322 (3,215) GWH
- Renewable 855 (741)
- Non-renewable 2,467 (2,474)

TOTAL FUEL AND PURCHASED ENERGY INPUT 4,875 (4,811) GWH
- Renewable 1,265 (1,129)
- Non-renewable 3,609 (3,682)

ENERGY CONSUMPTION 4,441 (4,362) GWH

HEAT SOLD OFF-SITE 401 (414) GWH

ELECTRICITY SOLD OFF-SITE 33 (35) GWH

Energy consumption by geography in 2017

Finland **39%** USA **36%** Other countries **25%**

GRI 302-1: Energy consumption within the organization
GRI 302-3: Energy intensity
GRI 302-4: Reduction of energy consumption

ENERGY BALANCE, GWh	GRI	2017	2016*	2015	2014	2013
TOTAL FUEL AND PURCHASED ENERGY INPUT		**4,875**	**4,811**	**4,141**	**4,107**	**4,555**
Consumed fuel as energy source		**818**	**897**	**579**	**542**	**491**
Non-renewable	302-1a	**818**	897	570	542	491
Renewable	302-1b	**0**	0	8	0	0
Purchased electricity	302-1c	**3,322**	**3,215**	**2,935**	**2,820**	**2,799**
Non-renewable		**2,467**	2,474	2,301	2,282	2,249
Renewable		**855**	741	634	539	550
Purchased heat and steam	302-1c	**735**	**699**	**627**	**745**	**1,265**
Non-renewable		**324**	311	262	148	1,048
Renewable		**410**	388	365	596	217
TOTAL FUEL AND PURCHASED ENERGY INPUT BY SOURCE	302-1a, b	**4,875**	**4,811**	**4,141**	**4,107**	**4,555**
Non-renewable		**3,609**	3,682	3,133	2,972	3,789
Renewable		**1,265**	1,129	1,008	1,135	767
TOTAL ENERGY SOLD		**434**	**449**	**424**	**396**	**429**
Heat[1] sold off-site	302-1d	**401**	414	390	366	384
Electricity sold off-site	302-1d	**33**	35	35	31	44
TOTAL ENERGY CONSUMPTION[2]	302-1e	**4,441**	**4,362**	**3,717**	**3,711**	**4,127**
CHANGE IN TOTAL ENERGY CONSUMPTION[3]	302-4	**79**	**645**	**6**	**-416**	**128**
Production volume, 1,000 tonnes		**5,380**	5,028	4,840	4,587	4,809
ENERGY INTENSITY, GWh per 1,000 tonnes of production[4]	302-3	**0.8**	**0.8**	**0.8**	**0.8**	**0.9**

* Updates to 2016 data were provided by sites during 2017 data collection. At the beginning of 2016, Kemira has included the use of hydrogen as a fuel in boilers as non-renewable consumed fuel energy source.

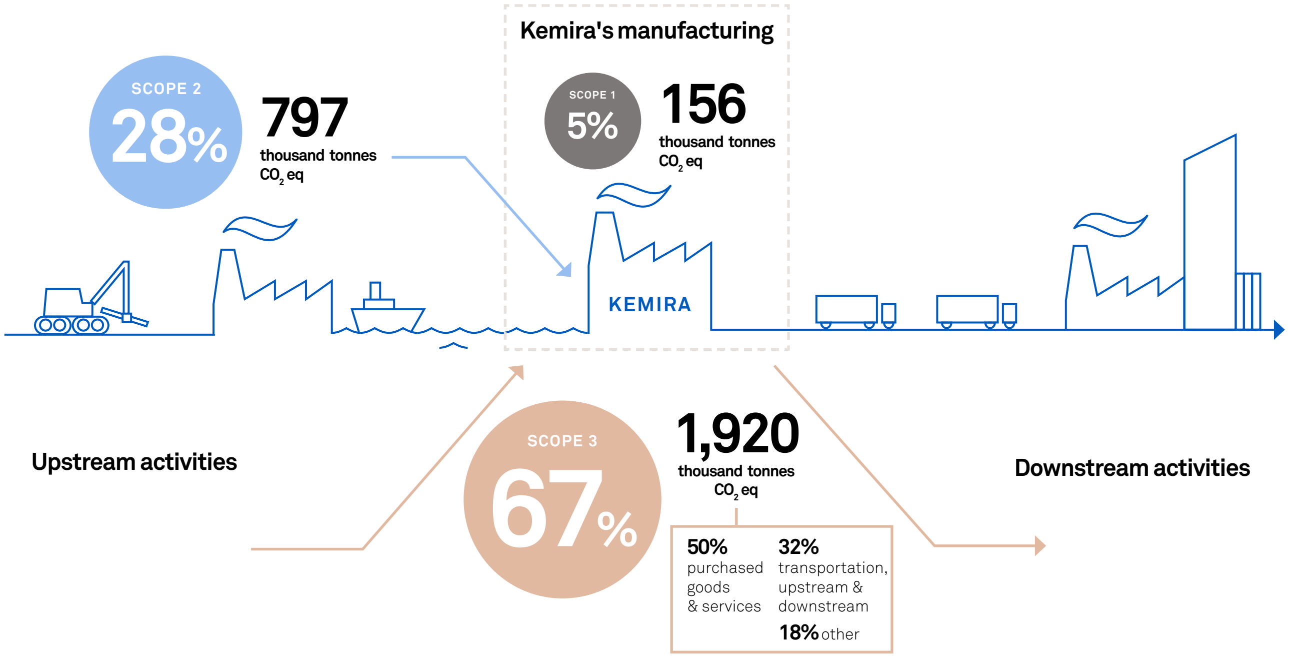
1 Sum of steam, district heat, condensate, and other heat delivered off-site.

2 The amount of fuel consumed plus purchased electricity and heat minus heat and electricity sold. Self-generated electricity generated at 2 sites is consumed on site. Therefore, it is not included in the calculation. The primary reason for the increase in total energy consumption is increased production volume.

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.

Greenhouse gas (GHG) emissions in Kemira's value chain



● **SCOPE 1 (DIRECT), market-based**
Emissions from fuels to produce energy in sites owned and controlled by Kemira

● **SCOPE 2 (INDIRECT), market-based**
Emissions from purchased electricity, heat and steam consumed at Kemira's manufacturing sites

● **SCOPE 3 (INDIRECT)**
Emissions from purchased raw materials, fuel and energy related activities, upstream transportation, downstream transportation and distribution and other downstream activities

Emissions by geography in 2017, Scope 1 and Scope 2, market-based

Finland **32%** USA **39%** Other countries **28%**

Kemira's GHG emissions are primarily carbon dioxide (CO_2), and negligible emissions of methane (CH_4) and nitrous oxide (N_2O). Kemira estimates GHG emissions using factors in terms of CO_2 equivalent (CO_2eq.) and does not specifically estimate and report mass emissions of CH_4 and N_2O.

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

- Generation of electricity, heating, cooling and steam: these emissions result from the combustion of fuels in stationary sources, such as boilers and internal combustion engines, and
- Emissions from physical or chemical processing of raw materials and chemicals

Kemira's manufacturing sites generally use low-carbon intensive fuels such as natural gas, propane, and diesel fuel. On-site production of electricity, heating, cooling, and steam at most Kemira manufacturing sites is minimal.

Indirect (Scope 2) GHG emissions include, but are not limited to, the CO_2 emissions from the generation of purchased or acquired electricity, heating, cooling, and steam consumed by an organization. Furthermore, many sites purchase or acquire electricity, heating, cooling, and steam resources from either the local municipal authority or from a separate manufacturing facility located within the same industrial complex.

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

Carbon emission trends

Scope 1 emissions in 2017 were consistent with 2016 emissions despite an increase in production compared to 2016. Kemira maintained emissions at the 2016 levels through the use of less carbon-intensive fuels where possible. Scope 2 emissions also remained consistent with 2016 levels due to continued improvements in energy efficiency and a higher share of purchased energy with lower GHG emissions levels (renewable sources) compared to 2016. The overall GHG emissions intensity is consistent with historical levels despite continued increases in production (7% increase in production compared to 2016, and a 12% increase in production compared to 2013).

Scope 3 emissions in 2017 are consistent with previous emissions within the level of accuracy associated with the calculation methodology. Purchased goods and services (including capital goods) cover 50% (49%), and transportation and distribution emissions (upstream and downstream) 32% (34%) of our Scope 3 emissions. Waste generated and transported by our plants increased to 4% (2%) of overall Scope 3 emissions.

GRI 305-1: Direct (Scope 1) GHG emissions
GRI 305-2: Energy indirect (Scope 2) GHG emissions
GRI 305-3: Other indirect (Scope 3) GHG emissions
GRI 305-4: GHG emissions intensity
GRI 305-5: Reduction of GHG emissions

GREENHOUSE GAS (GHG) EMISSIONS, CO_2eq 1,000 tonnes	GRI	2017	2016	2015	2014	2013
TOTAL GHG EMISSIONS[1]		**2,873**	**2,685***	**2,646**	**2,496**	**2,651**
Direct (Scope 1) GHG emissions[2a]	305-1	**156**	165*	169	144	137
Change		**-9**	-4*	25	7	-10
Biogenic Direct (Scope 1) GHG emissions[2b]	305-1c	**0**				
Change						
Energy indirect (Scope 2) emissions: market-based[3a]	305-2	**797**	790**	767	771	904
Change		**7**	23	4	-133	-46
Energy indirect (Scope 2) emissions: location-based[3b]		**1,049**	999*	988		
Change		**50**	11*			
Other indirect emissions: Scope 3[4a]	305-3a	**1,920**	1,730*	1,710	1,581	1,609
Change		**190**	20*	129	-28	15
Other indirect emissions: Scope 3 Biogenic emissions[4b]	305-3c	**0**				
Change						
CHANGE IN TOTAL GHG EMISSIONS	305-5	**188**	**39***	**150**	**-155**	**-41**
Production volume, 1,000 tonnes		**5,380**	5,028	4,840	4,587	4,809
GHG EMISSIONS INTENSITY, tCO_2 per tonnes of production[5]	305-4	**0.5**	**0.5**	**0.6**	**0.5**	**0.6**

* Minor updates to 2016 data were provided by sites during 2017 data collection.

** Adjusted due to an error associated with emissions from purchased electricity produced by burning waste.

Since 2013, GHGs are reported as CO_2 equivalent (eq). In previous years, only CO_2 emissions were reported.

1 Scope1 + 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_2eq 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.

3a 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. GHG emissions are calculated as

CO_2eq which includes CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, NF_3. 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.

3b Location based Scope 2 emissions were calculated first time in 2015.

4a GHG emissions from Kemira's value chain (Scope 3 of WRI/ WBCSD GHG Protocol). Minor changes have occurred for previous years as more updated data was available for this report.

4b GRI Standard has introduced requirement of disclosure of biogenic emissions, which Kemira started to report in 2017.

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.

OTHER INDIRECT (SCOPE 3) GHG EMISSIONS BY CATEGORIES, CO_2eq 1,000 tonnes	GRI	2017	2016	2015	2014	2013
TOTAL SCOPE 3 EMISSIONS	305-3d	**1,920**	**1,730***	**1,710**	**1,580**	**1,610**
1. Purchased goods and services		**960**	840	870	760	770
2. Capital goods*		*****	*	*	*	*
3. Fuel and energy related activities		**240**	230	230	240	220
4. Upstream transportation and distribution		**240**	220	200	200	220
5. Waste generated in operations		**80**	40	20	20	20
6. Business travel		**5**	10	10	10	10
7. Employee commuting		**10**	10	10	10	10
8. Upstream leased assets (leased offices)		**10**	10	10	10	10
9. Downstream transportation and distribution		**370**	370*	350	330	340
11. Use of sold products		**0**	0	0	0	0
12. End-of-life treatment of sold products		**2**	2*	0	0	0

* Minor updates to 2016 data were provided during 2017 data collection.

Some Scope 3 history data was updated during 2017 calculation processes since more updated information was available. The updates were made in categories 3, 5 and 9. The impact of the updates on 2016 Scope 3 results was +3%, mainly due to updated data for category 9.

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. GHG emissions are calculated as CO_2eq. 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 +/- 15%. CEFIC = The European Chemical Industry Council; ECTA=The European Chemical Transport Association.

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.

WATER

GRI 303-1: Water withdrawal by source
GRI 303-3: Water recycled and reused
GRI 306-1: Water discharge by quality and destination

Water management approach

Through our EHSQ Policy, Kemira strives to minimize water consumption and minimize negative impacts 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. Cooling water is approximately 92% of the total water withdrawal. Five sites which take cooling water from surface waters with return back to the original source account for 85% of total cooling water intake.

Where possible, water is recycled and/or reused at Kemira's sites to reduce water consumption. Kemira is continuously evaluating opportunities to decrease water consumption through process optimization projects, for example, in all our upgrade and new production line projects.

Wastewater and cooling water discharges at the manufacturing sites are subject to regulatory and permitting requirements. Wastewater is treated in accordance with local legislation and regulations. Wastewater generated from Kemira's manufacturing processes is primarily treated in external wastewater treatment plants prior to discharge to a waterbody. Cooling water does not usually require treatment. In 2017, there were no significant fines or non-conformities with environmental laws or regulations or claims from external wastewater treatment plant authorities against Kemira.

Water risk assessment

Kemira conducted a water risk assessment for the first time in 2014 to define the potential impact both to our operations due to water scarcity, and to local water resources due to our operations. The assessment was carried out at 54 sites globally by using the Global Water Tool developed by the World Business Council for Sustainable Development (WBCSD) to identify a site's location in extremely water-scarce areas, and the GEMI Local Water Tool to identify site-specific water risks. The 2014 results indicated that Kemira operations pose a low risk to local water resources while water scarcity may pose a potential business discontinuity risk to Kemira operations at one manufacturing site.

In 2017, Kemira conducted a second assessment by using the World Resources Institute's Aqueduct global water risk mapping tool to identify water risks. The mapping covered our 63 manufacturing sites. The results indicated that our withdrawals will not cause significant affect in any water sources for the following reasons:

- About 92% of total water withdrawal is used as cooling water and none of Kemira's discharges are known to have, or are likely to have, signifcant impacts on the water body and associated habitats and users;
- Based on location of the manufacturing sites, the overall water risk was rated "Low" for 2%, "Low to medium" for 70%, "Medium to high" for 24% and "High" for <5% of the 63 manufacturing sites; and
- The manufacturing sites covering 99% of total water withdrawal are located in areas with "Low" or "Low to medium" overall water risk.

Water withdrawal and discharges trends

The total water withdrawal decreased by approximately 4% from 2016 and by approximately 38% since 2013. The water withdrawal intensity (m^3 per tonnes of production) decreased by approximately 10% from 2016 and by approximately 45% since 2013. Water intensity reduction between 2013 and 2014 is due to divestment of formic acid production in Oulu.

The chemical oxygen demand (COD) discharge increased by approximately 12% from 2016. The biological oxygen demand (BOD), Nitrogen (N) and Phosphorus (P) discharges remained at the same same level as in 2016. The discharge of suspended solids increased to 4 tonnes from 1 tonne in 2016. The discharge of other (eg. heavy metals, chlorides) pollutants decreased approximately 6% from 2016.

WATER BALANCE, million m³	GRI	2017	2016	2015	2014	2013
WATER WITHDRAWAL BY SOURCES, TOTAL	303-1	**97.7**	**102**	**98**	**104**	**158**
Sources of process water		**8.1**	**8.5***	**8.4**	**7.5**	**6.3**
Surface water		**3.9**	4.2*	4.2	3.7	1.5
Ground water		**1.0**	1.1	1.3	1.1	0.4
Rainwater		**0.0**	0.1	0.0	0.0	0.1
Waste water from another organization		**0.0**	0.0	0.0	0.0	0.1
Municipal water suppliers		**2.4**	2.4	2.4	2.2	2.2
Other		**0.7**	0.8	0.5	0.5	2
Sources of cooling water		**89.6**	**93.5**	**89.4**	**96.7**	**152.0**
Surface water		**83.7**	88.0	83.6	93.3	146
Ground water		**2.0**	1.6	2.3	0.3	2
Rainwater		**0.0**	0.0	0.0	0.0	0
Waste water from another organization		**0.0**	0.0	0.0	0.0	0
Municipal water suppliers		**0.2**	0.1	0.2	0.2	1
Other		**3.7**	3.7	3.3	2.9	3
WATER RECYCLED AND REUSED, TOTAL	303-3a; 306-1a	**16.7**	**20.4**	**16.9**	**25.9**	**74.6**
Water recycled back in the same process		**13.5**	17.2	13.8	23.0	74.5
Water recycled in a different process, but within the same facility		**2.8**	2.8	3.1	2.9	0.1
Water reused in another facility	306-1a.iii	**0.4**	0.4	0.1	0.0	0.0
Share of total water recycled and reused, %[1]	303-3b	**17%**	20 %	17 %	25 %	47 %
WATER DISCHARGES BY DESTINATION, TOTAL	306-1a.i	**75.0**	**75.2**	**72.8**	**73.0**	**2.1**
External treatment of wastewater[3]		**1.6**	1.5	1.5	1.6	1.7
Own treatment of wastewater[3]		**0.6**	0.6	0.5	0.5	0.4
Discharged with no treatment required (e.g., cooling water)		**72.8**	73.2	70.8	70.9	NA**
Unspecified water losses[2]		**6.0**	**6.5**	**8.1**	**5.3**	**NA****
Production volume, 1,000 tonnes		**5,380**	5,028	4,840	4,587	4,809
WATER WITHDRAWAL INTENSITY, m³ per tonnes of production		**18.2**	**20.3**	**20.2**	**22.7**	**32.9**

* Minor updates to 2016 data were provided by sites during 2017 data collection. The figures presented are based on data collected directly from Kemira's sites.

The calculations have been made according to GRI Standards. The figures presented are based on data collected from Kemira's sites.

Source of water used for purposes besides process and cooling are not included in the water balance since they comprise less than 1% of total water withdrawal.

** Cooling water discharges not included in the data collection before 2014.

[1] Water recycled and reused is calculated as a percentage of the total water withdrawal as specified in Disclosure 303-1.

[2] Balance = Unspecified water losses such as water evaporated. Calculated as Water withdrawal minus Water reused and recycled minus Water discharged. Kemira aims to have a minimum 90% accuracy on the water balance. First reported in 2014 when data for discharge of cooling water became available.

3 Further description of volume by destination (e.g., river, sea) is not provided since the values are typically less than 5% of total.

Water intensity reduction between 2013 and 2014 is due to divestment of formic acid production in Oulu.

TOTAL WATER DISCHARGES BY QUALITY, tonnes	GRI	2017	2016	2015	2014	2013
Chemical Oxygen Demand (COD)	306-1a.ii	**38**	34	16	15	16
Biological Oxygen Demand (BOD)	306-1a.ii	**0**	0	1	2	1
Nitrogen (N)	306-1a.ii	**3**	3	2	2	2
Phosphorus (P)	306-1a.ii	**1**	1	1	1	1
Suspended solids	306-1a.ii	**4**	1	2	5	2
Other (e.g., heavy metals, chlorides)[1]	306-1a.ii	**291**	308	9	1	1
Total Organic Carbon (TOC)[2]	306-1a.ii	**1**				

The calculations have been made according to GRI Standards. Data limited to wastewater discharges from own treatment. Kemira reports discharge quality data only from sites required by environmental laws and regulations or other requirements to monitor these parameters.

[1] In 2016, these releases consisted of chlorides at some sites. The increase in tonnes in the "Other" category is related to primarily to one site experiencing a significant increase in discharge volume compared to 2015 and to the availability of more accurate analytical data.

[2] First reported in 2017.

OTHER AIR EMISSIONS AND WASTE

GRI 305-6: Emissions of ozone-depleting substances (ods)

GRI 305-7: Nitrogen oxides (NO_x), sulfur oxides (SO_x), and other significant air emissions

Nitrogen oxides (NOx) emission has remained practically at the same level as in 2016 and decreased by approximately 13% since 2013. Sulfur oxides (SOx) emission has decreased by approximately 8% from 2016 and approximately 37% since 2013.

RELEASES INTO AIR, tonnes	GRI	2017	2016	2015	2014	2013
Nitrogen oxides (NO_x)[1]	305-7a.i	**161**	160*	194	206	185
Sulfur oxides (SO_x)[2]	305-7a.ii	**77**	84	83	86	122
Volatile organic compounds (VOC)[3]	305-7a.iv	**549**	783*	430	661	682
Other air emissions[4,5]	305-7a.vii	**99**	173*	36	59	65
Particulates (PM)	305-7a.vi	**18**	11	14	16	16
Persistent organic pollutants (POP)[5]	305-7a.iii	**0**				
Hazardous air pollutants (HAP)[5]	305-7a.v	**13**				
Ozone-depleting substances[6]	305-6	**0**	0	0	0	0

* Minor updates to 2016 data were provided by sites during 2017 data collection. The figures presented are based on data collected directly from Kemira's sites.

1 NO_x consists of nitric oxide and nitrogen dioxide.

2 SO_x consists of sulfur dioxide and sulfur trioxide.

3 VOC is a sum of volatile organic compounds as defined in EU Directive 1999/13/EC. VOC increases are primarily associated with the site that is the largest emitter of VOC in Kemira. The site's production rate increased in 2016, and the site improved the accuracy of the emissions calculation methodology for VOC.

4 Other standard categories of air emissions identified in relevant regulations. New reporting requirement starting in 2017. Includes former reporting requirement of Volatile Inorganic Compounds (VIC), which was reported as the sum of ammonia, hydrogen chloride and six other simple inorganic compounds through 2016. GRI Standard no longer requires reporting of VIC. VIC increases are primarily associated with the site that is the largest emitter of VIC in Kemira. The site's production rate increased in 2016, and the site improved the accuracy of the emissions calculation methodology for VIC.

5 New reporting requirement starting in 2017. Changes in emissions between Other air emissions, POP, and HAP may be attributable to how emissions are regulated in a specific location. For example, acrylonitrile is specifically regulated under the term "HAP" in the United States and would be reported as such. However, acrylonitrile may not be regulated using the term HAP in another country and may be reported under Other air emissions.

6 A value of zero represents emissions equal to or greater than 0 and less than 0.5 tonnes. Emissions prior to 2017 were associated with one manufacturing site. In 2017, that site replaced the ODS material with a non-ODS material.

GRI 306-2: Waste by type and disposal method

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

Hazardous waste

Ten manufacturing sites generate approximately 89% of the hazardous waste. In 2017, one site alone accounts for 55% of hazardous waste generated. The significant share of certain sites to generate hazardous waste has been recognized and analysis for different solutions to decrease generation of hazardous waste is under process. The total amount of hazardous waste decreased by approximately 3% from 2016.

Non-hazardous waste

In 2017 non-hazardous waste volume increased compared to 2016 due in part to, sites that disposed of accumulated material that was generated during and prior to 2017. These events are not normally part of typical wastes generated at a site. Total amount of non-hazardous waste increased by approximately 102% from 2016.

WASTE, 1,000 tonnes	GRI	2017	2016	2015	2014	2013
HAZARDOUS WASTES, TOTAL	306-2a	**47.8**	**49.1***	**75.2**	**41.7**	**41.3**
Off-site landfill		**1.9**	1.1*	1.3	1.2	1.4
Off-site incineration		**6.2**	5.0	2.6	1.7	3.9
Off-site recycling		**6.3**	7.3	9.6	6.6	3.0
Off-site deep well injection[1,2]		**26.3**	28.2*	54.8	28.1	31.1
Off-site recovery, including energy recovery		**0.0**	0.0	0.0	0.0	0.0
Other off-site treatment[2]		**6.9**	7.4*	6.9	3.6	1.9
On-site incineration		**0.2**	0.1	0.0	0.5	0.0
On-site landfill		**0.0**	0.0	0.0	0.0	0.0
NON-HAZARDOUS WASTES, TOTAL[3]	306-2b	**62.2**	**30.8***	**35.4**	**27.7**	**26.6**
Off-site landfill		**19.2**	12.3*	10.6	11.6	13.7
Off-site incineration		**1.3**	1.6*	1.3	0.8	5.7
Off-site recycling		**4.5**	7.1*	14.9	11.8	4.6
Off-site recovery, including energy recovery		**0.0**	0.0	0.0	0.0	0.0
Other off-site treatment		**36.6**	9.7	8.2	3.1	2.5
Off-site composting[1]		**0.5**				
On-site incineration		**0.0**	0.0	0.0	0.4	0.0
On-site landfill		**0.0**	0.1*	0.3	0.0	0.1
TOTAL WASTE DISPOSAL		**110.0**	**79.9***	**110.6**	**69.4**	**67.9**

*Minor updates to 2016 data were provided by sites during 2017 data collection.

[1] New disposal method reported starting in 2017.

[2] Kemira has updated these values to account for the impact of the new disposal methods introduced in 2017. For example, "Other off-site treatment" included deep well injection during 2013-2016. The values in this table will differ from previous reports.

[3] In 2017 waste amounts increased compared to 2016 due, in part to, sites that disposed of accumulated material that was generated during and prior to 2017. These events are not normally part of typical wastes generated at a site. The waste disposal tonnes in 2016 were less than 2015. In 2015, one site generated a waste that was not part of their normal production wastes. This one-time event caused the 2015 waste disposal tonnes to be abnormally high. In addition, the amount of waste generated due to site closures in 2016 was less than in 2015. The total 2016 waste disposal tonnes are consistent with years other than 2015.

GRI 306-3: Significant spills

A global Spill Prevention Standard was approved in March 2017. Kemira had internal KPIs with annual targets for Loss of Primary Containments (LOPC) and Environmental Incidents in 2017. Kemira follows an Incident Reporting Standard that defines incident types and establishes the minimum requirements for incident reporting and classification of all EHSQ incidents. This standard applies to all Kemira employees, contractors, temporary and supplemental staff at all Kemira and/or customer locations.

Kemira's definition of a Major Incident includes an environmental incident 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, UN 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 that would be a Kemira Crisis Category of Local Level or Group Regional and Global Level.

In 2017 there were 12 significant spills according to Kemira's Incident Reporting Standard that involved environmental releases, compared to 10 in 2016.

- Transportation incidents (including related loading and unloading activities) accounted for three significant spills. The total volume of the transportation incidents was approximately 147 tonnes.
- Manufacturing incidents accounted for nine significant spills. The total volume of the significant spills at manufacturing plants was approximately 190 tonnes.

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

GRI 306-4: Transport of hazardous waste

In 2017, approximately 48,000 tonnes 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 2017.

Our Fray Bentos, Uruguay site 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 2017, there was 25.6 tonnes of hazardous waste exported from the Fray Bentos facility. In addition, 1.5 tonnes of hazardous waste from the Oulu site, 1.6 tonnes from the Europoort site and 0.75 tonnes from the Helsingborg site was exported to UK to be disposed of. In total, less than 1% of the hazardous waste generated in 2017 (none in 2016) by Kemira was shipped internationally.

ENVIRONMENTAL COMPLIANCE

GRI 307-1: Non-compliance with environmental laws and regulations

Kemira's integrated EHSQ management system includes an Auditing Standard to verify conformance with Kemira policies and standards, ISO/OHSAS standards, and EHSQ legal compliance. Kemira regularly conducts EHS compliance audits at manufacturing sites. Audits are carried out by internal Kemira resources and external consultants. Kemira's robust integrated EHSQ management system requires all sites to report non-compliances to the group's Global EHSQ Team.

The following summarizes the significant fines or non-compliance with environmental laws or regulations at Kemira manufacturing sites in 2017:

- Three facilities in our pulp and paper manufacturing segment in the United States were cited for non-compliance with a U.S. Environmental Protection Agency regulation that applies to certain processes that use chromium-containing raw materials. Each facility submitted applications to revise their operating permits as required by the regulatory agencies. One of the facilities received a fine of approximately EUR 11,300. The other two facilities did not receive a fine.
- One polymer manufacturing facility in the United States entered into a consent order with the local regulatory agency to resolve a compliance issue related to its air pollution control device. The consent order included a settlement of approximately EUR 58,000. The local regulatory agency considers the facility to be in compliance after a review of its proposed corrective actions.
- One coagulant manufacturing facility in the United States received a fine of approximately EUR 18,300 for hazardous waste compliance management violations. The violations have been corrected and the matter is considered closed by the local regulatory agency.

The procedures to monitor legal requirements vary in Kemira depending on the countries of operation and site operations. In 2018, Kemira will harmonize the procedures and starts implementaton of new, more effective online tools, to improve Global EHSQ Team's ability to monitor the compliance status at the sites.

Kemira maintained environmental protection costs at approximately 0.9% of revenue (1.2% 2016) despite an approximately 7% increase in production volume compared to 2016.

Social

INFORMATION ON EMPLOYEES

GRI 102-8: Information on employees and other workers

At the end of 2017, Kemira employed 4,732 people (4,818). The employee distribution by region shows that 54% (55%) of Kemira's total workforce were employed in EMEA, and 32% (32%) in the Americas. The number of employees decreased by 86 (compared to an increase of 133 during 2016). The decrease was mainly due to the restructuring to a two segment structure, and aligning the organization accordingly. Workers who are legally recognized as self-employed, or individuals other than the ones in Kemira's payroll are not counted on these numbers.

GRI 102-08: Total number of employees

	2017	2016	2015	2014	2013
TOTAL NUMBER OF EMPLOYEES*	**4,732**	**4,818**	**4,685**	**4,248**	**4,453**
Females, %	**26%**	26%	26%	26%	26%
Males, %	**74%**	74%	74%	74%	74%
White collar, %	**62%**	61%	62%	58%	58%
Blue collar; %	**38%**	39%	38%	42%	42%

* at year end

Some re-classification from blue to white collar employees were done in the beginning of 2017.

GRI 102-8a: Total number of employees by employment contract (permanent and temporary), by gender

	2017	2016	2015	2014	2013	%, 2017	%,2016	%, 2015	%, 2014	%, 2013
TOTAL NUMBER OF EMPLOYEES	**4,732**	**4,818**	**4,685**	**4,248**	**4,453**					
Total permanent	**4,615**	4,715	4,559	4,133	4,350	**97.5%**	97.9%	97.3%	97.3%	97.7%
Total fixed-term	**117**	103	126	115	103	**2.5%**	2.1%	2.7%	2.7%	2.3%
Females total	**1,223**	**1,259**	**1,220**	**1,110**	**1,164**					
Permanent	**1,175**	1,227	1,171	1,064	1,127	**96.1%**	97.5%	96.0%	95.9%	96.8%
Fixed-term	**48**	32	49	46	37	**3.9%**	2.5%	4.0%	4.1%	3.2%
Males total	**3,509**	**3,559**	**3,465**	**3,138**	**3,289**					
Permanent	**3,440**	3,488	3,388	3,069	3,223	**98.0%**	98.0%	97.8%	97.8%	98.0%
Fixed-term	**69**	71	77	69	66	**2.0%**	2.0%	2.2%	2.2%	2.0%

GRI 102-8b. Total number of employees by employment contract (permanent and temporary), by region

	2017	%,2017
TOTAL NUMBER OF EMPLOYEES	**4,732**	
Americas	**1,514**	32.0%
APAC	**647**	13.7%
EMEA	**2,571**	54.3%
Permanent total	**4,615**	
Americas	**1,514**	32.8%
APAC	**647**	14.0%
EMEA	**2,454**	53.2%
Temporary total	**117**	
Americas		0.0%
APAC		0.0%
EMEA	**117**	100.0%

GRI 102-8c. Total number of employees by employment type (full-time and part-time), by gender

	2017	2016	2015	2014	%, 2016	%, 2015	%, 2014
TOTAL EMPLOYEES	**4,732**	**4,818**	**4,559**	**4,133**			
Total full-time	**4,660**	4,747	4,481	4,099	98.5%	98.3%	99.2%
Total part-time	**72**	71	78	34	1.5%	1.7%	0.8%
Females total	**1,223**	**1,259**	**1,171**	**1,064**			
Full-time	**1,168**	1,208	1,106	1,037	95.9%	94.4%	97.5%
Part-time	**55**	51	65	27	4.1%	5.6%	2.5%
Males total	**3,509**	**3,559**	**3,388**	**3,069**			
Full-time	**3,492**	3,539	3,375	3,062	99.4%	99.6%	99.8%
Part-time	**17**	20	13	7	0.6%	0.4%	0.2%

*2013-2015 numbers for permanent employees

GRI 102-41: Collective bargaining agreements

The percentage of employees covered by collective bargaining agreements by 'significant locations of operation' varies widely between regions, being the lowest in North America (USA 5%, Canada 13%), which is characteristic of the region.

In the APAC region, collective bargaining agreements are a practice in the chemical industry only in few countries, in Indonesia and Korea, where almost all employees covered by collective bargaining agreements. In many European countries, all employees are covered by collective bargaining agreements, especially in Northern Europe (Finland, Sweden) and Southern Europe (Spain, France, Italy). In Central and Eastern Europe, the percentage varies (e.g. UK 30%, Germany 39%, Netherlands 64%), and in some countries there are no collective bargaining agreements. In Brazil and Uruguay, all employees are covered by a collective agreement.

The definition used for 'significant locations of operation' refers to countries where we have 10 or more employees, and which counted together 98% of all employees. In Kemira's case there are 25 countries with 10 or more employees.

GRI 401-1: New employee hires and employee turnover

The total number of new hires in 2017 was 597 (695), out of which 31% (31%) were female and 69% (69%) male. The new hires include summer trainee and other temporary positions. Kemira's new hiring reflects the similar degree of diversity as in previous years.

The total turnover rate was 12.0% in 2017 compared to 9.2% in 2016. The increase in turnover was mainly due to the restructuring organization. The total turnover is based on permanent workforce.

The turnover rates in EMEA was 11.0% (8.2%) which was the lowest of the regions. The highest turnover rate was in the Americas at 13.5% (11.2%), and the APAC region had a turnover of 12.8% (8.1%) The turnover rate was highest at the age group <30 years 19.3% (12.4%) and females 15.8% (10.8%).

GRI 401-1a. Total number and rate of new employee hires during the reporting period, by age group, gender and region

	Number of new hires				% of total new hires			
	2017	**2016**	**2015**	**2014**	**2017**	**2016**	**2015**	**2014**
TOTAL NEW HIRES	**597**	**695**	**673**	**710**			**100.0%**	**100.0%**
New hires by age group								
<30	**286**	284	293	291	**48%**	41%	43.5%	41.0%
30-50	**267**	358	312	348	**45%**	52%	46.4%	49.0%
>50	**44**	53	68	71	**7%**	8%	10.1%	10.0%
New hires by gender								
Females	**188**	218	208	236	**31%**	31%	30.9%	33.2%
Males	**409**	477	465	474	**69%**	69%	69.1%	66.8%
New hires by region								
APAC	**79**	173	60	60	**13%**	25%	8.9%	8.5%
EMEA	**352**	364	373	418	**59%**	52%	55.4%	58.9%
Americas	**166**	158	240	232	**28%**	23%	35.7%	32.7%

GRI 401-1b. Total number and rate of employee turnover during the reporting period, by age group, gender and region

	Turnover				Turnover, %			
	2017	**2016**	**2015**	**2014**	**2017**	**2016**	**2015**	**2014**
TOTAL TURNOVER	**570**	**441**	**490**	**736**	**12.0%**	**9.2%**	**10.5%**	**17.3%**
Turnover by age group								
<30	**109**	72	78	96	**19.3%**	12.4%	13.6%	18.6%
30-50	**258**	228	263	428	**9.9%**	8.2%	9.8%	17.6%
>50	**203**	141	149	212	**13.0%**	9.6%	10.4%	16.3%
Turnover by gender								
Females	**193**	136	144	242	**15.8%**	10.8%	11.8%	21.8%
Males	**377**	305	346	494	**10.7%**	8.6%	10.0%	15.7%
Turnover by region								
APAC	**83**	53	56	44	**12.8%**	8.1%	10.4%	12.5%
EMEA	**282**	214	225	464	**11.0%**	8.2%	8.8%	19.2%
Americas	**205**	174	209	228	**13.5%**	11.2%	13.2%	15.4%

GRI 401-2: Benefits provided to full-time employees that are not provided to temporary or part-time employees

Benefit programs at Kemira differ depending on regional and country specific practices, and there have been no major changes to the practices in recent years. 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, e.g. some countries offer additional insurance and/or retirement benefits for permanent full-time employees. In North America, the eligibility for benefits is dependent on hours worked, in the USA employees are eligible if they work a minimum of 20 hours per week.

GRI 402-1: Minimum notice periods regarding operational changes

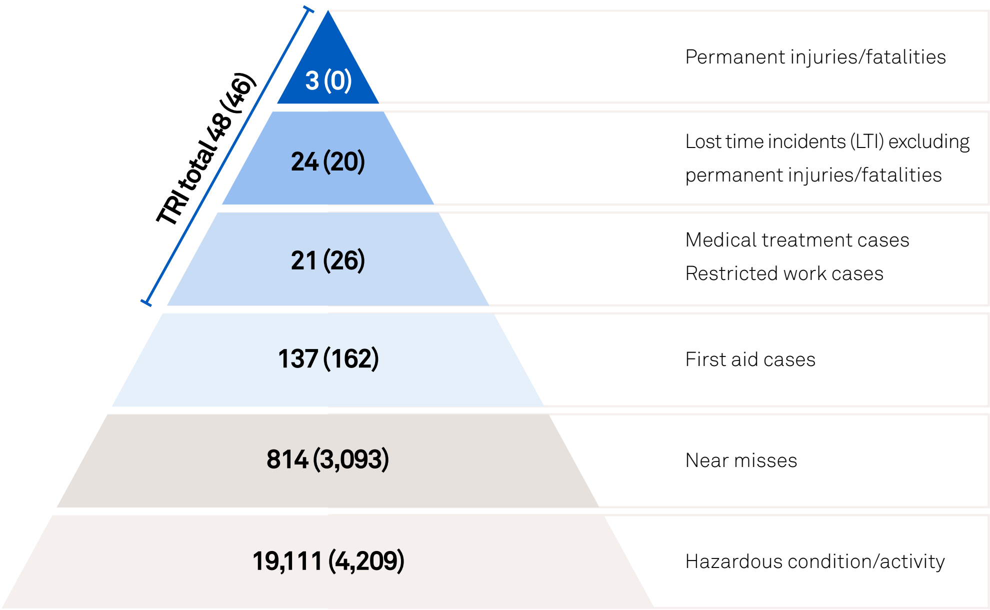
As stated in the Code of Conduct, all our sites are obliged to follow local laws and regulations and other agreements regarding labor practices, including notice periods. Minimum notice periods are defined in laws or in collective agreements, and are followed in each country accordingly. The time period 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.

OCCUPATIONAL HEALTH AND SAFETY

GRI 403-2: Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities

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

Personal injuries pyramid 2017 (2016)



In 2017, our health & safety performance took a small step backwards compared to 2016. Total number TRI was 48 (46) and TRIF increased to 3.9 (3.4). The increase in incidents were mainly related to contracted work at our premises. However, we can still see a positive long-term downward trend.

Total Recordable Injuries (TRI)

TRI	2017	2016	2015	2014
TOTAL TRI	**48**	**46***	**77**	**61**
Kemira employees	**31**	32*	56	44
Contractors working at Kemira site	**17**	14	21	17
Regional TRI				
APAC	**1**	2	1	0
EMEA	**31**	22	53	35
Americas	**16**	22	23	26

TRI FREQUENCY	2017	2016	2015	2014
GLOBAL TRIF	**3.9**	**3.4**	**7.2**	**5.8**
Kemira employees	**3.2**	3.5	6.5	4.7
Contractors working at Kemira site	**6.3**	3.1	8.8	7.1
Regional TRIF				
APAC	**0.6**	0.9	0.6	0
EMEA	**6.0**	3.4	10.6	6.1
Americas	**5.1**	4.8	5.7	6.4

TRIF: Total Recordable Injury Frequency includes Fatalities/Permanent Injuries + Lost Time Incidents + Restricted work cases + Medical treatment cases. TRIF includes Kemira employees and Contractors working at Kemira site per million work hours. Contractor work hours have been included since 2014.

* Data corrected due to one late incident re-classification in 2016.

Lost Time Incidents* (LTI)

LTI	2017	2016	2015	2014
TOTAL LTI	**27**	**20**	**30**	**24**
Regional LTI				
APAC	**1**	2	1	0
EMEA	**23**	12	22	19
Americas	**3**	6	7	5

LTI FREQUENCY	2017	2016	2015	2014
GLOBAL LTIF	**2.2**	**1.5**	**2.7**	**2.7**
Regional LTIF				
APAC	**0.6**	1	0.6	0
EMEA	**4.6**	2.1	5.4	4.4
Americas	**1.0**	0.8	2	1.8

LTIF: Lost Time Incident Frequency. LTIF includes Kemira employees and Contractors working at Kemira site per million work hours. Contractor work hours have been included since 2014.

* Including permanent injuries and fatalities

In 2017, the severity of incidents increased due to permanent finger injuries by three persons and increased number of LTIs in comparison to 2016. No fatalities have been associated with Kemira employees since 2005. Sadly, there was one fatal off-site haulier road transport accident in Poland when transporting Kemira products. This is not included in our TRI numbers because contractors' off-site incidents are excluded from our TRI definition.

The Behavior Based Safety Program (BBS) has been one of our top priorities since 2016 to develop our health and safety culture. The program has a focus on interaction between the Managers and the Employees to increase communication and to make observations on work conditions and practices. As a part of the program, numerous field observations have been reported in terms of how behavior can prevent hazardous conditions. In 2017, we started to implement the program with four pilot sites and then continued to cover 15 sites in total by year end.

We have also improved internal communication for achieving better visibility of health and safety related matters. For example, we conducted a Safety Starts With Me Campaign, issued weekly EHSQ bulletins and initiated monthly Regional EHSQ communication calls.

In order to further increase safety awareness and to improve recognition and elimination of hazards in the work environment, a key performance indicator Hazardous Conditions/Activities was introduced in 2017 replacing Near miss reporting as KPI. This is a leading safety indicator reflecting environmental or people behavior related hazards at the workplace. The number of reported Hazardous Conditions/Activities was 19,111 in 2017. Identification of Hazardous Conditions/Activities helps our organization to avoid incidents and improve our operations and work methods.

In 2017, safety performance indicators TRIF and Hazardous Conditions/Activities were included as corporate bonus targets for every employee.

TRAINING AND EDUCATION

GRI 404-1: Average hours of training per year per employee

Kemira aims to capture all training, education and employee development related hours in the learning management system (LMS) that is feasible, and have continued to advance in achieving this goal. 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.

Training hours for the biggest countries registered in the system for 2017 are Finland 7,847 (6,600) hrs, UK 4,482 (5,300) hrs, Sweden 5,719 (5,700) hrs, USA 4,973 (8,100) hrs, Netherlands 4,075 (3,300) hrs, China 6,770 (3,700) hrs and Poland 4,185 (5,500) hrs. The average hours of training for white collar employees do not differ significantly by gender. Globally registered average hours per employee for blue collar employees are lower than for white collar employees, indicating some difference in recording hours in the global system.

GRI 404-2: 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 eLearning.

The scope includes:
- Leadership development (internal and external) programs
- Professional competence development programs
- Statutory or compliance related programs

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 enrol and complete the self-paced learning programs available through our LMS (Learning Management System).

We had a strong leadership development portfolio offering and steady rate of participation in 2017. Examples of other global and regional programs offered during 2017 are listed below:
- Code of Conduct, ethics, anti-corruption and compliance programs delivered mainly through eLearning
- Numerous EHSQ related programs including EHSQ Hazardous Condition/Activity Training
- Chemical handling, communicating on global hazards, Crisis management, Emergency evaluation, Manual handling, and Energy Management system and Environment, Health, Safety and Quality Policy training
- IT programs and Information security awareness programs
- Innovation training
- Manufacturing and product lifecycle management programs
- Commercial and sales programs

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:
- Up-skills training for those intending to continue working with Kemira
- Severance pay
- Career planning and outplacement/job placement services

GRI 404-3: Percentage of employees receiving regular performance and career development reviews

All permanent employees, who are not absent for an extended time period because of leave, for example, are covered by our global performance and development discussion (PDD) process. The global PDD process covers both white collar and blue collar employees. Temporary employees' inclusion in the PDD process is evaluated case-by-case, depending on the length of the contract.

GRI 404-3a. 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)	Employees, #					PDD Coverage,%				
	2017	2016	2015	2014	2013	%, 2017	%, 2016	%, 2015	%, 2014	%, 2013
Total permanent employees not absent *	**4,626**	4,590	4,440	4,019	4,281					
PDD's by gender										
Employees covered in Global PDD process	**4,139**	4,009	4,147	3,803	2,382	**89%**	87%	93%	95%	56%
Females covered in Global PDD process	**1,119**	1,116	1,030	977	816	**97%**	93%	96%	95%	77%
Males covered in Global PDD process	**3,020**	2,893	3,117	2,826	1,566	**87%**	85%	93%	94%	49%
PDD's by employee category										
White collars covered in Global PDD process	**2,778**	2,702	2,730	2,317		**98%**	98%	97%	98%	
Blue collars covered in Global PDD process	**1,275**	1,307	1,417	1,486		**71%**	72%	88%	89%	

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

DIVERSITY AND EQUAL OPPORTUNITY

GRI 405-1: Diversity of governance bodies and employees

In 2017, the number of females in the Board of Directors remained the same, but the share increased to 50%. The percentage share of females (26%) in the total number of employees remained the same in 2017 as in 2016. The number of females in executive positions (Directors and above) has increased to 27% vs. 22% in 2016.

GRI 405-1a. 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					%				
	2017	2016	2015	2014	2013	%, 2017	%, 2016	%, 2015	%, 2014	%, 2013
MANAGEMENT BOARD										
Total employees	**8**	**10**	**9**	**9**	**11**					
Females	**1**	2	2	2	2	**13%**	20%	22%	22%	18%
Males	**7**	8	7	7	9	**88%**	80%	78%	78%	82%
By age group										
<30	**0**	0	0	0	0	**0%**	0%	0%	0%	0%
30-50	**1**	2	5	6	5	**13%**	20%	56%	67%	45%
>50	**7**	8	4	3	6	**88%**	80%	44%	33%	55%
BOARD OF DIRECTORS										
Total employees	**6**	**7**	**6**	**6**	**5**					
Females	**3**	3	2	2	2	**50%**	43%	33%	33%	40%
Males	**3**	4	4	4	3	**50%**	57%	67%	67%	60%
By age group										
<30	**0**	0	0	0	0	**0%**	0%	0%	0%	0%
30-50	**1**	1	0	0	0	**17%**	14%	0%	0%	0%
>50	**5**	6	6	6	5	**83%**	86%	100%	100%	100%

405-1b. Percentage of employees per employee category in each of the following diversity categories: Gender, age group, other indicators of diversity where relevant

	Total					%				
	2017	**2016**	**2015**	**2014**	**2013**	**%, 2017**	**%, 2016**	**%, 2015**	**%, 2014**	**%, 2013**
TOTAL EMPLOYEES	**4,732**	**4,818**	**4,685**	**4,248**	**4,453**	**100%**	**100%**	**100%**	**100%**	**100%**
<30	**566**	579	575	515	646	**12%**	12%	12%	12%	15%
30-50	**2,607**	2,772	2,672	2,435	2,453	**55%**	58%	57%	57%	55%
>50	**1,559**	1,467	1,438	1,298	1,354	**33%**	30%	31%	31%	30%
Females in total	**1,223**	**1,259**	**1,220**	**1,110**	**1,164**	**26%**	**26%**	**26%**	**26%**	**26%**
<30	**190**	179	188	172	205	**16%**	14%	15%	15%	18%
30-50	**764**	823	773	705	710	**62%**	65%	63%	64%	61%
>50	**269**	257	259	233	249	**22%**	20%	21%	21%	21%
Males in total	**3,509**	**3,559**	**3,465**	**3,138**	**3,289**	**74%**	**74%**	**74%**	**74%**	**74%**
<30	**376**	400	387	343	441	**11%**	11%	11%	11%	13%
30-50	**1,843**	1,949	1,899	1,730	1,743	**53%**	55%	55%	55%	53%
>50	**1,290**	1,210	1,179	1,065	1,105	**37%**	34%	34%	34%	34%

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.

GRI 405-2: 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 allows Kemira to evaluate, analyze and implement equal remuneration. Factors impacting salary increases includes employee performance and the position of an employee's salary within the salary range, 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.

405-2a. Ratio of the basic salary and remuneration of women to men for each employee category, by significant locations of operation

COUNTRY	Women to men ratio 2017	Women to men ratio 2016	Women to men ratio 2015	White Collar Headcount 2017
Austria	**95%**	n/a	n/a	**49**
Brazil	**79%**	n/a	n/a	**123**
Canada	**88%**	88%	86%	**109**
China	**93%**	94%	94%	**245**
Finland	**91%**	91%	93%	**566**
Germany	**97%**	98%	n/a	**90**
Italy	**90%**	n/a	n/a	**65**
Netherlands	**93%**	96%	97%	**54**
Poland	**92%**	92%	91%	**296**
Spain	**83%**	n/a	n/a	**50**
Sweden	**96%**	99%	96%	**128**
United Kingdom	**93%**	96%	96%	**84**
United States	**89%**	88%	91%	**486**
TOTAL FOR LARGEST COUNTRIES	**90%**	**n/a**	**n/a**	**2,345**

White collar headcount in significant locations of operations account for 80% of total white collar headcount.

NON-DISCRIMINATION

GRI 406-1: Incidents of discrimination and corrective actions taken

As stated in our Code of Conduct, 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.

During 2017, seven incidents were reported to the Ethics & Compliance function alleging potential discrimination or harassment. Three of the cases were closed without merit and three cases were remediated during 2017 (see also table on page 57). One case was under investigation as of end of year 2017.

In addition to the above, four legal actions have been raised against Kemira in which discrimination is mentioned as one of the grounds for the claim. All four actions are currently pending and processed in the relevant court in accordance with the applicable laws.

FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING

GRI 407-1: 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 signatory of the United Nations Global Compact. We expect our suppliers to respect these same principles and commit to the Kemira Code of Conduct for Suppliers, Distributors and Agents (CoC-SDA). All of our Suppliers (engaged with a SAP Purchased Order) receive a written reference to CoC-SDA as part of the Kemira general terms of purchase on the back 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 2017, 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 25% of our total spend since 2014.

For additional information, see the Responsible business practices section for details of our Code of Conduct training and Kemira's Ethics and Compliance Hotline, which provides an internal channel for reporting any violations of employees' rights. Details of the numbers of employees covered by collective bargaining agreements are given under GRI 102-41.

HUMAN RIGHTS ASSESSMENT

GRI 412-1: Operations that have been subject to human rights reviews or impact assessments

Kemira conducted a Human Rights Impact Assessment in 2014 to identify any risks of human rights impacts in our operations and in our value chain, and any potential gaps in our management approach to human rights. Our management approach was assessed against the Operational Principles of the UN Guiding Principles of Business and Human Rights. The results indicated there were a few potential high-risk areas of human rights impacts where we should further develop our management approach, which are:

- Unsafe handling of hazardous substances may have a potential impact on health and workplace safety
- Upstream and downstream business relationships
- Business expansion in emerging markets.

To address the health and workplace safety issues, we have further developed our product stewardship management to ensure the safe use of our products in our value chain, and continuously developed our workplace safety culture. During 2017, we have taken measures to integrate priority substance management as part of the product lifecycle management processes, and further developed our safety culture through the Behavior Based Safety Culture program, target setting, training and communications measures. For more information, see indicators GRI 416-1 for product stewardship and GRI 403-2 for workplace safety.

To address the area of business relationships, in 2017, we conducted a third-party due diligence project to define a harmonized process for selecting and managing relationships with distributors and agents. We already have an extensive program covering our supplier relationship management.

Kemira's Code of Conduct was reviewed, updated and approved by the Board of Directors in 2017. The renewal of the Code was followed by an extensive global training and communication campaign. We have also organized separate training on human rights for all employees who are responsible for ensuring that human rights are respected in our business relationships and in our own operations. The target group covered a total of 2,850 employees in 2015. By the end of 2016, 75% of the targeted employees had completed the basic training (80% by the end of 2015). Since 2015, human rights training is a compulsory part of the induction training given to all new employees in the target group. Kemira provides all employees regular, compulsory training on the Code of Conduct, including an awareness of human rights.

PUBLIC POLICY

GRI 415-1: 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 in-kind political contributions paid by Kemira have come to Kemira's attention during 2017.

CUSTOMER HEALTH AND SAFETY

GRI 416-1: Assessment of the health and safety impacts 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,
- To perform regulatory compliance reviews for all New Product Development projects as well as all Product Introductions,
- To assess regulatory compliance, human health, and safety, as well as environmental protection aspects, as part of the Product Lifecycle Management processes,
- To proactively identify and manage chemical risks and concerns throughout its operations,
- To replace those substances in the portfolio that would pose an unacceptable risk to human health, safety or environment, according to the regulatory risk assessment methods applied by regulatory bodies; and
- 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 (GRI 102-2: Activities, brands, products, and services).

We regularly review substances with threat-for-use restrictions or authorization at different phases of regulatory processes in all jurisdictions where Kemira operates. We have some substances listed in the EU REACH regulation list for Substances of Very High Concern (SVHC). At the end of 2017, 40% (5 out of 15) of the identified 15 SHVC substances had a management plan approved by the Operational Excellence Board. During 2017, one substance, sodium dichromate, received an authorization until September 2029.

GRI 416-2: Incidents of non-compliance concerning the health and safety impacts of products and services

We are not aware of any fine, penalty or warning for non-compliance with regulations and voluntary codes regarding our products or services in 2017.

MARKETING AND LABELING/PRODUCT AND SERVICE INFORMATION

GRI 417-1: Requirements for product and service information and labeling

Kemira's product portfolio consists of seven major product lines and approximately 2,000 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 SDS's and labels in alignment with the latest regulatory data requirements and in the official languages of the countries where our products are 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 SDS's 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 2017, the Kemira Product Stewardship & Regulatory Affairs team responded to approximately 7,720 (7,700 in 2016) requests concerning product safety and/or regulatory. The response time for those requests is one of our internal key performance indicators (KPIs).

GRI 417-1: 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 Safety Data Sheets (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 SDS's and on the Labels. 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 impacts are communicated in the SDS's and on the Labels

GRI 417-2: Incidents of non-compliance concerning product and service information and labeling

Our customer complaints management process covers both claims and concerns reported by our customers. Customer Claims are defined as a formal reported complaint when the products or services provided do not meet the agreed customer or promised specifications, whereas Customer Concern is an an informal complaint in which the customer has dissatisfaction with a product or service but Kemira has met the agreed requirements. 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 makes reference to insufficient information on the label.

During 2017, a total of 88 customer claims were recorded relating to labeling, of which 49 cases were in the EMEA region, 25 in the Americas, and 14 in the APAC region. Corrective actions planned for 13 cases were underway at year end.

During 2017, no incidents of non-compliance with regulations resulting in any fine, penalty or warning were reported within Kemira's operations.

SOCIOECONOMIC COMPLIANCE / PRODUCT REGULATORY COMPLIANCE

GRI 419-1: Non-compliance with laws and regulations in the social and economic area

We are not aware of any fine, penalty or warning for non-compliance with laws and/or regulations in 2017.

Reporting practice

REPORTING SCOPE

GRI 102-10: Significant changes to the organization and its supply chain

In 2017, the company structure was changed from 3 segments into 2 segments, i.e Pulp & Paper and Industry & Water. There were no significant changes in the company size or ownership. At the end of 2017, Kemira operated 63 (63 in 2016) manufacturing sites which all were included in the environmental reporting scope. The external road transportation management activities were outsourced to Odyssey in North-America and EMEA in 2017.

GRI 102-46: Defining report content and topic boundaries

Kemira's corporate responsibility efforts and sustainability reporting are based on materiality. The materiality process provides a unified framework for investors, customers and other stakeholders to assess risks and opportunities that arise from the impacts related to material sustainability topics. The definition of material topics for Kemira's GRI reporting was carried out in accordance with the Principles for defining report content set by the GRI 101 (2016) Foundation standard.

Identification

Material topics relevant to Kemira have been identified based on their current or potential impacts and concerns raised by our stakeholders. The materiality assessment was updated in 2016-2017. For the update, interviews were conducted with representatives of our key stakeholder groups to identify stakeholder expectations towards Kemira's corporate responsibility. In addition, a benchmark study on material disclosure topics was carried out and major sustainability related development trends were analyzed.

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. Because of the prioritization, we have selected 20 material disclosure topics out of 33 disclosure topics defined by the GRI (2016) standards. In addition to the GRI topics, we also disclose information and performance data on the topics which are material for us, but not covered by the GRI standards, such as offering sustainable products and services. The selected material disclosure topics reflect our significant economic, environmental, and social impact. Additionally, 3 GRI disclosure topics which are not material to us, are reported because considered useful based on continuity.

Validation

Data collection practices for the identified material aspects were reviewed and defined. These topics are listed together with a detailed description of the respective topic boundaries and data collection practices in the table 'Material topics and their boundaries' (see below).

Review

Group level targets and KPIs for corporate responsibility priorities are approved by the Management Board and reviewed by the Board of Directors.

Material topics and their boundaries

GRI 102-47 Material topics	GRI 102-46; 103-1 Topic boundaries	Kemira data collection practices
ECONOMIC STANDARD SERIES		
Anti-corruption	Kemira operations*)	Data is collected from each region, from Kemira's legal archive, and through notifications from Kemira's Compliance and Ethics Hotline.
Anti-competitive behaviour	Kemira operations*)	Data is collected from each region, from Kemira's legal archive, and through notifications from Kemira's Compliance and Ethics Hotline.
ENVIRONMENTAL STANDARD SERIES		
Materials	Kemira operations as covered by our ERP**)	Data is extracted from Kemira's ERP system.
Energy	Kemira manufacturing sites***)	Data is collected from each production site and consolidated on the Group level.
Water	Kemira manufacturing sites***)	Data is collected from each production site and consolidated on the Group level.
Emissions	Kemira manufacturing sites***)	Data is collected from each production site and consolidated on 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.
Effluents and waste	Kemira manufacturing sites***)	Data is collected from each production site and consolidated on the Group level.
Environmental compliance	Kemira manufacturing sites***)	Data is collected from each production site and consolidated on the Group level.
Supplier environmental assessment	Kemira suppliers	Harmony Contract Management Tool used to track suppliers' signing of Code of Conduct for SDA.

GRI 102-47 Material topics	GRI 102-46; 103-1 Topic boundaries	Kemira data collection practices
SOCIAL STANDARD SERIES		
Occupational health and safety	Kemira operations*)	Synergy data management system. Data covers also contractors working at Kemira sites.
Training and education	Kemira operations*)	HR data management system.
Diversity and equal opportunities	Kemira operations*)	HR data management system.
Non-discrimination	Kemira operations*)	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*)	Data is collected from each region, from Kemira's legal archive, and through notifications from Kemira's Compliance and Ethics Hotline.
Human rights assessment	Kemira operations*)	Human rights impact assessment 2014 Kemira Ethics & Compliance Hotline
Supplier social assessment	Kemira suppliers	Harmony Contract Management Tool used to track suppliers' signing of Code of Conduct for SDA.
Public policy	Kemira operations*)	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**)	Data is extracted from Kemira's ERP system and from R&D New Product Development process documentation, and from Kemira's legal archives.
Marketing and labelling	Kemira operations as covered by our ERP**)	Data is extracted from Kemira's ERP system and from PSRA****) documentation, and from Kemira's legal archives.
Socioeconomic compliance	Kemira operations*)	Data is collected from each region, from Kemira's legal archive, and through notifications from Kemira's Compliance and Ethics Hotline.

*) Kemira's operations = All operations covered by Kemira's consolidation rules

**) Kemira's operations covered by ERP = All operations covered by both Kemira's consolidation rules and the company's Enterprise Resource Planning (ERP)

***) Kemira's manufacturing sites = All manufacturing sites covered by Kemira's consolidation rules

****) PSRA Product Safety and Regulatory Affairs

GRI 102-48: Restatements of Information

There were no restatements of information.

GRI 102-49: Changes in reporting

In 2017, we consolidated our organization into two segments: Pulp & Paper and Industry & Water but this does not affect on GRI disclosures. Due to updated materiality assessment and transition to the GRI standards several changes have been made for the material disclosure topics. Most of the changes are because of the transition to the GRI standards, where some disclosure topics from the GRI G4 guidelines are combined. Kemira is also aiming to provide more concise information on corporate responsibility by focusing on the most material disclosure topics.

REPORT PROFILE

GRI 102-50: Reporting period

The reporting period is from 1 January to 31 December 2017.

GRI 102-51: Date of most recent report

Kemira's previous Corporate Responsibility Report 2016 was published on 26 February 2016.

Our first annual report prepared according to the GRI guidelines was published for the reporting year 2011. Prior to 2010 we used the Responsible Care Reporting Guidelines of the European Chemical Industry Council (CEFIC) as a reporting framework to report on our environmental performance since the early 1990s. Reports for the years 2003–2016 are available on Kemira's website **www.kemira. com**.

GRI 102-52: Reporting cycle

Kemira's annual report is published annually by calendar year. The annual report consist of Business overview, GRI disclosures, Corporate governance statement and Financial statements.

GRI 102-53: Contact point for questions regarding the report

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

GRI 102-54: Claims of reporting in accordance with the GRI standards

- The report is prepared in accordance with the GRI-standards (2016): core option.
- Communication on Progress (COP) of the UN Global Compact at Global Compact Active level by using the GRI-standards reporting principles.

Assurance report

GRI 102-56: External assurance

The corporate responsibility information presented in the GRI disclosure and Business overview 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 limited assurance report

To the Management of Kemira Oyj

We have been engaged by Kemira Oyj (hereafter Kemira) to provide a limited assurance on Kemira's corporate responsibility information for the reporting period of January 1, 2017 to December 31, 2017. The information subject to the assurance engagement is the Kemira GRI Disclosures section in the Annual Report and corporate responsibility information disclosed in the Kemira Business Overview section in the Annual Report (hereafter: Responsibility Information).

Management's responsibility
Management is responsible for the preparation of the Sustainability Information in accordance with the Reporting criteria as set out in Kemira's reporting practice on pages 89-91 of the GRI Disclosures section and the Sustainability Reporting Standards (Core) of the Global Reporting Initiative. This responsibility includes: designing, implementing and maintaining internal control relevant to the preparation and fair presentation of the Sustainability Information that are free from material misstatement, whether due to fraud or error, selecting and applying appropriate criteria and making estimates that are reasonable in the circumstances.

Assurance provider's responsibility
Our responsibility is to express a limited assurance conclusion on the Responsibility Information based on our engagement. We conducted our assurance engagement in accordance with International Standard on Assurance Engagements (ISAE) 3000 (Revised) to provide limited assurance on performance data and statements within the Responsibility Information.

This Standard requires that we comply with ethical requirements and plan and perform the assurance engagement to obtain limited assurance whether any matters come to our attention that cause us to believe that the Responsibility Information has not been prepared, in all material respects, in accordance with the Reporting criteria.

We did not perform any assurance procedures on the prospective information, such as targets, expectations and ambitions, disclosed in the Responsibility Information. Consequently, we draw no conclusion on the prospective information. Our assurance report is made in accordance with the terms of our engagement with Kemira. We do not accept or assume responsibility to anyone other than Kemira for our work, for this assurance report, or for the conclusions we have reached.

A limited assurance engagement with respect to responsibility related data involves performing procedures to obtain evidence about the Responsibility Information. The procedures performed depend on the practitioner's judgment, but their nature is different from, and their extent is less than, a reasonable assurance engagement. It does not include detailed testing of source data or the operating effectiveness of processes and internal controls and consequently they do not enable us to obtain the assurance necessary to become aware of all significant matters that might be identified in a reasonable assurance engagement.

Our procedures on this engagement included:

- Conducting interviews with senior management responsible for corporate responsibility at Kemira to gain an understanding of Kemira's targets for corporate responsibility as part of the business strategy and operations;
- Reviewing internal and external documentation to verify to what extent these documents and data support the information included in the Responsibility Information and evaluating whether the information presented in the Responsibility Information is in line with our overall knowledge of corporate responsibility at Kemira;
- Conducting interviews with employees responsible for the collection and reporting of the Responsibility Information and reviewing of the processes and systems for data gathering, including the aggregation of the data for the Responsibility Information;
- Performing analytical review procedures and testing data on a sample basis to assess the reasonability of the presented responsibility information;
- Performing site visits to Äetsä in Finland and Eastover in United States (U.S) to review compliance to reporting policies, to assess the reliability of the responsibility data reporting process as well as to test the data collected for responsibility reporting purposes on a sample basis;
- Assessing that the Responsibility Information has been prepared in accordance with the Sustainability Reporting Standards (Core) of the Global Reporting Initiative.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Our independence, quality control and competences

We complied with Deloitte's independence policies which address and, in certain cases, exceed the requirements of the International Federation of Accountants Code of Ethics for Professional Accountants in their role as independent assurance providers and in particular preclude us from taking financial, commercial, governance and ownership positions which might affect, or be perceived to affect, our independence and impartiality and from any involvement in the preparation of the report. We have maintained our independence and objectivity throughout the year and there were no events or prohibited services provided which could impair our independence and objectivity.

Deloitte Oy applies International Standard on Quality Control 1 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. This engagement was conducted by a multidisciplinary team including assurance and sustainability expertise with professional qualifications. Our team is experienced in providing sustainability reporting assurance.

Conclusion

On the basis of the procedures we have performed, nothing has come to our attention that causes us to believe that the information subject to the assurance engagement is not prepared, in all material respects, in accordance with the Sustainability Reporting Standards (Core) of the Global Reporting Initiative or that the Responsibility Information is not reliable, in all material respects, with regard to the Reporting criteria.

Our assurance statement should be read in conjunction with the inherent limitations of accuracy and completeness for responsibility information.

Helsinki 8.2.2018
Deloitte Oy

Jukka Vattulainen	Lasse Ingström
Authorized Public Accountant	Authorized Public Accountant

GRI content index

GRI 102-55

Abbreviations
BR = Business Report
GRI = GRI report
GS = Corporate Governance Statement
FS = Financial Statements

- The report is prepared in accordance with the GRI-standards (2016): core option.
- Communication on Progress (COP) of the UN Global Compact at Global Compact

GRI Standard	Disclosure	Page number(s)	United Nations Global Compact
GRI 101: Foundation 2016			
General Disclosures			
	Organizational profile		
	102-1 Name of the organization	Kemira Oyj	
	102-2 Activities, brands, products, and services	BO 17–24	
	102-3 Location of headquarters	BO 2	
	102-4 Location of operations	BO 2	
	102-5 Ownership and legal form	BO 2	
	102-6 Markets served	BO 2, 17–24	
	102-7 Scale of the organization	BO 2	
	102-8 Information on employees and other workers	BO 2, GRI 47–56	
GRI 102: General Disclosures 2016	102-9 Supply chain	GRI 21–24	Principle 8
	102-10 Significant changes to the organization and its supply chain	GRI 60	
	102-11 Precautionary Principle or approach	GRI 13, BO 25–26	
	102-12 External initiatives	GRI 6	
	102-13 Membership of associations	GRI 7	
	Strategy		
	102-14 Statement from senior decision-maker	BO 5–7	Commitment to Global Compact
	102-15 Key impacts, risks, and opportunities	BO 25–26, GRI 8–9	
	Ethics and integrity		
	102-16 Values, principles, standards, and norms of behavior	GRI 27–28	Principle 6, 8
	102-17 Mechanisms for advice and concerns about ethics	GRI 27–28	Principle 1, 6, 8

GRI Standard	Disclosure	Page number(s)	United Nations Global Compact
GRI 101: Foundation 2016			
General Disclosures			
	Governance		
	102-18 Governance structure	GRI 11	
	102-19 Delegating authority	GRI 11	
	Stakeholder engagement		
	102-40 List of stakeholder groups	GRI 7	
	102-41 Collective bargaining agreements	GRI 48	Principle 3
	102-42 Identifying and selecting stakeholders	GRI 7	
	102-43 Approach to stakeholder engagement	GRI 7	
	102-44 Key topics and concerns raised	GRI 7	
	Reporting practice		
GRI 102: General Disclosures 2016	102-45 Entities included in the consolidated financial statements	FS Note 6.2	
	102-46 Defining report content and topic Boundaries	GRI 60	
	102-47 List of material topics	GRI 10, 61	
	102-48 Restatements of information	GRI 62	
	102-49 Changes in reporting	GRI 62	
	102-50 Reporting period	GRI 62	
	102-51 Date of most recent report	GRI 62	
	102-52 Reporting cycle	GRI 62	
	102-53 Contact point for questions regarding the report	GRI 62	
	102-54 Claims of reporting in accordance with the GRI Standards	GRI 62	
	102-55 GRI content index	GRI 65	
	102-56 External assurance	GRI 63	

GRI Standard	Disclosure	Page number(s) and/or URL(s)	United Nations Global Compact
Material Topics			
GRI 200 Economic Standard Series			
ECONOMIC PERFORMANCE	Not material but reported		
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	GRI 10	
	103-2 The management approach and its components	GRI 29	
	103-3 Evaluation of the management approach	GRI 29	
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	GRI 29	
	201-3 Defined benefit plan obligations and other retirement plans	GRI 33	
	201-4 Financial assistance received from government	GRI 33	

GRI Standard	Disclosure	Page number(s)	United Nations Global Compact
ANTI-CORRUPTION			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	GRI 10, 61	
	103-2 The management approach and its components	GRI 27	
	103-3 Evaluation of the management approach	GRI 27–28, 33–34	
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption	GRI 33	Principle 10
	205-2 Communication and training about anti-corruption policies and procedures	GRI 33	Principle 10
	205-3 Confirmed incidents of corruption and actions taken	GRI 34	Principle 10
ANTI-COMPETITIVE BEHAVIOR			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	GRI 10, 61	
	103-2 The management approach and its components	GRI 27	
	103-3 Evaluation of the management approach	GRI 27–28, 34	
GRI 206: Anti-competitive Behavior 2016	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	GRI 34	
GRI 300 Environmental Standards Series			
MATERIALS			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	GRI 10, 61	
	103-2 The management approach and its components	GRI 12	
	103-3 Evaluation of the management approach	GRI 17–24	
GRI 301: Materials 2016	301-1 Materials used by weight or volume	GRI 35	Principle 7, 8
	301-2 Recycled input materials used	GRI 35	Principle 8
ENERGY			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	GRI 10, 61	
	103-2 The management approach and its components	GRI 17–21	
	103-3 Evaluation of the management approach	GRI 17–21	
GRI 302: Energy 2016	302-1 Energy consumption within the organization	GRI 36	Principle 7, 8
	302-3 Energy intensity	GRI 36	Principle 8
	302-4 Reduction of energy consumption	GRI 36	Principle 8, 9
WATER			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	GRI 10, 61	
	103-2 The management approach and its components	GRI 17–21, 41	
	103-3 Evaluation of the management approach	GRI 17–21, 41	
GRI 303: Water 2016	303-1 Water withdrawal by source	GRI 41	Principle 7, 8
	303-3 Water recycled and reused	GRI 41	Principle 8

GRI Standard	Disclosure	Page number(s)	United Nations Global Compact
EMISSIONS			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	GRI 10, 61	
	103-2 The management approach and its components	GRI 17–21	
	103-3 Evaluation of the management approach	GRI 17–21	
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	GRI 39	Principle 7, 8
	305-2 Energy indirect (Scope 2) GHG emissions	GRI 39	Principle 7, 8
	305-3 Other indirect (Scope 3) GHG emissions	GRI 39	Principle 7, 8
	305-4 GHG emissions intensity	GRI 39	Principle 8
	305-5 Reduction of GHG emissions	GRI 39	Principle 8, 9
	305-6 Emissions of ozone-depleting substances (ODS)	GRI 43	Principle 7, 8
	305-7 Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	GRI 43	Principle 7, 8
EFFLUENTS AND WASTE			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	GRI 10, 61	
	103-2 The management approach and its components	GRI 17–21	
	103-3 Evaluation of the management approach	GRI 17–21	
GRI 306: Effluents and Waste 2016	306-1 Water discharge by quality and destination	GRI 41–42	Principle 8
	306-2 Waste by type and disposal method	GRI 44	Principle 8
	306-3 Significant spills	GRI 45	Principle 8
	306-4 Transport of hazardous waste	GRI 45	Principle 8
ENVIRONMENTAL COMPLIANCE			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	GRI 10, 61	
	103-2 The management approach and its components	GRI 17–21	
	103-3 Evaluation of the management approach	GRI 17–21	
GRI 307: Environmental Compliance 2016	307-1 Non-compliance with environmental laws and regulations	GRI 46	Principle 8
SUPPLIER ENVIRONMENTAL ASSESSMENT			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	GRI 10, 61	
	103-2 The management approach and its components	GRI 21–24	
	103-3 Evaluation of the management approach	GRI 21–24	
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	GRI 21–24	Principle 8

GRI Standard	Disclosure	Page number(s)	United Nations Global Compact
GRI 400 Social Standards Series			
EMPLOYMENT	Not material but reported		
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	GRI 10, 61	
	103-2 The management approach and its components	GRI 25–26	
	103-3 Evaluation of the management approach	GRI 25–26	
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	GRI 49	Principle 6
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	GRI 50	
LABOR/MANAGEMENT RELATIONS	Not material but reported		
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	GRI 10, 61	
	103-2 The management approach and its components	GRI 25–26	
	103-3 Evaluation of the management approach	GRI 25–26	
GRI 402: Labor/Management Relations 2016	402-1 Minimum notice periods regarding operational changes	GRI 50	Principle 3
OCCUPATIONAL HEALTH AND SAFETY			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	GRI 10, 61	
	103-2 The management approach and its components	GRI 17–21, 50–51	
	103-3 Evaluation of the management approach	GRI 17–21, 50–51	
GRI 403: Occupational Health and Safety 2016	403-2 Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	GRI 50–51	
TRAINING AND EDUCATION			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	GRI 10, 61	
	103-2 The management approach and its components	GRI 25–26, 52	
	103-3 Evaluation of the management approach	GRI 25–26, 52	
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	GRI 52	Principle 6
	404-2 Programs for upgrading employee skills and transition assistance programs	GRI 52	
	404-3 Percentage of employees receiving regular performance and career development reviews	GRI 53	Principle 6
DIVERSITY AND EQUAL OPPORTUNITY			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	GRI 10, 61	
	103-2 The management approach and its components	GRI 25–28	
	103-3 Evaluation of the management approach	GRI 25–26, 54–55	
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	GRI 54–55	Principle 6
	405-2 Ratio of basic salary and remuneration of women to men	GRI 56	Principle 6

GRI Standard	Disclosure	Page number(s)	United Nations Global Compact
NON-DISCRIMINATION			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	GRI 10, 61	
	103-2 The management approach and its components	GRI 25–28	
	103-3 Evaluation of the management approach	GRI 25–28	
GRI 406: Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	GRI 28, 56	Principle 6
FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	GRI 10, 61	
	103-2 The management approach and its components	GRI 25, 28	
	103-3 Evaluation of the management approach	GRI 25, 28	
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	GRI 57	
HUMAN RIGHTS ASSESSMENT			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	GRI 10, 61	
	103-2 The management approach and its components	GRI 27–28	
	103-3 Evaluation of the management approach	GRI 27–28	
GRI 412: Human Rights Assessment 2016	412-1 Operations that have been subject to human rights reviews or impact assessments	GRI 57	Principle 1
SUPPLIER SOCIAL ASSESSMENT			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	GRI 10, 61	
	103-2 The management approach and its components	GRI 21–24	
	103-3 Evaluation of the management approach	GRI 21–24	
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	GRI 21–24	Principle 2
PUBLIC POLICY			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	GRI 10, 61	
	103-2 The management approach and its components	GRI 27–28	
	103-3 Evaluation of the management approach	GRI 27–28	
GRI 415: Public Policy 2016	415-1 Political contributions	GRI 58	Principle 10
CUSTOMER HEALTH AND SAFETY			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	GRI 10, 61	
	103-2 The management approach and its components	GRI 14–15	
	103-3 Evaluation of the management approach	GRI 14–15	
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories	GRI 58	
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	GRI 58	

GRI Standard	Disclosure	Page number(s)	United Nations Global Compact
MARKETING AND LABELING			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	GRI 10, 61	
	103-2 The management approach and its components	GRI 14, 15	
	103-3 Evaluation of the management approach	GRI 14, 15	
GRI 417: Marketing and Labeling 2016	417-1 Requirements for product and service information and labeling	GRI 58–59	
	417-2 Incidents of non-compliance concerning product and service information and labeling	GRI 59	
SOCIOECONOMIC COMPLIANCE			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	GRI 10, 61	
	103-2 The management approach and its components	GRI 27, 28	
	103-3 Evaluation of the management approach	GRI 27, 28	
GRI 419: Socioeconomic Compliance 2016	419-1 Non-compliance with laws and regulations in the social and economic area	GRI 59	

Kemira

Corporate Governance 2017

Corporate Governance Statement 2017

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 **www.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, and the Company's Auditor, Deloitte Oy, has checked 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.

Management bodies

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

Shareholders' meeting

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

Notice to the shareholders' 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 shareholders' meeting in one nationwide newspaper.

Kemira Oyj's Annual General Meeting was held in Helsinki on March 24, 2017. The meeting was attended by 652 shareholders either in person or by proxy, together representing around 61% of the shareholders' votes. The documents related to the AGM are available on Kemira's website **www.kemira.com** > 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 August 31 preceding the AGM, and the Chairman of Kemira Oyj's Board of Directors acts as an expert member. The members of the Nomination Board shall elect a Chairman 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 chairman 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 August 31, 2017, the members of the Nomination Board are Pekka Paasikivi, Chairman of the Board of Oras Invest Oy, Antti Mäkinen, Managing Director of Solidium Oy, Reima Rytsölä, Executive Vice President, Varma Mutual Pension Insurance Company, Mikko Mursula, Chief Investment Officer, Ilmarinen Mutual Pension Insurance Company, and the Chairman of the Board Jari Paasikivi as an expert member. Pekka Paasikivi is the Chairman of the Nomination Board and Group General Counsel Jukka Hakkila acts as the Secretary of the Nomination Board. During the reporting period, Kari Järvinen, Managing Director of Solidium Oy and Timo Ritakallio, President & CEO of Ilmarinen Mutual Pension Insurance Company, were members of the Nomination Board until August 31,2017.

The Nomination Board met two times in 2017 with an attendance rate of 100%. Each member's participation in the Nomination Board meetings was as follows:

Järvinen	1/1	100%
Mursula	1/1	100%
Mäkinen	1/1	100%
J. Paasikivi	2/2	100%
P. Paasikivi	2/2	100%
Ritakallio	1/1	100%
Rytsölä	2/2	100%

Board of Directors

Composition

The AGM elects the Chairman, Vice Chairman 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, 2017, the Annual General Meeting elected six members to the Board of Directors. The AGM re-elected Wolfgang Büchele, Kaisa Hietala, Timo Lappalainen, Jari Paasikivi and Kerttu Tuomas to the Board of Directors, and Shirley Cunningham was elected as a new member. Jari Paasikivi was elected the Board's Chairman and Kerttu Tuomas was elected the Vice Chairman. In addition, during the period January 1 – March 24, 2017, Winnie Fok and Juha Laaksonen were members of the Board of Directors. Group General Counsel Jukka Hakkila acts as the Secretary of the Board of Directors.

All of the Board members are independent of the Company. During the reporting period, Wolfgang Büchele has, however, not been independent of the Company during the period January 1 – April 30, 2017, because he has been the Managing Director of Kemira Oyj as of April 1, 2012 until April 30, 2014. The Board members are also independent of significant shareholders of the Company except for the Chairman Jari Paasikivi. Jari Paasikivi is the CEO 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 background, 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 is an equal number of male and 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' meeting and ensures the practical implementation of decisions taken thereby. In addition, 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 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 result 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 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 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 Chairman concurs.

In 2017, the Board of Directors met 10 times. The average attendance rate at the meetings was 98.4%. Each director's attendance in the meetings was as follows:

Büchele	9/10	90%
Cunningham	8/8	100%
Fok	2/2	100%
Hietala	10/10	100%
Laaksonen	2/2	100%
Lappalainen	10/10	100%
Paasikivi	10/10	100%
Tuomas	10/10	100%

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 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 three members of the Board of Directors. Majority of the members shall be independent of the company and at least one member shall be independent of significant shareholders. After the 2017 AGM, the Board elected Timo Lappalainen as the Chairman of the Audit Committee and Kaisa Hietala and Jari Paasikivi as members of the Committee. In addition, during the reporting period until March 24, 2017, Juha Laaksonen was a member of the Committee.

According to its Charter, the Audit Committee shall convene at least four times a year. The Audit Committee has a quorum when at least two members are present in the meeting.

The Audit Committee met five times in 2017 with an attendance rate of 100%. Each member's attendance in the Audit Committee meetings was as follows:

Hietala	5/5	100%
Laaksonen	1/1	100%
Lappalainen	5/5	100%
Paasikivi	5/5	100%

Personnel and Remuneration Committee

The Board of Directors has approved a Charter for the Committee. The Charter is publicly available on the company's website.

The Committee assists the Board of Directors by preparation of matters related to compensation of Managing Director, his Deputy and the members of the Management Board, by preparation of matters pertaining to the compensation systems and long-term incentive plans of the Company, by preparation of matters relating to appointment of Managing Director, his Deputy and the members of the Management Board. 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 Statement of the Company. The Committee reports to the Board of Directors on each meeting.

The Committee consists of three 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 two of the members are present at the meeting.

After the 2017 AGM, the Board elected Jari Paasikivi the Chairman of the Personnel and Remuneration Committee and Kerttu Tuomas and Timo Lappalainen the members of the Personnel and Remuneration Committee. In addition, during the reporting period until March 24, 2017, Juha Laaksonen was a member of the Committee.

In 2017, the Personnel and Remuneration Committee met six times. The attendance rate at the meetings was 100%.

Each member's attendance in the Personnel and Remuneration Committee meetings was as follows:

Laaksonen	1/1	100%
Lappalainen	5/5	100%
Paasikivi	6/6	100%
Tuomas	6/6	100%

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 also functions as the Chairman of Kemira's Management Board.

Kemira Oyj's Managing Director (President and CEO) is 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 employment relationship are described in a section Remuneration Report.

Management Board

Kemira's Management Board consists of Managing Director Jari Rosendal (President and CEO), Petri Castrén (CFO and President, Americas), Kim Poulsen (President, Pulp & Paper and APAC), Esa-Matti Puputti (EVP, Operational Excellence), Antti Salminen (President Industry & Water (Until May 31, 2017; Municipal & Industrial) and EMEA) and Eeva Salonen (EVP, HR). In addition, the following persons have been members of the Management Board during 2017: Heidi Fagerholm (CTO) until October 31, 2017, Tarjei Johansen (President, Oil & Mining and Americas) until March 8, 2017, and Michael Löffelmann (EVP, Projects and Manufacturing Technology) until January 19, 2017. Jari Rosendal has acted as the CTO during November 1, 2017 – December 31, 2017. On December 22, 2017 it was announced that Matthew R. Pixton will be appointed as the CTO and a member of the Management Board as of January 1, 2018. The Managing Director is the Chairman of the Management Board and the Group General Counsel acts as its Secretary.

The Management Board is an operative, non-statutory management body that is responsible for securing the long-term strategic development of the Company. The personal information of the Management Board members are 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 are described in section Remuneration Report.

Operative organization

Kemira Oyj has organized its business into two (until May 31, 2017: three) 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. During the reporting period Kemira's organization was changed so that the Oil & Mining segment and the Municipal & Industrial segment were combined into the Industry & Water segment.

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 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 the policies in question. 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.

Board of Directors

Name	Position	Personal Ownership	Ownership through controlled companies
Paasikivi Jari	Chairman of the board of directors	215,106	0
Tuomas Kerttu	Vice Chairman of the board of directors	12,319	0
Büchele Wolfgang	Member of the board of directors	105,176	0
Cunningham Shirley	Member of the board of directors	1,337	0
Hietala Kaisa	Member of the board of directors	2,820	0
Lappalainen Timo	Member of the board of directors	5,862	0
Total		**342,620**	**0**

Management Board

Name	Position	Personal Ownership	Ownership through controlled companies
Rosendal Jari	CEO, Chairman of the management board	45,000	0
Castrén Petri	CFO, Member of the management board	16,736	0
Poulsen Kim	President, P&P, Member of the management board	2,602	0
Puputti Esa-Matti	EVP, Operational Excellence Member of the management board	8,739	0
Salminen Antti	President, I&W, Member of the management board	11,236	0
Salonen Eeva	EVP, HR Member of the management board	35,328	0
Hakkila Jukka	Group General Counsel Secretary of the Board of Directors and the management board	66,595	0
Total		**186,236**	**0**

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 using the SIRE service of Euroclear Finland Oy.

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, 2017.

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 Chairman of the Audit Committee.

Audit

Under the Articles of Association, the shareholders' meeting elects an audit firm certified by the Finland Chamber of Commerce as the Company's auditor. The audit firm appoints the Principal Auditor, who is an Authorized Public Accountant certified by the Finland Chamber of Commerce. The auditor's term of office continues until the next Annual General Meeting after the Auditor's election.

The 2017 Annual General Meeting elected Deloitte Ltd. as the Company's auditor, with Jukka Vattulainen, APA, acting as the Principal Auditor. In 2017, the audit fee paid globally to the auditor (Deloitte) totaled EUR 1.7 million. In addition, a total of EUR 0.9 million was paid 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 **www.kemira.com** > Investors > Corporate governance > 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 to assess the most significant threats affecting the financial reporting and to define to which function or process risks are related and how the risks would affect the Group's financial reporting if those were to materialize.

The Group's financial administration and Risk Management are responsible for 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 Financial Manual 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 is 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.

Group Management

Board of Directors

JARI PAASIKIVI

b. 1954

- Finnish citizen
- M.Sc. (Econ.)
- Chairman of the Board
- Independent of the Company
- Main occupation CEO of Oras Invest Oy, which owns over 10% of Kemira Oyj's shares

KERTTU TUOMAS

b. 1957

- Finnish citizen
- B.Sc. (Econ.)
- Vice Chairman of the Board
- Independent of the Company and its significant shareholders

WOLFGANG BÜCHELE

b. 1959

- German citizen
- Dr. rer.nat.
- Member of the Board
- Managing Director of Kemira Oyj 1 April 2012–30 April 2014
- Independent of the Company as of May 1, 2017 and independent of the Company's significant shareholders
- Main occupation M+W Group GmbH, CEO

SHIRLEY CUNNINGHAM

b. 1960

- United Kingdom citizen
- MBA
- Member of the Board as of March 24, 2017
- Independent of the Company and the Company's significant shareholders
- Main occupation CHS Inc., Executive Vice President

KAISA HIETALA

b. 1971

- Finnish citizen
- M.Sc.(Physics) and M.Sc. (Env.Sc.)
- Member of the Board
- Independent of the Company and its significant shareholders
- Main occupation Neste Corporation, Executive Vice President, Renewable products

TIMO LAPPALAINEN

b. 1962

- Finnish citizen
- M.Sc. (Eng.)
- Member of the Board
- Independent of the Company and its significant shareholders
- Main occupation Orion Corporation, President & CEO

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

The following persons were members of the Board of Directors until March 24, 2017:

WINNIE FOK

b. 1956

- British citizen
- B.Comm.
- Member of the Board
- Independent of the Company and its significant shareholders
- Main occupation Wallenberg Foundations AB, Senior Advisor

JUHA LAAKSONEN

b. 1952

- Finnish citizen
- B.Sc. (Econ.)
- Member of the Board
- Independent of the Company and its significant shareholders

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

Managing Director, Deputy Managing Director and members of the Management Board December 31, 2017

Group Management

JARI ROSENDAL

b. 1965

- M. Sc. (Eng.)
- Managing Director of Kemira Oyj
- Chairman of the Management Board

PETRI CASTRÉN

b. 1962

- LL.M., MBA
- Chief Financial Officer, Head of Americas

JUKKA HAKKILA

b. 1960

- LL.M.
- Group General Counsel
- Deputy Managing Director

KIM POULSEN

b. 1966

- M. Sc. (Econ.)
- President, Pulp & Paper and APAC

ESA-MATTI PUPUTTI

b. 1959

- Lic. Tech. (Eng)
- Executive Vice President, Operational Excellence

ANTTI SALMINEN

b. 1971

- Ph.D (Eng.)
- President, Industry & Water and EMEA

EEVA SALONEN

b. 1960

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

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

In addition, the following persons have been members of the Management Board during 2017:

HEIDI FAGERHOLM

b. 1964

- D.Sc. (Chem.Eng.)
- Chief Technology Officer until October 31, 2017

TARJEI JOHANSEN

b. 1971

- M. Sc.
- President, Oil & Mining and Americas until March 8, 2017

MICHAEL LÖFFELMANN

b. 1970

- Ph.D. (Eng.).
- Executive Vice President, Projects and Manufacturing Technology, until January 19, 2017

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

Remuneration Statement 2017

Introduction

Kemira remuneration statement describes the company's remuneration principles and the remuneration of the management, i.e., the Board of Directors, the Managing Director, the Deputy Managing Director and the other members of the Management Board in 2017. The remuneration statement has been prepared in accordance with the Finnish Corporate Governance Code 2015.

The remuneration statement is divided into following sections:

1. Main principles of remuneration
2. Decision-making process in remuneration related matters
3. Managing Director, Deputy Managing Director and Management Board remuneration report
4. Board of Directors remuneration report

1. Main principles of remuneration

Kemira reviews its remuneration principles and practices on a regular basis. The remuneration principles are applied to all Kemira employees. Transparency, market driven reward and pay for performance are the main principles of rewarding at Kemira.

The remuneration in Kemira consists of the following main elements:

Base pay and benefits follows local market practices, laws and regulations.

Short-term bonus plans aim to reward for both company and individual performance.

Long-term share incentive plan aims to commit key employees to Kemira, and to combine the objectives and interest of the shareholders and the participants in the plan.

Non-monetary rewarding is an important part of the total remuneration. Kemira is actively developing well-being at work, as well as providing opportunities for development of own job role.

2. Decision-making process in remuneration related matters

The Annual General Meeting decides the remuneration of the Board of Directors for one term of office at a time.

The Board of Directors decides the salaries, other remuneration and the terms of employment of the Managing Director, the Deputy Managing Director and the other members of the Management Board. The Personnel and Remuneration Committee of the Board assists the Board of Directors by preparation of matters related to remuneration of the 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.

3. Managing Director, the Deputy Managing Director and the Management Board remuneration report

Remuneration of the Managing Director (President and CEO), his Deputy and the other members of the Management Board comprises a base salary, benefits and performance based incentive plans. The incentive plans consist of an annual short-term bonus plan and a long-term share incentive plan.

Members of Kemira Management Board who are employed by a Finnish Kemira company do not have any supplementary pension arrangements in addition to the statutory pensions. Members of Kemira Management Board who are employed by a foreign Kemira company participate in 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.

Depending on country practices, mutual termination notice period of 1 to 6 months applies to the other members of the Management Board. In addition a severance payment of 6–9 months' salary is paid to the employee if the employer terminates the employment agreement without cause.

Remuneration paid to the Managing Director, Deputy Managing Director and other members of the Management Board 2017

In 2017, the total remuneration paid to Managing Director Jari Rosendal amounted to EUR 891,000 (2016: EUR 1,494,177), including base salary and benefits, as well as short-term bonus plan based on 2016 earning period of EUR 324,000 (2016: 324,000). The long-term share incentive plan target did not reach the plan threshold level in the earning period 2016, and thus no long-term incentive related reward was paid out in 2017 (2016: 24,968 shares, EUR 603,177).

No remuneration was paid to the Deputy Managing Director based on Managing Director substitution in 2017.

In 2017, the total remuneration paid to the other members of the Management Board amounted to EUR 2,796,597 (2016: 4,998,347), including base salary, severance pay and benefits, as well as short-term bonus plan of EUR 929,188 (2016: 997,872). The long-term share incentive plan target did not reach the plan threshold level in the earning period 2016, and thus no long-term incentive related reward was paid out in 2017 (2016: 71,266 shares, EUR 1,805,836).

Employment terms and conditions of the Managing Director as of December 31, 2017.

BASE SALARY	Annual base salary is EUR 567,000 per year, including a car benefit and a mobile phone benefit.
SHORT-TERM BONUS PLAN	Based on terms approved by the Board of Directors. The maximum bonus is 70 percent of the annual base salary.
LONG-TERM SHARE INCENTIVE PLAN	Based on the terms of the share 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.
PENSION PLAN	Finnish Employee's Pension Act (TyEL), which provides pension security based on years of service and earnings as stipulated by the law. The retirement age of the Managing Director is based on the Finnish Employee's Pension Act. No supplementary pension arrangements in addition to the statutory pension.
TERMINATION	A mutual termination notice period of six months applies to the Managing Director. The Managing Director 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.
INSURANCES	The Managing Director has a life and permanent disability-, private accident-, business travel-, and directors' and officers' liability insurances. The Managing Director participates in the company sickness fund.

Remuneration report	Salary and benefits (EUR)	Severance (EUR)	Short-term bonus plan (EUR)	Long-term share incentive plan (EUR)	Total 2017 (EUR)	Total 2016 (EUR)
Managing Director Jari Rosendal	567,000		324,000	0	891,000	1,494,177
Other members of the management board	1,595,866	271,544	929,188	0	2,796,597	4,998,347

Other members of the management board: CFO and Head of Region Americas Petri Castrén, President Pulp and Paper and Head of Region APAC Kim Poulsen, President Industry and Water and Head of Region EMEA Antti Salminen, EVP Operational Excellence Esa-Matti Puputti, EVP Human Resources Eeva Salonen, CTO Heidi Fagerholm January 1 – October 31, 2017, President Oil and Mining and Head of Region Americas Tarjei Johansen, January 1 – March 8, 2017, EVP Projects and Manufacturing Technology Michael Löffelmann January 1 – January 19, 2017.

Short-term bonus plan for the Managing Director, Deputy Managing Director and other members of the Management Board

The short-term bonus plan is determined based on the achievement of the Kemira Group and Segment level and role based performance targets set by the Board of Directors for each financial year.

Maximum reward and criteria 2016

The maximum bonus for the Managing Director was 60% of the annual base salary, for the Managing Director's Deputy 50% and for the other members of the Management Board 50–70% of the annual base salary.

In 2016, performance targets were determined on the basis of the organic revenue growth, operative EBITDA, safety related KPI's of Kemira Group, and role based targets. The reward from the 2016 earning period was paid in February 2017.

Maximum reward and criteria 2017

The maximum bonus for the Managing Director was 70% of the annual base salary, for the Managing Director's Deputy 60% and for the other members of the Management Board 60–80% of the annual base salary.

In 2017, performance targets were determined on the basis of the operative cash flow after investing activities, operative EBITDA, safety related KPI's of Kemira Group, and role based targets. The reward from the 2017 earning period will be paid in February 2018.

Long-term share incentive plan 2015–2017

On December 15, 2014, 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 aim of the plan is to combine the objectives of the shareholders and the persons participating in the plan in order to increase the value of Kemira, to commit the participants to Kemira, and to offer them a competitive reward plan based on earning Kemira's shares. The Personnel and Remuneration Committee received advice for the planning work of the long-term share incentive plan from external incentive advisors, consultants of Alexander Incentives Oy.

Long-term share incentive plan earning periods, maximum share allocation and criteria 2015–2017

Share incentive plan earning period 2015

The criteria of the plan for the earning period 2015 were based on the Kemira Group's revenue and on the Group's operative EBITDA margin. The reward from the 2015 performance period was paid in 2016, partly in Kemira Oyj shares and partly in cash. Based on the earning period 2015, 294,445 Kemira Oyj shares were paid to 84 participants. In addition, a cash portion corresponding taxes and tax-related cost were paid to the participants.

Share incentive plan earning period 2016

The criteria of the plan for the earning period 2016 were based on the Kemira Group's revenue and on the Group's operative EBITDA margin. The Kemira Group's revenue target did not reach the plan threshold level, and thus there were no shares paid out for the 2016 earning period. The plan was directed to 85 people in 2016. The maximum reward on the basis of the 2016 earning period would have corresponded to the value of total of 504,200 Kemira Oyj shares and additionally, the cash proportion intended to cover taxes and tax-related costs.

Share incentive plan earning period 2017

The criterion of the plan for the earning period 2017 was based on the Kemira Group's Intrinsic Value. The possible reward from the 2017 earning period is paid partly in Kemira Oyj shares and partly in cash in 2018. On the bases of the 2017 earning period the maximum potential reward is corresponding the value of 448,200 Kemira Oyj shares and additionally a cash portion intended to cover taxes and tax related costs. The plan was directed to 79 people in 2017.

The share incentive plan 2018 is unfinished at the balance sheet date on 31 December 2017.

Long-term share incentive plan main rules and conditions

EARNING PERIODS AND CRITERIA	The long-term share incentive plan includes three performance periods: calendar years 2015, 2016 and 2017. The Board of Directors of Kemira decide on the plan's performance criteria and on the required performance levels for each criterion at the beginning of each performance period.
REWARDS	The potential reward is paid partly in Kemira's shares and partly in cash. The cash proportion is intended to cover the taxes and tax-related costs arising from the reward to the participant.
RESTRICTION PERIOD	The shares paid as reward may not be transferred during the restriction period, which will end two years from the end of the performance period.
EMPLOYMENT CONDITIONS	As a rule, no reward will be paid, if a participant's employment or service ends before the reward payment. Should a participant's employment or service end during the restriction period, as a rule, he or she must gratuitously return the shares given as reward.
CLAWBACK	Claw back provisions apply to plan rewards in exceptional circumstances, such as misconduct or misstatement of financial results.
SHARE OWNERSHIP GUIDELINES	The Board of Directors recommends that a member of the Management Board will own such number of Kemira's shares that the total value of his or her shareholding corresponds to the value of his or her annual gross salary as long as the membership continues. If this recommendation is not yet fulfilled, the Board of Directors recommends that a member of the Management Board will hold 50 per cent of the number of shares given on the basis of this plan also after the end of the restriction period, as long as his or her shareholding in total corresponds to the value of his or her annual gross salary.

4. Board of Directors remuneration report

According to the decisions of the Annual General Meeting 2017, 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 performance based share plan, or supplementary pension plans of Kemira Oyj.

The annual fees are as follows:

- the Chairman will receive EUR 80,000 per year,
- the Vice Chairman and the Chairman of the Audit Committee EUR 49,000 per year and
- the other members EUR 39,000 per year.

A fee payable for each meeting of the Board and its committees are as follows:

- EUR 600 for the members residing in Finland,
- EUR 1,200 for the members residing elsewhere in Europe and
- EUR 2,400 for the members residing outside Europe.

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 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 the 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, 2017.

The following amounts of shares were paid on May 9, 2017 as part of the annual fee decided by the Annual General Meeting 2017:

- the Chairman received 2,742 shares,
- the Vice Chairman and Chairman of the Audit Committee 1,680 shares and
- the other members 1,337 shares.

There are no special terms or conditions associated with owning these shares.

The remuneration of the Board of Directors 2017

	2017 (EUR)	2016 (EUR)
Jari Paasikivi, chairman	90,885	91,495
Kerttu Tuomas, vice chairman	57,085	57,091
Wolfgang Büchele	49,549	50,754
Shirley Cunningham	57,949	-
Winnie Fok	4,800	65,154
Kaisa Hietala	47,749	47,154
Juha Laaksonen	2,400	60,691
Timo Lappalainen	59,485	48,354
Total	**369,902**	**420,693**

Financial Statements 2017

Board of Directors' review 2017

In 2017, Kemira Group's revenue increased 5% to EUR 2,486.0 million (2,363.3) as sales volumes grew mainly due to recovery in the North American oil & gas business. Revenue in local currencies, excluding acquisitions and divestments, increased 6%.

Operative EBITDA increased 3% to EUR 311.3 million (302.5), mainly due to higher sales volumes more than offsetting the increase in variable costs. Operative EBITDA margin was 12.5% (12.8%).

EBITDA decreased 1% to EUR 282.4 million (284.2), mainly due to a EUR 12.7 million settlement for a damage claim relating to the alleged old infringement of competition law in the hydrogen peroxide business during 1994–2000.

EPS decreased to EUR 0.52 (0.60) mainly due to the settlement for the damage claim and higher finance costs. In the previous year, finance costs included a gain of EUR 5 million related to the sale of electricity production assets.

The Board of Directors proposes a cash dividend of EUR 0.53 per share (0.53) to the Annual General Meeting 2018, totaling EUR 81 million (81).

Key figures and ratios

EUR million	2017	2016
Revenue	**2,486.0**	2,363.3
Operative EBITDA	**311.3**	302.5
Operative EBITDA, %	**12.5**	12.8
EBITDA	**282.4**	284.2
EBITDA, %	**11.4**	12.0
Operative EBIT	**170.3**	170.1
Operative EBIT, %	**6.9**	7.2
EBIT	**141.4**	147.0
EBIT, %	**5.7**	6.2
Finance costs, net	**-28.9**	-19.1
Profit before taxes	**112.6**	128.0
Net profit for the period	**85.2**	97.9
Earnings per share, EUR	**0.52**	0.60

EUR million	2017	2016
Capital employed*	**1,763.2**	1,718.2
Operative ROCE*, %	**9.7**	9.9
ROCE*, %	**8.0**	8.6
Cash flow from operating activities	**205.1**	270.6
Capital expenditure excl. acquisition	**190.1**	212.6
Capital expenditure	**190.1**	210.6
Cash flow after investing activities	**13.0**	97.8
Equity ratio, % at period-end	**44**	45
Equity per share, EUR	**7.61**	7.68
Gearing, % at period-end	**59**	54
Personnel at period-end	**4,732**	4,818

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

Kemira provides certain financial performance measures (alternative performance measures) on non-GAAP basis. Kemira believes that alternative performance measures, such as organic growth*, EBITDA, operative EBITDA, cash flow after investing activities, and gearing followed by capital markets and Kemira management, provide useful information of its 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 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 this report, as well as at **www.kemira.com** > Investors > Financial information. All the figures in this interim report have been individually rounded and consequently the sum of individual figures may deviate slightly from the sum figure presented.

* Revenue growth in local currencies, excluding acquisitions and divestments

Financial performance, full year 2017

Kemira Group's **revenue** increased 5% due to sales volume growth mainly in the North American oil & gas business. Revenue in local currencies, excluding acquisitions and divestments, increased 6%.

Revenue	2017 EUR million	2016 EUR million	Δ, %	Organic growth*, %	Currency impact, %	Acq. & div. impact, %
Pulp & Paper	**1,476.9**	1,457.3	+1	+2	0	0
Industry & Water	**1,009.1**	906.0	+11	+12	-1	0
Total	**2,486.0**	**2,363.3**	**+5**	**+6**	**-1**	**0**

* Revenue in local currencies, excluding acquisitions and divestments

Geographically, the revenue split was as follows: EMEA (Europe, Middle East, Africa) 52% (52%), the Americas 39% (38%), and Asia Pacific 9% (10%).

Operative EBITDA increased 3% mainly due to higher sales volumes more than offsetting the increase in variable costs. Sales prices started to recover during the year. The negative impact from the force majeure due to the fire that occurred in January at Venator site in Finland was around EUR 6 million and the insurance compensation covered almost all of the gross margin loss.

Variance analysis, EUR million	Jan–Dec
Operative EBITDA, 2016	**302.5**
Sales volumes	+54.2
Sales prices	-5.3
Variable costs	-42.3
Fixed costs	-5.7
Currency exchange	+1.6
Others	+6.2
Operative EBITDA, 2017	**311.3**

Operative EBITDA	2017 EUR million	2016 EUR million	Δ, %	2017 %-margin	2016 %-margin
Pulp & Paper	**197.7**	195.3	+1	**13.4**	13.4
Industry & Water	**113.6**	107.2	+6	**11.3**	11.8
Total	**311.3**	**302.5**	**+3**	**12.5**	**12.8**

EBITDA decreased 1% and the difference to operative EBITDA is explained by items affecting comparability.

Items affecting comparability mainly resulted from the organizational restructuring costs and the EUR 12.7 million settlement for the damage claim relating to the alleged old infringement of competition law in the hydrogen peroxide business during 1994–2000. In the previous year, items affecting comparability were mainly related to restructuring of manufacturing plants and integration of an acquisition.

Items affecting comparability, EUR million	2017	2016
Within EBITDA	**-28.9**	-18.3
Pulp & Paper	**-17.9**	-7.5
Industry & Water	**-11.0**	-10.8
Within depreciation, amortization and impairments	**0.0**	-4.8
Pulp & Paper	**0.0**	-2.5
Industry & Water	**0.0**	-2.3
Total items affecting comparability in EBIT	**-28.9**	-23.1

Depreciation, amortization and impairments increased to EUR 141.0 million (137.2). Depreciation and amortization included EUR 16.7 million (19.2) amortization of purchase price allocation.

Operative EBIT was at prior-year level as higher operative EBITDA was offset by increased depreciation and amortization. **EBIT** decreased 4% and the difference to operative EBIT is explained by items affecting comparability.

Finance costs, net totaled EUR -28.9 million (-19.1). In the previous year, finance costs included a gain of EUR 5 million related to the sale of electricity production assets (Pohjolan Voima Oy). Changes in fair values of electricity derivatives were EUR 0.2 million (2.2). The currency exchange differences had EUR -3.2 million (-1.1) impact on the net financial expenses.

Income taxes decreased to EUR -27.4 million (-30.1) as a result of lower profit before taxes. The reported tax rate in both years was 24%.

Net profit attributable to equity owners of the parent company decreased 14% mainly due to the EUR 12.7 million settlement for the damage claim in 2017 and a EUR 5 million capital gain from the sale of electricity production assets, which took place in June 2016.

Financial position and cash flow

Cash flow from the operating activities in January-December 2017 decreased to EUR 205.1 million (270.6), mainly due to the EUR 12.7 million settlement for a damage claim relating to the alleged old infringement of competition law in the hydrogen peroxide business during 1994–2000, restructuring costs, and higher net working capital.

Cash flow after investing activities decreased to EUR 13.0 million (97.8). Previous year figure included EUR 35 million proceeds from divestment of electricity assets in Finland.

At the end of 2017, interest-bearing liabilities totaled EUR 861 million (807). The average interest rate of the Group's interest-bearing liabilities was 2.0% (2.1%). The duration of the Group's interest-bearing loan portfolio was 33 months (26).

Short-term liabilities maturing in the next 12 months amounted to EUR 191 million (158). On December 31, 2017, cash and cash equivalents totaled EUR 166 million (173). In addition, the Group has EUR 400 million revolving credit facility, which was undrawn.

In May 2017, EUR 100 million of outstanding notes maturing in 2019 were exchanged to EUR 200 million issuance of new senior unsecured notes. The new bond will mature on 2024.

At the end of the year Group's net interest-bearing liabilities were EUR 694 million (634). The equity ratio was 44% (45%), while the gearing was 59% (54%). The shareholders' equity was EUR 1,172.8 million (1,182.9).

The Group's most significant transaction currency risks arise from the Swedish krona, the U.S. dollar and the Canadian dollar. At the end of the year, the denominated 12-month exchange rate risk of the Swedish krona had an equivalent value of approximately EUR 58 million, 63% of which was hedged on an average basis. The U.S. dollar denominated exchange rate risk was approximately EUR 30 million, 58% of which was hedged on an average basis. The Canadian dollar denominated exchange rate risk was approximately EUR 36 million, 63% of which was hedged on an average basis. In addition, Kemira is exposed to smaller transaction risks in relation to the Chinese renminbi, Norwegian krona, and Brazilian real with the total annual exposure in these currencies of approximately EUR 56 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 Finland are reported in a currency other than euro. The most significant translation exposure derives from the U.S. dollar, the Swedish krona, the Canadian dollar, the Chinese renminbi, and the Brazilian real. Strengthening of these currencies against the euro would increase Kemira's revenue and EBITDA through a translation effect.

Capital expenditure

In 2017, capital expenditure decreased 10% to EUR 190.1 million (210.6). Capital expenditure can be broken down as follows: expansion capex 35% (45%), improvement capex 34% (27%), and maintenance capex 31% (28%).

The largest investments during the year were the sodium chlorate capacity expansion in Joutseno, Finland, as well as capacity additions at multiple sites and capital expenditures related to the integration of Akzo Nobel's paper chemicals acquisition.

Research and development

Research and Development expenses totaled EUR 30.3 million (32.1) in 2017 representing 1.2% (1.4%) of the Group's revenue.

Kemira's Research and Development is a critical enabler of the growth and further differentiation. New product launches contribute to the efficiency and sustainability of customer processes and to the 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, and on its ability to innovate new differentiated products and applications.

The Group's target is to increase the revenue from new products and products for new applications. In 2017, the share of innovation revenue (revenue from new products or from products to new applications launched within the past five years) of the Group's revenue increased to 10% (9%).

At the end of 2017, Kemira had 389 (348) patent families, 1,525 (1,236) granted patents, and 1,017 (860) pending applications. The increase in figures is related to the acquisition of AkzoNobel's paper chemicals business. A patent family covers one invention and has a number of patents or applications in various countries. During 2017, Kemira received 52 (48) new patents and introduced 11 (14) new products.

Human resources

At the end of the period, Kemira Group had 4,732 employees (4,818). Kemira employed 803 people in Finland (796), 1,768 people elsewhere in EMEA (1,813), 1,514 in the Americas (1,558), and 647 in APAC (651).

Non-financial information

Material impacts through Kemira's business model

Kemira has systematic procedures in place to evaluate and address economic, environmental and social impacts from its own operations and business relationships. Our principal material impacts are related to products improving our customers´ sustainability, chemical safety management throughout its lifecycle, responsible management of our own operations, responsible performance and good governance throughout our supply chains, engagement and competence development of our employees and responsible business practices in our own operations or with our business partners. The principal risks and opportunities related to the impacts of Kemira's activities are actively managed and integrated into our management systems.

Kemira is committed to take responsibility on the impacts through its business model, mitigate risks and leverage opportunities. The United Nations Global Compact is signed by Kemira as our commitment to implement universal sustainability principles and to respect and promote human rights, implement decent work practices, reduce our environmental impact, and combat corruption. Kemira Oyj has signed also the Responsible Care® initiative, a voluntary commitment made by the global chemical industry to improve health, environmental performance, and security, and to communicate with stakeholders about products and processes.

Corporate responsibility priorities

Kemira's corporate responsibility program is defined to address our principal impacts and related risks and opportunities. The priorities cover sustainable products and solutions, responsible operations and supply chain, and people and integrity. Kemira measures progress in the priority areas through the Group level targets and KPIs, which are approved by the Management Board and reviewed by the Board of Directors. The results for 2017 are presented in the table Corporate responsibility performance.

Sustainable products and solutions

Kemira is committed to incorporate sustainability into our products and solutions. Kemira's New Product Development (NPD) process applies evaluations to examine the economic, environmental, and social impacts of any new product, compared to existing benchmarked solutions. Successful NPD projects must demonstrate both improved sustainability and business benefits at each decision gate to justify the project's continuation, and ultimately the product launch.

Kemira's Product Stewardship Policy defines principles for the proactive management of the health, safety and environmental aspects of a product throughout its life cycle. We also work to identify less hazardous and more sustainable alternatives for raw materials. Other measures include ensuring safe transportation, handling, storage and disposal of our products in the value chain.

Responsible operations and supply chain

Kemira is committed to ensure responsible operations to protect our assets, our environment, employees, contractors, customers and communities. Kemira's Environmental, Health, Safety and Quality (EHSQ) policy defines operating principles for managing environmental, health, safety, and quality in our operations. Kemira aims to have certifiable environmental, health, safety, and quality management system in place for all manufacturing sites. Ensuring people safety is a key in all operations. We strive for continuous improvement to reduce our environmental impacts. Kemira has a target to reduce greenhouse emissions by 20 percentage units by 2020 compared to baseline year 2012.

Kemira is committed to ensure compliance with responsible business practices in our supply chain. Kemira's Code of Conduct for Suppliers, Distributors and Agents (CoC SDA) defines principles for responsible business conduct, respect for human rights and provision of appropriate working conditions, and environmental responsibility. Compliance with the Kemira CoC-SDA is required by all our suppliers and business partners. Our strategic, critical, and large spend suppliers are requested to participate in a sustainability assessment process based on the principles of the UN Global Compact and the Responsible Care program. Approximately 25% of total spend has been assessed. Based on the assessment results, the suppliers are classified into risk categories and needed actions are defined. Suppliers with ongoing improvement plans are always reassessed the following year and high risk suppliers are audited.

People and Integrity

Culture and commitment to people are an important success factor in Kemira's business. Kemira's performance management process aligns our strategic targets with each employees' personal targets, performance evaluation competences and development plans. The process is a part of Kemira's leadership culture and it forms the backbone of our management system.

Our Code of Conduct (the Code) is the foundation for our business conduct in Kemira. Our Code puts a framework around our values and reflects our commitments towards our key stakeholders. Kemira is committed to the principles of The Universal Declaration of Human Rights and the United Nations' Global Compact, and we expect also our suppliers and business partners to share these principles. Kemira principles of anti-corruption are included in the Code of Conduct. Kemira does not tolerate improper or corrupt payments made directly or indirectly to a customer, government official or third party, including facilitation payments, improper gifts, entertainment, gratuities, favours, 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 to all our employees and there are advisory, monitoring and reporting procedures in place to ensure proper accomplishment of the code. Ethics and Compliance Hotline is available for employees enabling them to report potential violations of the Code of Conduct or any other concerns.

Mandatory Anti-Bribery training is targeted to the selected personnel groups, who need to have comprehensive understanding on Kemira's anti-corruption principles. The awareness of anti-corruption matters is employed through our Code of Conduct training to all employees. Kemira has conducted an ethics and compliance risks assessment to evaluate anti-corruption and bribery related risks in its operations. There were no confirmed incidents of corruption or public legal cases regarding corruption in 2017.

Non-Financial Reporting

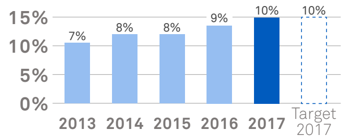
More detailed information is presented in Kemira Annual Report 2017, section GRI disclosures. The non-financial disclosures are based on the GRI disclosures, which is prepared in accordance with the GRI standards (2016) and externally assured by an independent third-party Deloitte.

Corporate responsibility performance

Prioririty | Target | Performance 2017 | Comments

Sustainable products and solutions

Innovation sales
Share of innovation revenue of total revenue, 10% by the end of 2017

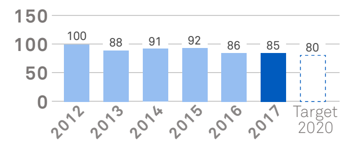


Innovation sales target of 10% of total revenue was reached. Commercialization of new sustainable products have succeeded in replacing the sales of old bestselling products from the previous five years.

ACHIEVED

Responsible operations and supply chain

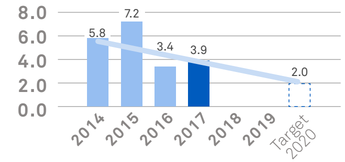
Climate change
Kemira Carbon Index ≤ 80 by end of 2020 (2012 = 100)



Slight decrease in carbon index compared to 2016, due to increased use of carbon neutral energy sources and continuous implementation of energy efficiency projects.

IN PROGRESS

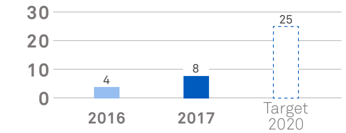
People, health and safety
Achieve zero injuries on long term;
TRIF* 2.0 by end of 2020



In 2017, TRIF increased to 3.4. The increase in incidents were related to contracted work at our premises. Also the severity of incidents increased, including 3 permanent disabilities.

BEHIND TARGET

Supplier management
5 sustainability audits for highest risk** suppliers every year during 2016–2020, average, cumulative target 25 by 2020



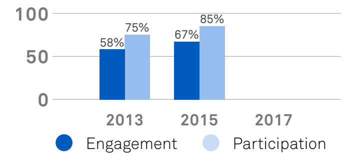
Four SMETA (Sedex Members Ethical Trade Audit) audits in collaboration with an external service provider was conducted with no business stopping results. Majority of the corrective actions were related to health and safety and labor practices.

IN PROGRESS

People and integrity

Employee engagement index based on Voices@Kemira biennial survey
The index at or above the external industry norm

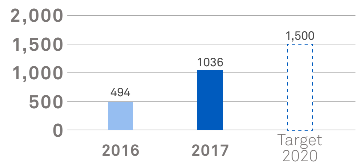
Participation rate in Voices@Kemira 75% or above



Due to the reorganization, the biennial employee engagement survey was postponed from autumn 2017 until spring 2018, to give managers at least six months with their new teams before engaging in the survey.

BEHIND TARGET

Leadership development activities provided, average
Two (2) leadership development activities per people manager position during 2016–2020, cumulative target 1500 by 2020



Steady rate of participation in both internal and external leadership development activities continued in 2017 at 542 and actual cumulative total so far 1,036. The activities also included on-the-job learning opportunities in corporate development projects.

IN PROGRESS

* TRIF = Number of Total Recordable Injury Frequency per million hours, Kemira + contractor, year-to-date
** Suppliers with lowest sustainability assessment score

Segments

Pulp & Paper

Pulp & Paper has unique expertise in applying chemicals and supporting pulp & paper producers in innovating and constantly improving their operational efficiency. The segment develops and commercializes new products to fulfill customer needs, ensuring the leading portfolio of products and services for paper wet-end, focusing on the packaging and board, as well as on the tissue. Pulp & Paper leverages its strong application portfolio in North America and EMEA and builds a strong position in the emerging Asian and South American markets.

EUR million	2017	2016
Revenue	**1,476.9**	1,457.3
Operative EBITDA	**197.7**	195.3
Operative EBITDA, %	**13.4**	13.4
EBITDA	**179.9**	187.8
EBITDA, %	**12.2**	12.9
Operative EBIT	**104.8**	111.6
Operative EBIT, %	**7.1**	7.7
EBIT	**86.9**	101.6
EBIT, %	**5.9**	7.0
Capital employed*	**1,165.2**	1,111.8
Operative ROCE*, %	**9.0**	10.0
ROCE*, %	**7.5**	9.1
Capital expenditure excl. M&A	**138.3**	127.1
Capital expenditure incl. M&A	**138.3**	125.1
Cash flow after investing activities	**15.7**	105.7

*12-month rolling average

Segment's **revenue** increased 1% driven by higher sales volumes. Revenue in local currencies, excluding divestments and acquisitions, increased 2%. The force majeure due to the fire that occurred in January at the Venator site in Finland and supply issues with a key raw material in China impacted the segments' revenue by more than EUR -30 million.

In **EMEA**, revenue increased 3% to EUR 780.0 million (760.2) due to sales volume growth in several product lines, especially demand for pulp chemicals continued strong. The start-up of the new sodium chlorate line in Joutseno, Finland, had a positive impact.

In the **Americas**, revenue decreased 3% to EUR 505.9 million (519.1) as a combination of negative currency impact and lower demand in North America. Prices were also under pressure in North America. In South America, sales volumes increased driven by bleaching chemicals, and the currency exchange rates also contributed to higher revenue.

In **APAC**, revenue increased 7% to EUR 191.0 million (178.0) as a result of sales volume growth despite the supply issues of certain raw material for AKD products. The demand for sodium chlorate and process chemicals, especially polymers, was strong. Currencies had a negative impact on revenue.

Operative EBITDA increased 1% mainly due to higher sales volumes while variable costs increased and sales prices decreased. **EBITDA** decreased 4% mainly due to a EUR 12.7 million settlement for the damage claim relating to the alleged old infringement of competition law in the hydrogen peroxide business during 1994–2000.

Industry & Water

Industry & Water supports municipalities and water intensive industries in the efficient and sustainable use of resources. In water treatment, we help in optimizing every stage of the water cycle. In oil and gas applications, our chemistries enable improved yield from existing reserves and reduced water and energy use.

EUR million	2017	2016
Revenue	**1,009.1**	906.0
Operative EBITDA	**113.6**	107.2
Operative EBITDA, %	**11.3**	11.8
EBITDA	**102.5**	96.4
EBITDA, %	**10.2**	10.6
Operative EBIT	**65.5**	58.5
Operative EBIT, %	**6.5**	6.5
EBIT	**54.4**	45.4
EBIT, %	**5.4**	5.0
Capital employed*	**596.7**	605.2
Operative ROCE*, %	**11.0**	9.7
ROCE*, %	**9.1**	7.5
Capital expenditure excl. M&A	**51.7**	85.5
Capital expenditure incl. M&A	**51.7**	85.5
Cash flow after investing activities	**46.9**	35.6

*12-month rolling average

Segment's **revenue** increased 11%. Revenue in local currencies, excluding acquisitions and divestments, increased by 12%. Growth was driven by higher sales volumes, while the sales prices remained at prior year level with improving trend during the year. Currency exchange rates had a negative impact on revenue.

Within the segment, revenue of the Oil & Gas business increased 56% to EUR 197.0 million (126.1). In the water treatment business, good sales volume growth continued.

In **EMEA**, revenue increased 1% to EUR 511.1 million (507.5) driven by higher demand for coagulants, whereas the discontinuance of a certain Indian contract impacted polymer deliveries negatively. Sales prices increased for several product lines following higher raw material costs.

In the **Americas**, revenue increased 26% to EUR 472.2 million (376.0) driven by the recovery of the North American oil & gas business, which includes also around EUR 25 million revenue generated with the delivery of equipment. Currencies had a negative impact on revenue. Sales prices were slightly below prior year, however with an improving trend.

In **APAC**, revenue increased 15% to EUR 25.8 million (22.4) due to high demand for polymers used in water treatment. Lower sales prices and currency exchange rates had a negative impact on revenue.

Operative EBITDA increased 6% as higher sales volumes more than offset increased variable costs. **EBITDA** increased 6% as well.

Parent company's financial performance

Kemira Oyj's revenue increased to EUR 1,397.2 million (1,364.2) in 2017. EBITDA was EUR 82.1 million (77.0). EBITDA increased, mainly due to an increase in revenue. The parent company's financing income and expenses were EUR 4.6 million (182.2). Financing income and expenses decreased, mainly due to lower dividend distribution from Group companies. Net profit totaled EUR 41.3 million (215.8). Total capital expenditure was EUR 27.1 million (17.7), excluding investments in subsidiaries.

Kemira Oyj's shares and shareholders

On December 31, 2017, Kemira Oyj's share capital amounted to EUR 221.8 million and the number of shares was 155,342,557. Each share entitles to one vote at the Annual General Meeting.

At the end of December, Kemira Oyj had 35,571 registered shareholders (32,622). Non-Finnish shareholders held 25.8% of the shares (25.1%) including nominee-registered holdings. Households owned 17.9% of the shares (16.0%). Kemira held 2,988,935 treasury shares (2,975,327) representing 1.9% (1.9%) of all company shares.

Kemira Oyj's share price decreased 5% since the beginning of the year and closed at EUR 11.50 on the Nasdaq Helsinki at the end of December 2017 (12.13 on December 31, 2016). Shares registered a high of EUR 12.44 and a low of EUR 10.33 in January-December 2017. The average share price was EUR 11.47. The company's market capitalization, excluding treasury shares, was EUR 1,752 million at the end of December 2017 (1,848 on December 31, 2016).

In January-December 2017, Kemira Oyj's share trading turnover on Nasdaq Helsinki was EUR 615 million (January-December 2016: 703). The average daily trading volume was 215,814 (256,233) shares. The total volume of Kemira Oyj's share trading in January-December 2017 was 85 million shares (95), 36% (32%) of which was executed on other trading platforms (BATS, Chi-X, Turquoise). Source: Nasdaq and Kemira.com.

Ownership December 31, 2017	
Corporations	40.9%
Financial and insurance corporations	3.5%
General government	7.9%
Households	17.9%
Non-profit institutions	4.0%
Non-Finnish shareholders incl. nominee registered	25.8%

Shareholding by number of shares held December 31, 2017

Number of shares	Number of shareholders	% of shareholders	Shares total	% of shares and votes
1–100	8,637	24.3	514,591	0.3
101–500	14,959	42.0	4,118,698	2.7
501–1,000	5,701	16.0	4,397,344	2.8
1,001–5,000	5,271	14.8	11,068,718	7.1
5,001–10,000	537	1.5	3,900,966	2.5
10,001–50,000	368	1.0	7,203,461	4.7
50,001–100,000	31	0.1	2,354,524	1.5
100,001–500,000	51	0.1	10,501,334	6.8
500,001–1,000,000	6	0.0	3,911,277	2.5
1,000,001–	10	0.0	107,371,644	69.1
Yhteensä	**35,571**	**100.0**	**155,342,557**	**100.0**

Largest shareholders December 31, 2017

	Shareholder	Number of shares	% of shares and votes
1	Oras Invest Oy	28,278,217	18.2
2	Solidium Oy	25,896,087	16.7
3	Varma Mutual Pension Insurance Company	5,329,836	3.4
4	Ilmarinen Mutual Pension Insurance Company	3,238,000	2.0
5	Nordea funds	1,434,248	0.9
6	Pohjola Fund Management	1,403,177	0.9
7	Veritas Pension Insurance Company Ltd.	1,297,637	0.8
8	Etola Erkki Olavi	1,250,000	0.8
9	The State Pension Fund	990,000	0.6
10	Laakkonen Mikko	600,000	0.4
11	Säästöpankki Funds	561,418	0.4
12	OP-Henkivakuutus Ltd.	536,642	0.4
13	Aktia Funds	470,000	0.3
14	Holding Manutas Oy	400,000	0.3
15	Paasikivi Pekka	395,000	0.3
	Kemira Oyj	2,988,935	1.9
	Nominee registered and foreign shareholders	40,024,574	25.8
	Others, total	40,248,786	25.9
	Total	**155,342,557**	**100.0**

AGM decisions

Annual General Meeting

Kemira Oyj's Annual General Meeting held on March 24, 2017 confirmed the dividend of EUR 0.53. The dividend was paid out on April 11, 2017.

The AGM 2017 authorized the Board of Directors to decide on the repurchase of a maximum of 4,800,000 company's own shares ("Share Repurchase Authorization"). The Share Repurchase Authorization is valid until the end of the next Annual General Meeting. The Board has not exercised its authority by December 31, 2017.

The AGM 2017 also authorized the Board of Directors to decide to issue a maximum of 15,600,000 new shares and/or transfer a maximum of 7,800,000 of the company's own shares held by the company ("Share Issue Authorization"). The Share Issue Authorization is valid until May 31, 2018. The share issue authorization has been used in connection with the remuneration of the Board of Directors.

The AGM elected Deloitte Oy to serve as the company's auditor, with Jukka Vattulainen, 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, 2017, the Annual General Meeting elected six members to the Board of Directors. The Annual General Meeting re-elected Wolfgang Büchele, Kaisa Hietala, Timo Lappalainen, Jari Paasikivi, and Kerttu Tuomas and elected Shirley Cunningham as a new member of the Board of Directors. Jari Paasikivi was re-elected as the Board's Chairman and Kerttu Tuomas was re-elected as the Vice Chairman. In 2017, Kemira's Board of Directors met 10 times with a 98.4% 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 Jari Paasikivi and has Timo Lappalainen and Kerttu Tuomas as members. In 2017, the Personnel and Remuneration Committee met six times with a 100% attendance rate. The Audit Committee is chaired by Timo Lappalainen and has Kaisa Hietala and Jari Paasikivi as members. In 2017, the Audit Committee met five times with a 100% attendance rate.

Changes to company management in 2017

On January 20, Michael Löffelmann, EVP, Projects & Manufacturing Technology, left Kemira and took a leadership position in another company. Esa-Matti Puputti, EVP Operational Excellence, took the responsibility of Projects & Manufacturing Technology.

On March 9, Kemira announced the merger of the Municipal & Industrial and Oil & Mining segment into one new segment, Industry & Water. Due to the planned organizational changes, Tarjei Johansen, President of Oil & Mining segment, left Kemira during March. Antti Salminen, President of Municipal & Industrial segment was appointed to lead the new Industry & Water segment.

On September 11, Heidi Fagerholm, Chief Technology Officer (CTO) and member of the Management Board, left Kemira and took a leadership position in another company.

On December 22, Matthew R. Pixton was appointed as Chief Technology Officer (CTO) and member of the Management Board as of January 1, 2018.

Structure

On March 9, Kemira announced that the Municipal & Industrial and Oil & Mining segments will be merged into one new segment Industry & Water as of June 1, 2017. Kemira's new organization consists of two segments: Pulp & Paper and Industry & Water.

There have been no acquisitions or divestments during the year which would have impacted the company's structure.

Short-term risks and uncertainties

On January 30, 2017, an extensive fire occurred at the Huntsman Pigments (currently Venator) plant in Pori, Finland. Kemira's facilities at the site were not directly exposed, and nobody was injured. Venator is a key raw material supplier for Kemira's iron coagulant production. Venator also purchases chemicals and energy from Kemira.

Venator has commented the situation at Pori site in conjunction with their third quarter results in October 2017: "We are already running at 20% of previous capacity and we intend to restore manufacturing of the balance of these more profitable specialty products as quickly as possible in 2018. The remaining 40% of site capacity is more commoditized and may be reintroduced at a slower pace depending on market conditions, cost and projected long term return."

For Kemira, the incident will mean revenue loss, extra costs and risks related to the availability and usability of alternative raw materials. Kemira estimates that the revenue loss will be approximately EUR 20 million in 2018 and the negative EBITDA impact (before insurance coverage) is expected to be up to EUR 1-2 million per quarter due to increased costs and loss of revenue. Kemira has a limit of business interruption insurance coverage of EUR 10 million per incident for critical suppliers, and Kemira expects to receive compensation for most of the loss in gross margin in 2017. The negative EBITDA impact before insurance coverage was around EUR 6 million in 2017 and the insurance compensation covered almost all of the gross margin loss.

Changes in customer demand

Significant unforeseen decline in the use of certain chemicals (e.g. chemicals for packaging and board production) or in the demand of customers' products could have a negative impact on the Kemira's business. Significant decline in certain raw material and utility prices (e.g. oil, gas, and metal) may shift customers' activities in areas, which can be exploited with fewer chemicals. 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, and this may have a negative impact, especially on the Industry & Water segment's ability to compete. On the other hand, possible capacity expansions by customers could increase the chemical consumption and even challenge Kemira's current production capacity. Failure by Kemira to be prepared to meet and manage these changed expectations could result in loss of market share.

In order to manage and mitigate this risk, Kemira systematically monitors leading indicators 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 possible increases in demand. Kemira's geographic and customer industry diversity also provides partial protection against the risk of changed customer demands.

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. Although laws and regulations can generally be considered as an opportunity for Kemira, certain legislative initiatives supporting, for instance, the use of biodegradable raw materials or biological water treatment, limiting the use of aluminum or phosphates, or relating to recovery or recycling of phosphorus, may also have a negative impact on Kemira's business. Significant changes, for instance, in chemical, environmental or transportation laws and regulations may impact Kemira's profitability through the increase in production and transportation costs. At the same time, such changes may also create new business opportunities for Kemira.

Inclusion of new substances into 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 regulation create needs for monitoring and mastering global trade compliance in order to ensure for instance compliant product importation.

Kemira continuously follows regulatory developments in order to maintain the awareness of proposed and upcoming changes of those laws and regulations which 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, for example, the possibilities to replace certain substances if those would be subject to stricter regulation. Kemira has also increased the focus and resources in the management of global trade compliance.

Regulatory effects are systematically taken into consideration in strategic decision making. Kemira takes an active role in regulatory discussions whenever justified from the perspective of the industry or business.

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 the 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. In the long-term, completely new types of technology may considerably change the current competitive situation. This risk is managed both at the Group and the segment levels through continuous monitoring of the competition. The company aims at responding to its competition with the active management of customer relationships and continuous development of its products and services to further differentiate itself from the competitors.

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 the 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 which are important to Kemira, could cause business interference or other adverse consequences.

Weak economic development may result in customer closures or consolidations, resulting in diminishing customer base. The liquidity of Kemira's customers could become weaker, resulting in increased credit losses for Kemira. 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.

Hazard risks

Kemira's production activities involve many hazard risks, such as fires and explosions, machinery breakdowns, natural catastrophes, exceptional weather conditions, environmental incidents, and the consequent possible resulting liabilities, as well as the employee health and safety risks. These risk events could derive from several factors, including but not limited to unauthorized IT system access by malicious intruder causing possible damage to the systems and consequent financial losses. A systematic focus on achieving set targets, certified management systems, efficient hazard prevention programs, 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 financial impacts of hazard risks.

Innovation and R&D

Kemira's Research and Development is a critical enabler for organic growth and further differentiation. New product launches contribute to the efficiency and sustainability of Kemira's or its customers' processes, as well as to the improved profitability. 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. Failure to innovate or focus on the new disruptive technologies and products, or to efficiently launch new products or service concepts may result in non-achievement of growth targets.

Innovation and R&D related risks are being managed through the efficient R&D portfolio management in close collaboration between R&D and the two business segments. Kemira has further improved the coordination and cooperation between Business Development, R&D, Sales and Marketing units in order to better understand the future needs and expectations of its customers. With continuous development of innovation processes Kemira aims towards more stringent project execution. Kemira maintains 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.

Acquisitions

Acquisitions are one potential way to reach corporate goals and strategies, in addition to organic growth. Consolidations are driven by chemical manufacturers' interests in realizing synergies and establishing footholds in new markets.

Kemira's market position may deteriorate if it is unable to take advantage of future acquisition opportunities. The integration as such of acquired businesses, operations, and personnel also involves risks. If unsuccessful, this may result in a shortage in the set financial targets for such acquisitions.

Kemira has created M&A 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 mergers and acquisitions and to help execute transactions and post-merger integration.

Price and availability of raw materials and commodities

Continuous improvement of profitability is a crucial part of the Kemira's strategy. Significant and sudden increase in the cost of raw material, commodity, or logistics could place Kemira's profitability targets at risk if Kemira is not be able to pass on such increase to product prices without delay. For instance, remarkable changes in oil and electricity prices could materially impact Kemira's profitability. Changes in the raw material supplier field, such as consolidation or decreasing capacity, may increase raw material prices. Also, significant demand changes in industries that are the main users of certain raw materials may lead to raw material price fluctuations.

Poor availability of certain raw materials may affect Kemira's production 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.

Suppliers

The continuity of Kemira's business operations is dependent on accurate and good-quality supply of products and services. Kemira has currently 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 such supply of raw material, Kemira's operations could be impacted, and this could have further effects on Kemira's ability to accomplish its profitability targets. 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.

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 being developed in order to uncover and realize new value and reduce risk. Supplier performance is also regularly monitored as a part of the supplier performance management process.

Talent management

To secure competitiveness and growth, as well as to improve operative efficiency, it is essential to attract and retain personnel with the right skills and competences (e.g. R&D, sales, customer service and marketing competence). Kemira is continuously identifying high potentials and key competencies for future needs. By 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.

A detailed account of the Kemira's risk management principles is available on the company's website at **www.kemira.com**. Financial risks are also described in the Notes to the Financial Statements.

Events after the review period

Proposals of the Nomination Board to the Annual General Meeting 2018

The Nomination Board proposes to the Annual General Meeting of Kemira Oyj that six members be elected to the Board of Directors and that the present members Wolfgang Büchele, Shirley Cunningham, Kaisa Hietala, Timo Lappalainen, Jari Paasikivi and Kerttu Tuomas be re-elected as members of the Board of Directors. In addition, the Nomination Board proposes that Jari Paasikivi be re-elected as the Chairman of the Board of Directors and Kerttu Tuomas be re-elected as the Vice Chairman. All the nominees have given their consent to the position.

The Nomination Board proposes to the Annual General Meeting that the remuneration paid to the members of the Board of Directors will remain unchanged. The remuneration paid to the members of the Board of Directors would thus be as follows. The annual fees: for the Chairman EUR 80,000 per year, for the Vice Chairman and the Chairman of the Audit Committee EUR 49,000 each per year, and for the other members EUR 39,000 per year. A fee payable for each meeting of the Board of Directors and the Board Committees would be for the members residing in Finland EUR 600, for the members residing in rest of Europe EUR 1,200 and for the members residing outside Europe 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, 2018. The meeting fees are proposed to be paid in cash.

The Nomination Board has consisted of the following representatives: Pekka Paasikivi, Chairman of the Board of Oras Invest Oy as the Chairman of the Nomination Board; Antti Mäkinen, Managing Director of Solidium Oy; Reima Rytsölä, Executive Vice-President, Varma Mutual Pension Insurance Company and Mikko Mursula, Chief Investment Officer, Ilmarinen Mutual Pension Insurance Company as members of the Nomination Board and Jari Paasikivi, Chairman of Kemira's Board of Directors as an expert member.

Dividend and dividend policy

On December 31, 2017, Kemira Oyj's distributable funds totaled EUR 782,601,045 of which net profit for the period was EUR 41,340,931. 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 21, 2018 that a dividend of EUR 0.53 per share totaling EUR 81 million shall be paid on the basis of the adopted balance sheet for the financial year ended December 31, 2017.

Kemira's dividend policy aims to pay a stable and competitive dividend.

Outlook for 2018

Kemira expects its operative EBITDA to increase from the prior year (2017: EUR 311.3 million).

Mid- and long-term financial targets (unchanged)

Kemira aims at above-the-market revenue growth with operative EBITDA margin of 14–16%. The gearing target is below 60%.

Helsinki, February 7, 2018
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.

Group key figures

Kemira provides certain financial performance measures (alternative performance measures) on non-GAAP basis. Kemira believes that alternative performance measures, such as organic growth*, EBITDA, operative EBITDA, cash flow after investing activities, and gearing followed by capital markets and Kemira management, provide useful information of its 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 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 this financial statements, as well as at **www.kemira.com** > Investors > Financial information.

* Revenue growth in local currencies, excluding acquisitions and divestments.

	2017	2016	2015	2014	2013
Income statement and profitability					
Revenue, EUR million	**2,486**	2,363	2,373	2,137	2,229
Operative EBITDA, EUR million	**311**	303	287	253	252
Operative EBITDA, %	**12.5**	12.8	12.1	11.8	11.3
EBITDA, EUR million 1)	**282**	284	264	253	142
EBITDA, %	**11.4**	12.0	11.1	11.8	6.4
Operative EBIT, EUR million	**170**	170	163	158	164
Operative EBIT, %	**6.9**	7.2	6.9	7.4	7.4
Operating profit (EBIT), EUR million 1)	**141**	147	133	153	43
Operating profit (EBIT), %	**5.7**	6.2	5.6	7.1	1.9
Share of the results of associates, EUR million 1)	**0**	0	0	0	-1
Finance costs (net), EUR million	**29**	19	31	31	39
% of revenue	**1.2**	0.8	1.3	1.4	1.7
Interest cover 1)	**9.8**	14.9	8.6	8.2	3.6
Profit before tax, EUR million	**113**	128	102	122	3
% of revenue	**4.5**	5.4	4.3	5.7	0.1
Net profit for the period (attributable to equity owners of the parent), EUR million	**79**	92	71	90	-32
Return on investment (ROI), % 2)	**6.5**	7.2	6.6	8.2	1.3
Return of equity (ROE), %	**6.7**	7.8	6.1	7.9	-2.7
Capital employed, EUR million	**1,763**	1,718	1,660	1,428	1,496
Operative return on capital employed (ROCE), %	**9.7**	9.9	9.8	11.1	10.9
Return on capital employed (ROCE), %	**8.0**	8.6	8.0	10.7	2.8

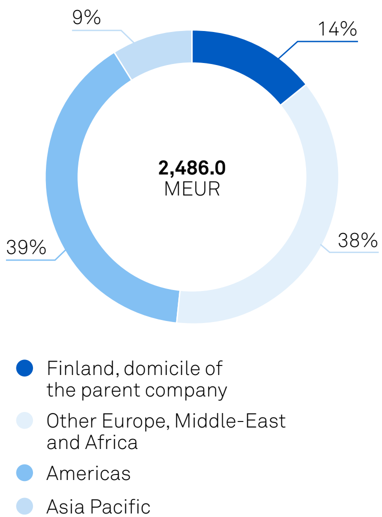
	2017	2016	2015	2014	2013
Research and development expenses, EUR million	**30**	32	32	28	32
% of revenue	**1.2**	1.4	1.3	1.3	1.4
Cash flow					
Net cash generated from operating activities, EUR million	**205**	271	248	74	200
Proceeds from sale of subsidiaries and property, plant and equipment and intangible assets, EUR million	**3**	37	3	146	193
Capital expenditure, EUR million	**190**	211	305	145	198
% of revenue	**7.6**	8.9	12.9	6.8	8.9
Capital expenditure excl. acquisitions, EUR million	**190**	213	182	146	139
% of revenue	**7.6**	9.0	7.7	6.8	6.2
Cash flow after investing activities, EUR million	**13**	98	-54	75	196
Cash flow return on capital invested (CFROI), %	**9.3**	12.5	12.1	3.9	10.0
Balance sheet and solvency					
Non-current assets, EUR million	**1,842**	1,822	1,825	1,613	1,501
Shareholders' equity (Equity attributable to equity owners of the parent), EUR million	**1,159**	1,170	1,180	1,151	1,113
Total equity including non-controlling interests, EUR million	**1,173**	1,183	1,193	1,163	1,126
Total liabilities, EUR million	**1,502**	1,438	1,402	1,132	1,086
Total assets, EUR million	**2,675**	2,621	2,595	2,296	2,211

	2017	2016	2015	2014	2013
Net working capital	**211**	195	218	222	198
Interest-bearing net liabilities, EUR million	**694**	634	642	486	456
Equity ratio, %	**44**	45	46	51	51
Gearing, %	**59**	54	54	42	41
Interest-bearing net liabilities per EBITDA	**2.5**	2.2	2.4	1.9	3.2
Personnel					
Personnel at period-end	**4,732**	4,818	4,685	4,248	4,453
Personnel (average)	**4,781**	4,802	4,559	4,285	4,632
of whom in Finland	**822**	807	793	823	1,027
Exchange rates					
Key exchange rates at 31 Dec					
USD	**1.199**	1.054	1.089	1.214	1.379
CAD	**1.504**	1.419	1.512	1.406	1.467
SEK	**9.844**	9.553	9.190	9.393	8.859
CNY	**7.804**	7.320	7.061	7.536	8.349
BRL	**3.973**	3.431	4.312	3.221	3.258
Per share figures					
Earnings per share (EPS), basic and diluted, EUR 3)	**0.52**	0.60	0.47	0.59	-0.21
Net cash generated from operating activities per share, EUR 3)	**1.35**	1.78	1.63	0.49	1.32
Dividend per share, EUR 3) 4)	**0.53**	0.53	0.53	0.53	0.53
Dividend payout ratio, % 3) 4)	**102.7**	88.0	113.5	89.6	-255.0
Dividend yield, % 3) 4)	**4.6**	4.4	4.9	5.4	4.4
Equity per share, EUR 3)	**7.61**	7.68	7.76	7.57	7.32
Price per earnings per share (P/E ratio) 3)	**22.29**	20.14	23.29	16.72	-58.50

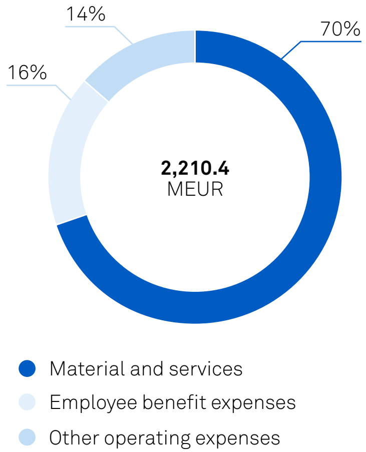
	2017	2016	2015	2014	2013
Price per equity per share 3)	**1.51**	1.58	1.40	1.31	1.66
Price per cash flow from operations per share 3)	**8.54**	6.83	6.68	20.24	9.23
Dividend paid, EUR million 4)	**80.7**	80.8	80.7	80.6	80.6
Share price and trading					
Share price, year high, EUR	**12.44**	12.55	12.27	12.27	13.02
Share price, year low, EUR	**10.33**	8.92	9.14	9.11	10.55
Share price, year average, EUR	**11.47**	10.96	10.86	10.87	11.76
Share price at 31 Dec, EUR	**11.50**	12.13	10.88	9.89	12.16
Number of shares traded (1,000)	**54,169**	64,827	74,877	75,018	64,937
% on number of shares	**36**	42	49	49	42
Market capitalization at 31 Dec, EUR million 3)	**1,752.1**	1,848.2	1,654.4	1,503.8	1,848.8
Number of shares and share capital					
Average number of shares, basic (1,000) 3)	**152,359**	152,314	152,059	152,048	152,039
Average number of shares, diluted (1,000) 3)	**152,594**	152,526	152,395	152,203	152,179
Number of shares at 31 Dec, basic (1,000) 3)	**152,354**	152,367	152,062	152,051	152,042
Number of shares at 31 Dec, diluted (1,000) 3)	**152,512**	152,619	152,544	152,373	152,091
Increase (+) / decrease (-) in number of shares outstanding (1,000)	**-14**	305	11	9	1
Share capital, EUR million	**221.8**	221.8	221.8	221.8	221.8

1) The share of the results of associates is presented after the finance costs, net.
2) The financial figure for 2013 has been restated. Finance costs relating to a write-down of the associate company of Sachtleben have been decreased by EUR 23 million.
3) Number of shares outstanding, excluding the number of treasury shares.
4) The dividend for 2017 is the Board of Directors' proposal to the Annual General Meeting.

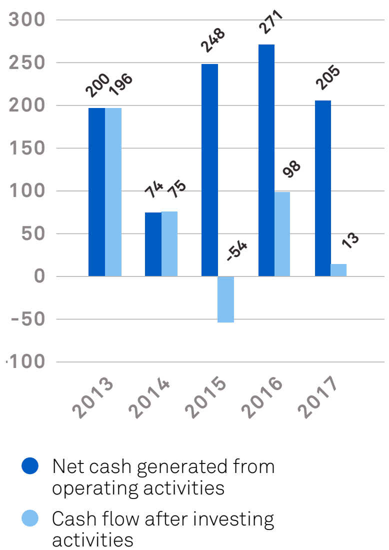
Revenue by geographical areas



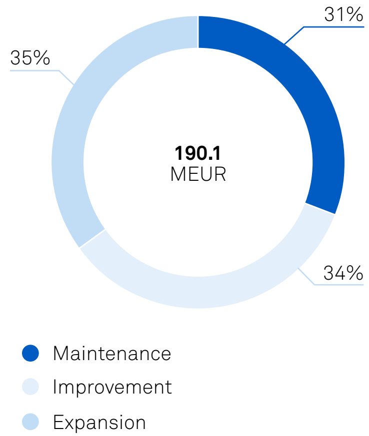
Operating expenses



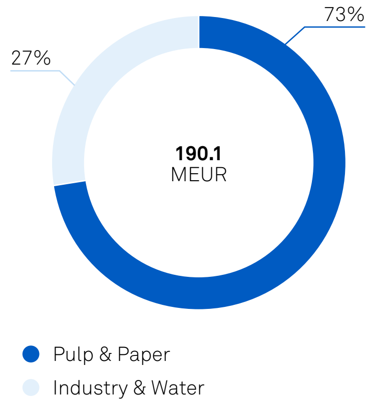
Cash flow
EUR million



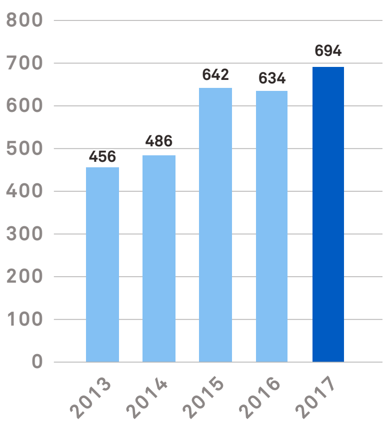
Capital expenditure by segment excluding acquisitions



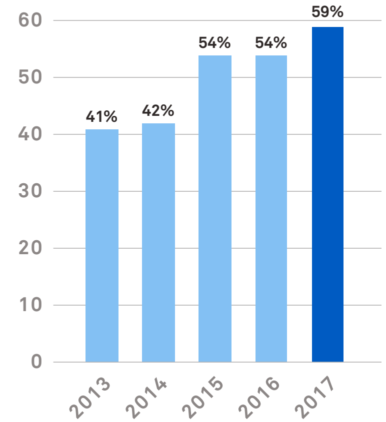
Capital expenditure by segment excluding acquisitions



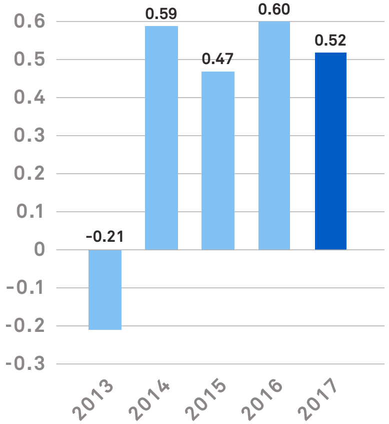
Interest-bearing net liabilities
EUR million



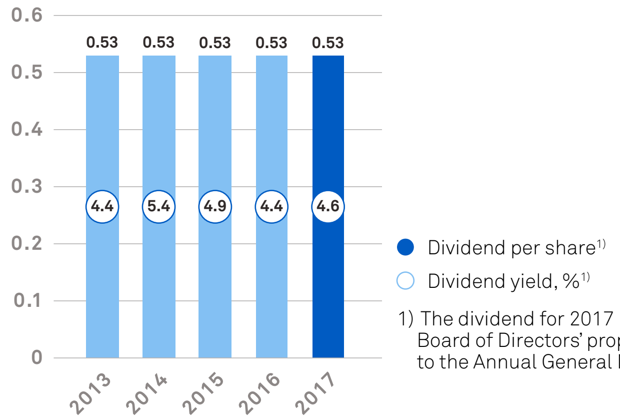
Gearing
%



Earnings per share
EUR



Dividend per share and dividend yield
EUR



1) The dividend for 2017 is the Board of Directors' proposal to the Annual General Meeting.

Definition of key figures

Financial figures

Key figure		Definition
Operative EBITDA	=	Operating profit (EBIT) + depreciation and amortization + impairments +/- items affecting comparability
Items affecting comparability [1]	=	Restructuring and streamlining programs + transaction and integration expenses in acquisitions + divestment of businesses and other disposals + other items
Operative EBIT	=	Operating profit (EBIT) +/- items affecting comparability
Interest-bearing net liabilities	=	Interest-bearing liabilities - cash and cash equivalents
Equity ratio (%)	=	$100 \times \frac{\text{Total equity}}{\text{Total assets - prepayments received}}$
Gearing (%)	=	$100 \times \frac{\text{Interest-bearing net liabilities}}{\text{Total equity}}$
Interest cover	=	$\frac{\text{Operating profit + depreciation, amortization and impairments}}{\text{Finance costs, net}}$
Return on investments (ROI) (%)	=	$100 \times \frac{\text{Profit before tax + interest expenses + other financial expenses}}{\text{Total assets - non-interest-bearing liabilities}^{2)}}$
Return on equity (ROE) (%)	=	$100 \times \frac{\text{Net profit attributable to equity owners of the parent}}{\text{Equity attributable to equity owners of the parent}^{2)}}$
Cash flow return on investment (CFROI) (%)	=	$100 \times \frac{\text{Net cash generated from operating activities}}{\text{Total assets - interest-free liabilities}^{2)}}$
Cash flow after investing activities	=	Net cash generated from operating activities + net cash used in investing activities
Operative return on capital employed (Operative ROCE) (%)	=	$100 \times \frac{\text{Operative EBIT + share of profit or loss of associates}^{3)}}{\text{Capital employed}^{4)}}$
Return on capital employed (ROCE) (%)	=	$100 \times \frac{\text{Operating profit + share of the results of associates}^{3)}}{\text{Capital employed}^{4)}}$
Capital turnover	=	$\frac{\text{Revenue}}{\text{Capital employed}^{4)}}$
Interest-bearing net liabilities / EBITDA	=	$\frac{\text{Interest-bearing net liabilities}}{\text{Operating profit (EBIT) + depreciation and amortization + impairments}}$
Net financial cost (%)	=	$100 \times \frac{\text{Finance costs, net - dividend income - exchange rate differences}}{\text{Interest-bearing net liabilities}^{2)}}$
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
Capital employed	=	Property, plant and equipment + intangible assets + net working capital + investments in associates

1) Non-GAAP measures exclude the effects of significant items of income and expenses which may have an impact on the comparability in the financial reporting of Kemira Group. Restructuring and streamlining programs; transaction and integration expenses in acquisition; divestments of businesses and other disposals are considered the most common items affecting comparability.
2) Average
3) Operating profit and share of profit or loss of associates taken into account for a rolling 12-month period ending at the end of the review period.
4) 12-month rolling average

Definition of key figures

Per share figures

Earnings per share (EPS)
$$= \frac{\text{Net profit attributable to equity owners of the parent}}{\text{Average number of shares}}$$

Net cash generated from operating activities per share
$$= \frac{\text{Net cash generated from operating activities}}{\text{Average number of shares}}$$

Dividend per share
$$= \frac{\text{Dividend paid}}{\text{Number of shares at 31 Dec}}$$

Dividend payout ratio (%)
$$= 100 \times \frac{\text{Dividend per share}}{\text{Earnings per share (EPS)}}$$

Dividend yield (%)
$$= 100 \times \frac{\text{Dividend per share}}{\text{Share price at 31 Dec}}$$

Equity per share
$$= \frac{\text{Equity attributable to equity owners of the parent at 31 Dec}}{\text{Number of shares at 31 Dec}}$$

Share price, year average
$$= \frac{\text{Shares traded (EUR)}}{\text{Shares traded (volume)}}$$

Price per earnings per share (p/e)
$$= \frac{\text{Share price at 31 Dec}}{\text{Earnings per share (EPS)}}$$

Price per equity per share
$$= \frac{\text{Share price at 31 Dec}}{\text{Equity per share attributable to equity owners of the parent}}$$

Price per net cash generated from operating activities per share
$$= \frac{\text{Share price at 31 Dec}}{\text{Net cash generated from operating activities per share}}$$

Share turnover (%)
$$= 100 \times \frac{\text{Number of shares traded in main stock exchange}}{\text{Average number of shares}}$$

Consolidated income statement

		Year ended 31 December	
EUR million	Note	**2017**	2016
Revenue	2.1.	**2,486.0**	2,363.3
Other operating income	2.2.	**6.8**	5.1
Operating expenses	2.2.	**-2,210.4**	-2,084.2
EBITDA		**282.4**	284.2
Depreciation, amortization and impairments	2.4.	**-141.0**	-137.2
Operating profit (EBIT)		**141.4**	147.0
Finance income	2.5.	**4.7**	9.5
Finance expense	2.5.	**-30.4**	-27.5
Exchange differences	2.5.	**-3.2**	-1.1
Finance costs, net	2.5.	**-28.9**	-19.1
Share of the results of associates	6.2.	**0.2**	0.1
Profit before tax		**112.6**	128.0
Income taxes	2.6.	**-27.4**	-30.1
Net profit for the period		**85.2**	97.9
Net profit attributable to			
Equity owners of the parent		**78.6**	91.8
Non-controlling interests	6.2.	**6.6**	6.1
Net profit for the period		**85.2**	97.9
Earnings per share for net profit attributable to the equity owners of the parent company (EUR per share)			
Basic and diluted	2.7.	**0.52**	0.60

The notes are an integral part of these Consolidated Financial Statements.

Consolidated comprehensive income

		Year ended 31 December	
EUR million	Note	**2017**	2016
Net profit for the period		**85.2**	97.9
Other comprehensive income			
Items that may be reclassified subsequently to profit or loss			
Available-for-sale financial assets		**24.0**	-31.6
Exchange differences on translating foreign operations		**-46.4**	11.3
Cash flow hedges		**3.4**	8.5
Items that will not be reclassified subsequently to profit or loss			
Remeasurements on defined benefit plans		**9.6**	-10.7
Other comprehensive income for the period, net of tax	2.8.	**-9.4**	-22.5
Total comprehensive income for the period		**75.8**	75.4
Total comprehensive income attributable to			
Equity owners of the parent		**68.7**	69.6
Non-controlling interests	6.2.	**7.2**	5.8
Total comprehensive income for the period		**75.8**	75.4

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 notes are an integral part of these Consolidated Financial Statements.

Consolidated balance sheet

		As at 31 December	
EUR million	Note	**2017**	2016
ASSETS			
NON-CURRENT ASSETS			
Goodwill	3.1.	**505.0**	522.4
Other intangible assets	3.2.	**100.5**	115.9
Property, plant and equipment	3.3.	**922.9**	915.6
Investments in associates	6.2.	**0.7**	1.2
Available-for-sale financial assets	3.4.	**235.8**	202.5
Deferred tax assets	4.4.	**24.8**	27.5
Other investments	5.4.	**3.8**	4.4
Receivables of defined benefit plans	4.5.	**48.0**	32.1
Total non-current assets		**1,841.5**	1,821.6
CURRENT ASSETS			
Inventories	4.1.	**223.8**	216.9
Interest-bearing receivables	4.2.	**5.3**	0.2
Trade receivables and other receivables	4.2.	**418.8**	386.1
Current income tax assets		**18.7**	22.7
Cash and cash equivalents	5.4.	**166.1**	173.4
Total current assets		**832.8**	799.3
Non-current assets classified as held-for-sale	6.2.	**0.6**	-
Total assets		**2,674.9**	2,620.9

The notes are an integral part of these Consolidated Financial Statements.

		As at 31 December	
EUR million	Note	**2017**	2016
EQUITY AND LIABILITIES			
EQUITY			
Equity attributable to equity owners of the parent			
Share capital		**221.8**	221.8
Share premium		**257.9**	257.9
Fair value and other reserves		**98.7**	72.2
Unrestricted equity reserve		**196.3**	196.3
Translation differences		**-47.7**	-0.8
Treasury shares		**-20.1**	-20.0
Retained earnings		**452.1**	442.6
Equity attributable to equity owners of the parent	5.2.	**1,159.0**	1,170.0
Non-controlling interests	6.2.	**13.8**	12.9
Total equity		**1,172.8**	1,182.9
NON-CURRENT LIABILITIES			
Interest-bearing liabilities	5.3.	**669.1**	649.5
Other liabilities	4.3.	**21.4**	21.4
Deferred tax liabilities	4.4.	**62.4**	63.2
Liabilities of defined benefit plans	4.5.	**82.3**	79.8
Provisions	4.6.	**27.2**	26.5
Total non-current liabilities		**862.5**	840.4
CURRENT LIABILITIES			
Interest-bearing liabilities	5.3.	**191.4**	157.9
Trade payables and other liabilities	4.3.	**422.8**	405.2
Current income tax liabilities		**14.2**	20.3
Provisions	4.6.	**11.3**	14.2
Total current liabilities		**639.7**	597.6
Total liabilities		**1,502.1**	1,438.0
Total equity and liabilities		**2,674.9**	2,620.9

Consolidated statement of cash flow

		Year ended 31 December	
EUR million	Note	**2017**	2016
CASH FLOW FROM OPERATING ACTIVITIES			
Net profit for the period		**85.2**	97.9
Adjustments for			
Depreciation, amortization and impairments	2.4.	**141.0**	137.2
Income taxes	2.6.	**27.4**	30.1
Finance costs, net	2.5.	**28.9**	19.1
Share of the results of associates	6.2.	**-0.2**	-0.1
Other non-cash income and expenses not involving cash flow		**6.3**	0.3
Operating profit before change in net working capital		**288.7**	284.5
Change in net working capital			
Increase (-) / decrease (+) in inventories		**-24.5**	-4.6
Increase (-) / decrease (+) in trade and other receivables		**-47.2**	13.3
Increase (+) / decrease (-) in trade payables and other liabilities		**37.8**	20.8
Change in net working capital		**-33.9**	29.5
Cash flow from operations before financing items and taxes		**254.8**	314.0
Interest paid		**-25.8**	-23.3
Interest received		**3.9**	1.2
Other finance items, net		**-4.0**	1.6
Dividends received		**0.9**	0.2
Income taxes paid		**-24.7**	-23.2
Net cash generated from operating activities		**205.1**	270.6

The notes are an integral part of these Consolidated Financial Statements.

		Year ended 31 December	
EUR million	Note	**2017**	2016
CASH FLOW FROM INVESTING ACTIVITIES			
Purchases of subsidiaries and asset acquisitions, net of cash acquired		**0.0**	2.0
Purchases of available-for-sale financial assets		**-3.6**	0.0
Purchases of property, plant and equipment and intangible assets		**-186.4**	-212.6
Change in loan receivables decrease (+) / increase (-)		**-5.1**	0.9
Proceeds from sale of subsidiaries, net of cash disposed		**0.0**	0.0
Proceeds from sale of available-for-sale financial assets		**0.2**	35.4
Proceeds from sale of property, plant, equipment and intangible assets		**2.8**	1.5
Net cash used in investing activities		**-192.2**	-172.8
CASH FLOW FROM FINANCING ACTIVITIES			
Proceeds from non-current interest-bearing liabilities (+)	5.1.	**100.0**	50.0
Repayment from non-current interest-bearing liabilities (-)	5.1.	**-62.1**	-48.1
Short-term financing, net increase (+) / decrease (-)	5.1.	**36.3**	6.8
Dividends paid		**-86.9**	-86.5
Other finance items		**0.0**	0.0
Net cash used in financing activities		**-12.7**	-77.8
Net decrease (-) / increase (+) in cash and cash equivalents		**0.3**	20.0
Cash and cash equivalents at 31 Dec		**166.1**	173.4
Exchange gains (+) / losses (-) on cash and cash equivalents		**-7.5**	1.9
Cash and cash equivalents at 1 Jan		**173.4**	151.5
Net decrease (-) / increase (+) in cash and cash equivalents		**0.3**	20.0

Consolidated statement of changes in equity

	Equity attributable to owners of the parent									
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 at January 1, 2016	221.8	257.9	94.2	196.3	-12.4	-22.0	444.5	1,180.3	12.9	1,193.2
Net profit for the period							91.8	91.8	6.1	97.9
Available-for-sale financial assets			-31.6					-31.6		-31.6
Exchange differences on translating foreign operations					11.6			11.6	-0.3	11.3
Cash flow hedges			8.5					8.5		8.5
Remeasurements on defined benefit plans							-10.7	-10.7		-10.7
Total comprehensive income			-23.1		11.6		81.1	69.6	5.8	75.4
Transactions with owners										
Dividends paid							-80.7	-80.7	-5.8	-86.5
Treasury shares issued to the target group of share-based incentive plan						1.9		1.9		1.9
Treasury shares issued to the Board of Directors						0.1		0.1		0.1
Share-based payments							-1.2	-1.2		-1.2
Transfers in equity			1.1				-1.1	0.0		0.0
Transactions with owners			1.1			2.0	-83.0	-79.9	-5.8	-85.7
Equity at December 31, 2016	221.8	257.9	72.2	196.3	-0.8	-20.0	442.6	1,170.0	12.9	1,182.9
Equity at January 1, 2017	**221.8**	**257.9**	**72.2**	**196.3**	**-0.8**	**-20.0**	**442.6**	**1,170.0**	**12.9**	**1,182.9**
Net profit for the period							**78.6**	**78.6**	**6.6**	**85.2**
Available-for-sale financial assets			**24.0**					**24.0**		**24.0**
Exchange differences on translating foreign operations					**-46.9**			**-46.9**	**0.5**	**-46.4**
Cash flow hedges			**3.4**					**3.4**		**3.4**
Remeasurements on defined benefit plans							**9.6**	**9.6**		**9.6**
Total comprehensive income			**27.4**		**-46.9**		**88.2**	**68.7**	**7.2**	**75.8**
Transactions with owners										
Dividends paid							**-80.7**	**-80.7**	**-6.2**	**-86.9**
Treasury shares returned						**-0.2**		**-0.2**		**-0.2**
Treasury shares issued to the Board of Directors						**0.1**		**0.1**		**0.1**
Share-based payments							**1.1**	**1.1**		**1.1**
Transfers in equity			**-0.9**				**0.9**	**0.0**		**0.0**
Transactions with owners			**-0.9**			**-0.1**	**-78.7**	**-79.7**	**-6.2**	**-85.9**
Equity at December 31, 2017	**221.8**	**257.9**	**98.7**	**196.3**	**-47.7**	**-20.1**	**452.1**	**1,159.0**	**13.8**	**1,172.8**

The notes are an integral part of these Consolidated Financial Statements.

1. The Group's accounting policies for the consolidated financial statements

Group profile

Kemira is a global chemicals company serving customers in water-intensive industries. The company provides expertise in application and chemicals that improve efficiency for customers in use of water, energy and raw materials. Kemira's two segments Pulp & Paper and Industry & Water focus on customers in pulp & paper, oil & gas, mining and water treatment respectively.

The Group's parent company is Kemira Oyj, domiciled in Helsinki, Finland, and its registered address is Porkkalankatu 3, FI-00180 Helsinki, Finland. The parent company is listed on Nasdaq Helsinki. A copy of the Consolidated Financial Statements is available at **www.kemira.com**.

The Board of Directors of Kemira Oyj has approved the Financial Statements for publication at its meeting on February 7, 2018. Under the Finnish Limited Liability Companies Act, the shareholders may accept or reject the Financial Statements at the General Meeting of Shareholders held after their publication. The meeting also has the power to make decision to amend the Financial Statements.

Basis of preparation for the Consolidated Financial Statements

The Group has prepared its Consolidated Financial Statements in accordance with IAS and IFRS (International Financial Reporting Standards) and the related SIC and IFRIC interpretations, issued by the IASB (International Accounting Standards Board) and the Finnish Accounting Act and the statutes under it, the International Financial Reporting Standards refer to the endorsed standards and their interpretations under the European Union Regulation No. 1606/2002, which concerns the adoption of the International Financial Reporting Standards that are applicable within the Community. The Notes to the Consolidated Financial Statements also comply with the requirements of the Finnish accounting and corporate legislation, which supplement the IFRS regulations.

The Consolidated Financial Statements are presented in EUR million and have been prepared based on the historical cost excluding the items measured at fair value that are available-for-sale financial assets, financial assets and liabilities at fair value through profit or loss, and share-based payments on the grant date.

The preparation of Consolidated Financial Statements in conformity with the IFRS requires the use of certain critical accounting estimates. It also requires management to exercise its judgment in the process of applying the Group's accounting policies. The areas that need a higher degree of judgment, and that are significant to the Consolidated Financial Statements are described below in the section "Critical accounting estimates and judgments".

All the figures in the Consolidated Financial Statements have been individually rounded and consequently the sum of individual figures may deviate slightly from the sum figure presented.

Consolidation principles of subsidiaries and non-controlling interests

The Consolidated Financial Statements include the parent company 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 the 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 by 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 interests 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 recorded as goodwill. 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. Total comprehensive income shows separately the total amounts attributable to the equity holders of the parent and to non-controlling interests. The Group recognizes negative non-controlling interests, unless 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 the 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 to its fair value, and the difference is recognized in profit or loss.

Associates

Associated companies are companies over which the Group exercises significant influence (voting rights generally being 20–50 percent), but 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 after 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 Group's other comprehensive income.

Foreign currency translation

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). The Consolidated Financial Statements are presented in EUR, which is the Group's presentation currency and the parent company's functional currency.

In the Consolidated Financial Statements, the income statements of foreign subsidiaries are translated into euro 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 in equity in 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 translated into EUR 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 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 financial income and expenses.

New, amended IFRS-standards and IFRIC-interpretations

IFRS-standard and IFRIC-interpretation	The nature and effect of the change
Amendments to IAS 7 Disclosure Initiative (effective for annual periods beginning on 1 January 2017)	The amendments require an entity to provide disclosures that enable users of financial statements to evaluate changes in liabilities arising from financing activities, including both cash and non-cash changes. The Group's liabilities arising from financing activities consist of interest-bearing liabilities (Note 5.3. Interest-bearing liabilities). A reconciliation between the opening and closing balances of these items is provided in the Note 5.1. Capital structure. Apart from this additional disclosure in the note, the application of these amendments has had no impact on the Consolidated Financial Statements.
Amendments to IAS 12 Recognition of Deferred Tax Assets for Unrealized Losses (effective for annual periods beginning on 1 January 2017)	The amendments clarify how an entity should evaluate whether there will be sufficient taxable profits against which it can utilize a deductible temporary difference. The application of these amendments has had no impact on the Group's consolidated financial statements as the Group already assesses the sufficiency of future taxable profits in a way that is consistent with these amendments.
IFRS 15 Revenue from Contracts with Customers (effective for annual periods beginning on 1 January 2018)	As of January 1, 2018, Kemira adopts IFRS 15 Revenue from Contracts with Customers. IFRS 15 establishes a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers. IFRS 15 supersedes the current revenue recognition guidance including IAS 18 Revenue, IAS 11 Construction Contracts and the related interpretations when it becomes effective. The core principle of IFRS 15 is that an entity should recognize revenue to depict the transfer of promised goods or services to customers an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. Under IFRS 15, an entity 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. Kemira's revenue mainly consists of contract types that include the sale of chemical products and services provided in relation to the sale of these products. Kemira's revenue recognition remains substantially unchanged and revenue is recognized when the customer obtains control of the goods. In Kemira's sales contracts the change of control to the customer is mainly based on delivery terms and revenue recognition occurs at a point in time, and adopting the IFRS 15 does not change the timing of revenue recognition. Kemira provides delivery and handling services together with the sale of the chemical products to the customers. The delivery and handling services are recognized at the same time with revenue of products and are not treated as a separate performance obligation in accordance with IFRS 15 standard. Recognition of revenue on both sale of products and delivery and handling services in the same reporting period is consistent with the accounting policy under IAS 18. Discounts provided to customers are not significant in Kemira's sales contracts. Implementing IFRS 15 does not change the accounting treatment. Over the course of the widely communicated IFRS 15 project, organization has been informed about the new revenue recognition requirements. Based on the impact assessment IFRS 15 standard has no material impact on Kemira's financial reporting or accounting systems. The project has resulted in enhancements in the revenue recognition related processes and controls. Kemira's interim reports for the financial year 2018 and annual Consolidated Financial Statements 2018 will be prepared in compliance with IFRS 15 requirements. The Group adopts IFRS 15 using full retrospective method as of January 1, 2018. The comparative periods are not restated as the revenue recognition criteria remains unchanged.

IFRS-standard and IFRIC-interpretation	The nature and effect of the change
IFRS 9 Financial Instruments (effective for annual periods beginning on 1 January 2018)	As of January 1, 2018, Kemira adopts IFRS 9 Financial Instruments standard. IFRS 9 supersedes IAS 39 Financial Instruments: Recognition and Measurement. IFRS introduced new requirements for the classification and measurement of financial assets and introduces a new impairment model for financial assets, which is based on expected credit losses. Recognition and measurement of financial liabilities will mainly continue to be on the same basis as currently adopted under IAS 39. The new general hedge accounting requirements retain the three types of hedge accounting mechanisms currently available in IAS 39. However, greater flexibility has been introduced to the types of transactions eligible for hedge accounting, specifically broadening the types of instruments that qualify as hedging instruments and the types of risk components of non-financial items that are eligible for hedge accounting. IFRS 9 changes Kemira's current credit loss recognition accounting policies relating to trade receivables. Kemira adopts a simplified credit loss model for trade receivables in which amount of credit losses is estimated by using the impairment model based on expected credit losses. In the new expected credit loss model, the credit losses vary according to ageing categories of trade receivables and geographical areas: EMEA, the Americas and APAC. In addition, the credit loss provision for trade receivables continues to be recognized based on individual risk assessment. In accordance with the new credit loss model, the adjustment of EUR 0.4 million (including deferred tax effect of EUR 0.1 million) will be recognized in the retained earnings as of January 1, 2018, and subsequent adjustments will be recognized in profit or loss. The comparative periods will not be restated. IFRS 9 impacts to the valuation of loan receivables, as expected credit losses on loan receivables are recognized. Expected credit loss of EUR 1.0 million (including deferred tax effect of EUR 0.3 million) arising from the measurement of loan receivables are recognized in transition into equity in retained earnings as of January 1, 2018. Subsequent adjustments to expected credit losses will be recognized in profit and loss. The comparative periods will not be restated. As of January 2018, non-listed PVO/TVO shares are classified as fair value through other comprehensive income. Under IAS 39 PVO/TVO shares are classified in available-for-sale financial assets. In IFRS 9 fair value changes, including gains and losses on sale, are recognized in other comprehensive income in equity and the dividends are recognized in profit or loss. The comparative periods will not be restated, except the classification change. In the previous financial years, the Group has applied cash flow hedge accounting for electricity derivatives in accordance with IAS 39. IFRS 9 provides an opportunity to apply hedge accounting separately for electricity price components of system price and area price quoted by the Nordic Electricity Exchange. Under IAS 39 the fair value changes of cash flow hedge accounted electricity derivatives are recognized in other comprehensive income and potential ineffectiveness is recognized in profit or loss. Kemira adopts IFRS 9 hedge accounting for electricity derivatives from January 1, 2018, then effective part of fair value changes related to cash flow hedge accounted electricity derivatives will be recognized in other comprehensive income and ineffectiveness will generally not arise because the components of electricity price risk will be separately hedged. The comparative periods will not be restated. The total effect on equity from trade receivables and loan receivables is EUR 1.0 million.
Amendment to IFRS 2 Classification and Measurement of Share-based Payment Transactions (effective for annual periods beginning on 1 January 2018). The amendment have not yet been endorsed for use in the EU.	The amendments to IFRS 2 Share-based Payments clarify the measurement basis for cash-settled share-based payments and the accounting for modifications that change an award from cash-settled to equity-settled. Where tax law or regulation requires the employer to withhold a specified number of equity instruments equal to the monetary value of the employee's tax obligation to meet the employee's tax liability which is then remitted to the tax authority, such an arrangement should be classified as equity-settled in its entirety, if this would have been the classification of the arrangement without the net settlement feature. The application of the amendments will have an impact on the Group's consolidated financial statements as the Group has a share-based payment arrangement where the Group settles the employee's withholding tax with the tax authorities. Before adoption of the amendment this feature was accounted for as a cash-settled arrangement. At adoption of this amendment, the Group will derecognize the liability related to this arrangement and reclassify the amount to equity.

IFRS-standard and IFRIC-interpretation	The nature and effect of the change
IFRS 16 Leases (effective for annual periods beginning on or after 1 January 2019)	IFRS 16 Leases (effective for annual periods beginning on or after 1 January 2019) -standard provides a comprehensive model for the identification of lease arrangements and their treatment in the financial statements of both lessees and lessors. It will supersede the current guidance including IAS 17 Leases and the related interpretations when it becomes effective. IFRS 16 distinguishes leases and service contracts on the basis of whether an identified asset is controlled by a customer. Distinction of operating leases (off balance sheet) and finance leases (on balance sheet) are removed for lessee accounting, and is replaced by a model where a right-of-use asset and a corresponding liability have to be recognized for all leases by lessees (i.e. all on balance sheet) except for short-term leases and leases of low value assets. In contrast to lessee accounting, IFRS 16 substantially carries forward the lessor accounting requirements in IAS 17, and continues to require a lessor to classify a lease either as an operating lease or a finance lease. In addition, IFRS 16 requires extensive disclosures. On the reporting date December 31, 2017, the Group's operating lease commitments were EUR 197.6 million. The Group continues to assess the existing operating lease agreements to determine the right-of-use assets and lease liabilities to be recognized in the balance sheet on the basis of these agreements. The change in accounting practices relating to lease agreements is estimated to have a material impact on the Groups' financials. Balance sheet and some key figures like gearing, net debt, EBITDA and ROCE will be significantly impacted. IFRS 16 will also impact to the classifications in the income statement and cash flow. Impact assessment will continue together with relevant process, control and tool implementations during 2018. The Group expects to adopt IFRS 16 standard using the modified retrospective method for the existing and new lease agreements on January 1, 2019. The information from the prior years will not be restated and will be disclosed in accordance with the current IAS 17 standard.
IFRIC 23 Uncertainty over Income Tax Treatments (effective for annual periods beginning on 1 January 2019). The interpretation has not yet been endorsed for use in the EU.	The interpretation addresses the determination of taxable profit (tax loss), tax bases, unused tax losses, unused tax credits and tax rates, when there is uncertainty over income tax treatments under IAS 12. It specifically considers: • Whether tax treatments should be considered collectively • Assumptions for taxation authorities' examinations • The determination of taxable profit (tax loss), tax bases, unused tax losses, unused tax credits and tax rates • The effect of changes in facts and circumstances The Group is currently assessing the impact of the interpretation on the Consolidated Financial Statements.

Critical accounting estimates and judgments

Estimates and judgments are continuously evaluated, and are based on previous experience and other factors, such as expectations of future events that are expected to be reasonable under the circumstances.

The Group makes estimates and assumptions concerning the future. The resulting accounting estimates will, by definition, seldom equal the related actual results. The estimates and assumptions that carry a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are addressed below.

Critical accounting estimates and judgments	Note
Estimated impairment of goodwill	3.1. Goodwill
Estimated fair value of shares in PVO Group	3.4. Available-for-sale financial assets
Deferred taxes	4.4. Deferred tax liabilities and assets
Defined benefit pension plans	4.5. Defined benefit pension plans and employee benefits
Provisions	4.6. Provisions

2. Financial performance

2.1. Segment information

In 2017, Kemira merged Municipal & Industrial and Oil & Mining segments into one segment, Industry & Water. Kemira's new organization consists of two segments: Pulp & Paper and Industry & Water.

Pulp & Paper

Pulp & Paper has expertise in applying chemicals and supporting pulp & paper producers in innovating and constantly improving their operational efficiency. The segment develops and sells products to fulfill customer needs, ensuring the leading portfolio of products and services for paper wet-end, focusing on packaging and board, as well as tissue.

Industry & Water

Industry & Water supports municipalities and water intensive industries in the efficient and sustainable utilization of resources. In water treatment, the segments helps in optimizing every stage of the water cycle. In oil and gas industry, the segment helps to boost recovery from existing reserves and reduce water and energy use.

Income statement items

2017, EUR million	Pulp & Paper	Industry & Water	Group
Revenue 1)	**1,476.9**	**1,009.1**	**2,486.0**
EBITDA 2)	**179.9**	**102.5**	**282.4**
Depreciation, amortization and impairments	**-92.9**	**-48.1**	**-141.0**
Operating profit (EBIT) 2)	**86.9**	**54.4**	**141.4**
Finance costs, net			**-28.9**
Share of the results of associates			**0.2**
Profit before tax			**112.6**
Income taxes			**-27.4**
Net profit for the period			**85.2**

1) Revenue consists mainly of sales of products to external customers, and there are no intersegment sales.
2) Includes items affecting comparability.

Items affecting comparability in EBITDA and EBIT

2017, EUR million	Pulp & Paper	Industry & Water	Group
Operative EBITDA	**197.7**	**113.6**	**311.3**
Restructuring and streamlining programs			**-13.1**
Transaction and integration expenses in acquisition			**0.3**
Divestment of businesses and other disposals			**-1.9**
Other items			**-14.4**
Total items affecting comparability	**-17.9**	**-11.0**	**-28.9**
EBITDA	**179.9**	**102.5**	**282.4**
Operative EBIT	**104.8**	**65.5**	**170.3**
Items affecting comparability in EBITDA	**-17.9**	**-11.0**	**-28.9**
Items affecting comparability in depreciation, amortization and impairments	**0.0**	**0.0**	**0.0**
Operating profit (EBIT)	**86.9**	**54.4**	**141.4**

Quarterly information on items affecting comparability is disclosed in the section on Reconciliation of IFRS figures.

Balance sheet items

2017, EUR million	Pulp & Paper	Industry & Water	Group
Segment assets	1,380.8	769.6	2,150.3
Reconciliation to total assets as reported in the Group balance sheet:			
Available-for-sale financial assets			235.8
Deferred income tax assets			24.8
Other investments			3.8
Defined benefit pension receivables			48.0
Other assets			45.4
Cash and cash equivalents			166.1
Non-current assets classified as held-for-sale			0.6
Total assets as reported in the Group balance sheet			**2,674.9**
Segment liabilities	223.0	187.8	410.8
Reconciliation to total liabilities as reported in the Group balance sheet:			
Interest-bearing non-current financial liabilities			669.1
Interest-bearing current financial liabilities			191.4
Other liabilities			230.8
Total liabilities as reported in the Group balance sheet			**1,502.1**

Other items

2017, EUR million	Pulp & Paper	Industry & Water	Group
Capital employed by segments at 31 Dec	1,157.7	581.8	1,739.5
Capital employed by segments, 12-month rolling average	1,165.2	596.7	1,763.2
Operative ROCE, %	9.0	11.0	9.7
Capital expenditure	138.3	51.7	190.1

Income statement items

2016, EUR million	Pulp & Paper	Industry & Water	Group
Revenue 1)	1,457.3	906.0	2,363.3
EBITDA 2)	187.8	96.4	284.2
Depreciation, amortization and impairments	-86.2	-51.0	-137.2
Operating profit 2)	101.6	45.4	147.0
Finance costs, net			-19.1
Share of the results of associates			0.1
Profit before tax			128.0
Income taxes			-30.1
Net profit for the period			97.9

1) Revenue consists mainly of sales of products to external customers, and there are no intersegment sales.
2) Includes items affecting comparability.

Items affecting comparability in EBITDA and EBIT

2016, EUR million	Pulp & Paper	Industry & Water	Group
Operative EBITDA	195.3	107.2	302.5
Restructuring and streamlining programs			-5.8
Transaction and integration expenses in acquisition			-5.0
Divestment of businesses and other disposals			0.5
Other items			-8.0
Total items affecting comparability	-7.5	-10.8	-18.3
EBITDA	187.8	96.4	284.2
Operative EBIT	111.6	58.5	170.1
Items affecting comparability in EBITDA	-7.5	-10.8	-18.3
Items affecting comparability in depreciation, amortization and impairments	-2.5	-2.3	-4.8
Operating profit (EBIT)	101.6	45.4	147.0

Quarterly information on items affecting comparability is disclosed in the section on Reconciliation of IFRS figures.

Balance sheet items

2016, EUR million	Pulp & Paper	Industry & Water	Group
Segment assets	1,364.7	776.6	2,141.3
Reconciliation to total assets as reported in the Group balance sheet:			
Available-for-sale financial assets			202.5
Deferred income tax assets			27.5
Other investments			4.4
Defined benefit pension receivables			32.1
Other assets			39.7
Cash and cash equivalents			173.4
Total assets as reported in the Group balance sheet			2,620.9
Segment liabilities	231.3	160.3	391.6
Reconciliation to total liabilities as reported in the Group balance sheet:			
Interest-bearing non-current financial liabilities			649.5
Interest-bearing current financial liabilities			157.9
Other liabilities			239.0
Total liabilities as reported in the Group balance sheet			1,438.0

Other items

2016, EUR million	Pulp & Paper	Industry & Water	Group
Capital employed by segments at 31 Dec	1,133.4	616.3	1,749.7
Capital employed by segments, 12-month rolling average	1,111.8	605.2	1,717.0
Operative ROCE, %	10.0	9.7	9.9
Capital expenditure	125.1	85.5	210.6

Revenue by geographical area based on customer location

EUR million	2017	2016
Finland, domicile of the parent company	**354.4**	334.7
Other Europe, Middle East and Africa	**932.9**	904.6
Americas	**979.0**	896.3
Asia Pacific	**219.7**	227.7
Total	**2,486.0**	2,363.3

Non-current assets by geographical area

EUR million	2017	2016
Finland, domicile of the parent company	**731.0**	660.1
Other Europe, Middle East and Africa	**476.4**	459.4
Americas	**433.3**	504.4
Asia Pacific	**128.0**	138.1
Total	**1,768.7**	1,762.0

Information about major customers

The Group derives revenue from many significant customers. However, 10% or more of the Group's revenue is not derived from any single external customer in 2017 or 2016.

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 management evaluates the segments performance based on operative EBITDA and operating 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, investments in associates, inventories, and current non-interest-bearing receivables. Segment liabilities include current non-interest-bearing liabilities. Geographically, Kemira's operations are divided into three business regions: Europe, Middle East and Africa (EMEA), the Americas and Asia Pacific (APAC).

Revenue recognition

Revenue is measured at the fair value of the consideration received or receivable, and represents the total invoicing value of products sold and services rendered less; sales tax, discounts and foreign exchange differences in trade receivables as adjusting items.

The revenue from the sale of goods is recognized in the income statement when the major risks and rewards related to the ownership of the goods have been transferred to the buyer. Revenue from services is recognized in the accounting period in which the services are rendered. The construction contraction is recognized in accordance with the stage of completion of contract activity.

2.2. Other operating income and expenses

Other operating income

EUR million	2017	2016
Gains on sale of non-current assets	**1.8**	0.9
Rental income	**1.1**	1.2
Services	**3.7**	2.6
Sale of scrap and waste	**0.1**	0.1
Other income from operations	**0.2**	0.3
Total	**6.8**	5.1

Operating expenses

EUR million	2017	2016
Change in inventories of finished goods (inventory increase + / decrease -)	**-4.5**	3.6
Own work capitalized 1)	**-3.2**	-2.7
Total	**-7.7**	0.9
Materials and services		
Materials and supplies		
Purchases during the financial year	**1,502.1**	1,389.0
Change in inventories of materials and supplies (inventory increase + / decrease -)	**11.5**	6.3
External services	**40.2**	36.7
Total	**1,553.8**	1,432.0
Employee benefit expenses	**364.0**	364.6
Other operating expenses		
Rents	**51.1**	53.6
Other expenses 2)	**249.3**	233.1
Total	**300.4**	286.7
Total operating expenses	**2,210.4**	2,084.2

1) Own work capitalized mainly comprises wages, salaries and other personnel expenses, and changes in inventories relating to self-constructed property, plant and equipment for own use.
2) In 2017, other operating expenses include research and development expenses of EUR 30.3 million (32.1) including government grants received. Government grants received for R&D were EUR 0.5 million (0.8). The extent of grants received reduces research and development expenses.

Employee benefit expenses

EUR million	Note	2017	2016
Wages and salaries			
Wages		**279.5**	280.7
Emoluments of Kemira Oyj's CEO and the Board of Directors	6.1.	**1.3**	1.9
Share-based payments	2.3.	**3.5**	2.3
Total		**284.3**	284.9
Indirect employee benefit expenses			
Expenses for defined benefit plans	4.5.	**3.5**	3.6
Pension expenses for defined contribution plans		**20.5**	22.5
Other employee benefit costs		**55.7**	53.6
Total		**79.7**	79.7
Total employee benefit expenses		**364.0**	364.6

Number of personnel

	2017	2016
Average number of personnel by geographical area		
Europe, Middle East and Africa	**2,611**	2,609
Americas	**1,532**	1,578
Asia Pacific	**638**	615
Total	**4,781**	4,802
Personnel in Finland, average	**822**	807
Personnel outside Finland, average	**3,959**	3,995
Total	**4,781**	4,802
Number of personnel at 31 Dec	**4,732**	4,818

Deloitte network's fees and services

EUR million	2017	2016
Audit fees	**1.7**	1.5
Tax services	**0.2**	0.2
Other services	**0.7**	0.4
Total	**2.6**	2.1

The Group's accounting policies

Government grants

Government grants for investments are recognized as a deduction from the carrying amount of these assets. The grants are recognized in the income statement as smaller depreciations 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.

Developments costs

Development costs are capitalized as intangible assets when it can be shown that a development project will generate probable future economic benefit, and the costs attributable to the development project can reliably be measured. Capitalized development costs are presented as a separate item and amortized over their useful lives. Capitalized development costs include material, labor and testing costs, and 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

Long-term share incentive plan 2015–2017

Kemira's long-term share incentive plan comprises three performance periods: calendar years 2015, 2016, and 2017. The Board of Directors of Kemira will decide on the Plan's performance criteria and on the required performance levels for each criterion at the beginning of each performance period.

The rewards for the performance periods will be paid partly in Kemira'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 will be paid if a participant's employment or service ends before the reward payment.

The shares paid as reward may not be transferred during the restriction period, which will end two years after the end of the performance period. Should a participant's employment or service end during the restriction period, as a rule, he or she must gratuitously return the shares given as reward.

	Share incentive plan 2015	Share incentive plan 2016 2)	Share incentive plan 2017
Performance period (calendar year)	2015	2016	2017
Lock-up period of shares	2 years	2 years	2 years
Issue year of shares	2016	-	2018
Number of shares at December 31, 2017	268,851 1)	-	- 3)
Number of participants at December 31, 2017	81	-	79
Performance criteria	Group's revenue and operative EBITDA margin	Group's revenue and operative EBITDA margin	Intrinsic value 4)

1) At the end of the financial year ending 31 December 2017, the commitment period for the earning period 2015 ended and the shares of 268,851 paid on the basis of the share-based incentive scheme will be released in January 2018.
2) The set objectives were not achieved, therefore the share-based incentives were not paid on the basis of the share-based incentive plan.
3) In accordance with the terms and conditions of the share-based incentive plan, approximately 150,000 shares will be transferred to the participants during 2018.
4) The amount of the reward is based on the Intrinsic value which is calculated using Kemira's operative EBITDA and Interest-bearing net liabilities.

The share incentive plan 2018 is unfinished at the balance sheet date on 31 December 2017. The amount of the reward under the new possible share incentive plan will be determined on basis of the set performance levels after the end of the performance period expires.

Changes in the number of shares in the share incentive plans

	Share incentive plan 2015	Share incentive plan 2016	Share incentive plan 2017 3)
January 1, 2016			
The shares issued to participants	294,445	-	-
The shares returned by participants	-1,873	-	-
December 31, 2016	292,572	-	-
January 1, 2017	**292,572**	-	-
The shares issued to participants	**-**	-	-
The shares returned by participants	**-23,721**	-	-
December 31, 2017	**268,851**	-	-

The effect of share-based payments on operating profit

EUR million	2017	2016
Rewards provided in shares	**1.4**	0.9
Rewards provided in cash	**2.1**	1.4
Total	**3.5**	2.3

The Group's accounting policies

Share-based payments

The Group has equity-settled share-based compensation plans under which the Group receives services from employees as consideration for equity instrument of the Group. The potential rewards are provided partly in shares and partly in cash. The potential reward provided in shares is recognized as a personnel expense in the income statement and in the equity. Correspondingly, the rewards provided in cash are recognized as a personnel expense in the income statement and in liabilities. The total expense is recognized over the vesting period, which is the period over which the specified vesting conditions are to be satisfied.

Share-based compensation expense is determined on the grant date based on the Group's estimate of the number of shares that are expected to vest at the end of the vesting period. Based on the vesting conditions, the Group revises its estimates of the number of shares expected to vest based on the balance sheet date. It recognizes the potential impact of the revision on original estimates in the income statement as a personnel expense, with the corresponding adjustment made to equity and liabilities at fair value.

2.4. Depreciation, amortization and impairments

EUR million	2017	2016
Amortization of intangible assets and depreciation of property, plant and equipment		
Other intangible assets 1)	**26.2**	28.3
Buildings and constructions	**17.5**	16.9
Machinery and equipment	**91.2**	81.7
Other tangible assets	**6.2**	5.5
Total	**141.0**	132.4
Impairments of intangible assets and property, plant and equipment		
Other intangible assets	**0.0**	1.8
Goodwill	**0.0**	0.1
Land	**0.0**	0.4
Buildings and constructions	**0.0**	0.3
Machinery and equipment	**0.0**	2.2
Total	**0.0**	4.8
Total depreciation, amortization and impairments	**141.0**	137.2

1) Amortization related to business acquisitions is EUR 16.7 million (19.2) during financial year 2017.

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 useful life. Land is not depreciated. The most commonly applied depreciation/amortization periods according to the Group's accounting policies is presented in the following table.

Amortization of property, plant and equipment and intangible assets in the 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

Depreciation 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	2017	2016
Finance income		
Dividend income	**0.8**	0.1
Interest income		
Interest income from loans and receivables	**1.1**	1.7
Interest income from financial assets at fair value through profit or loss	**2.5**	0.4
Other finance income [1)]	**0.3**	7.3
Total	**4.7**	9.5
Finance expense		
Interest expenses		
Interest expenses from other liabilities	**-20.3**	-19.9
Interest expenses from financial assets at fair value through profit or loss	**-6.1**	-3.8
Other finance expenses	**-4.0**	-3.8
Total	**-30.4**	-27.5
Exchange gains and losses		
Exchange gains and losses from financial assets and liabilities at fair value through profit or loss	**9.0**	-1.9
Exchange gains and losses, other	**-12.2**	0.8
Total	**-3.2**	-1.1
Total finance income and expenses	**-28.9**	-19.1
Net finance expenses as a percentage of revenue %	**1.2**	0.8
Net interest as a percentage of revenue %	**1.0**	0.9

EUR million	2017	2016
Change in Consolidated Statement of Comprehensive Income from hedge accounting instruments		
Cash flow hedge accounting: Amount recognized in the Consolidated Statement of Comprehensive Income	**3.4**	8.5
Total	**3.4**	8.5
Exchange differences		
Realized	**6.3**	0.3
Unrealized	**-9.4**	-1.4
Total	**-3.2**	-1.1

1) Year 2017 includes changes in fair values of electricity derivatives EUR 0.2 million (2.2). Year 2016 includes EUR 5 million gain from sale of electricity Production assets (Pohjolan Voima Oy).

2.6. Income taxes

EUR million	2017	2016
Current taxes	**-21.6**	-19.6
Taxes for prior years	**0.1**	-1.8
Change in deferred taxes	**-5.9**	-8.7
Total	**-27.4**	-30.1

Reconciliation between tax expense and tax calculated at domestic tax rate

EUR million	2017	2016
Profit before tax	**112.6**	128.0
Tax at parent's tax rate 20%	**-22.5**	-25.6
Foreign subsidiaries' different tax rate	**-2.0**	-3.0
Non-deductible expenses and tax-exempt profits	**-3.2**	-2.9
Share of profit or loss of associates	**0.0**	0.0
Tax losses	**-5.9**	-5.5
Tax for prior years	**0.1**	-1.8
Effect of change in tax rates	**8.4**	-0.2
Tax credit from withholding tax related to prior years	**0.0**	3.1
Changes in deferred taxes related to prior years	**-2.3**	5.8
Others	**0.0**	0.0
Total taxes	**-27.4**	-30.1

The Group has subsidiaries in approximately 40 countries and hence has continuously tax audits on-going of which results have not yet been received. Prior tax audits have not resulted in material adjustments to income taxes. In addition, the Group has a tax dispute pending at the Supreme Administrative Court in Finland related to tax deductibility of certain interest costs. In case of an unfavorable decision, there will be no impact to the Group's financial position. As a result of favorable decision the Group's tax losses carried forward would increase materially.

Subsidiaries have EUR 125.5 million (108.1) tax losses, of which no deferred tax benefits have been recognized. Subsidiaries' tax losses are incurred in different currencies and born mainly in Brazil and China.

According to the US tax reform signed on December 22, 2017, the federal corporate income tax rate reduced from 35% to 21%, which has been taken into account when calculating deferred tax assets and liabilities. The effect of tax rate change in deferred taxes is EUR 8.4 million positive. Deferred tax liabilities arise mainly from temporary differences in depreciations. In addition according to the US tax reform, the undistributed earnings & profits of foreign subsidiaries owned by US legal entities shall be subject to one-time tax (transition tax), which is EUR 2.0 million. This amount is included in "Non-deductible expenses and tax-exempt profits".

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 at the balance sheet date in the countries where the company and its subsidiaries operate and generate taxable income. Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulation is subject to interpretation. It establishes provisions where appropriate on the basis of amounts expected to be paid to the tax authorities.

2.7. Earnings per share

	2017	2016
Earnings per share, basic		
Net profit attributable to equity owners of the parent, EUR million	**78.6**	91.8
Weighted average number of shares 1)	**152,359,250**	152,314,390
Basic earnings per share, EUR	**0.52**	0.60
Earnings per share, diluted		
Net profit attributable to equity owners of the parent, EUR million	**78.6**	91.8
Weighted average number of shares 1)	**152,359,250**	152,314,390
Adjustments for:		
Average number of treasury shares possibly to be issued on the basis of the share-based payments	**234,668**	211,454
Weighted average number of shares for diluted earnings per share	**152,593,919**	152,525,844
Diluted earnings per share, EUR	**0.52**	0.60

1) Weighted average number of shares outstanding, excluding the number of treasury shares.

The Group's accounting policies

Earnings per share

Basic earnings per share is calculated by dividing the profit attributable to equity owners of the parent company by the weighted average number of ordinary shares in issue during the period excluding ordinary shares purchased by Kemira Oyj and held as treasury shares. Diluted earnings per share is calculated by adjusting the weighted average number of ordinary shares plus diluted effect of all potential ordinary dilutive shares, such as shares from the share-based payments.

2.8. Other comprehensive income

Other comprehensive income

EUR million	2017	2016
Items that may be reclassified subsequently to profit or loss		
Available-for-sale financial assets	**30.0**	-39.5
Exchange differences on translating foreign operations	**-58.1**	23.4
Cash flow hedges	**4.3**	10.6
Items that will not be reclassified subsequently to profit or loss		
Remeasurements on defined benefit plans	**12.6**	-17.3
Other comprehensive income for the period before taxes	**-11.2**	-22.8
The tax relating to components of other comprehensive income	**1.8**	0.3
Other comprehensive income for the period, net of tax	**-9.4**	-22.5

The tax relating to components of other comprehensive income

	2017			2016		
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						
Available-for-sale financial assets	**30.0**	**-6.0**	**24.0**	-39.5	7.9	-31.6
Exchange differences on translating foreign operations	**-58.1**	**11.7**	**-46.4**	23.4	-12.1	11.3
Cash flow hedges	**4.3**	**-0.9**	**3.4**	10.6	-2.1	8.5
Items that will not be reclassified subsequently to profit or loss						
Remeasurements on defined benefit plans	**12.6**	**-3.0**	**9.6**	-17.3	6.6	-10.7
Total other comprehensive income	**-11.2**	**1.8**	**-9.4**	-22.8	0.3	-22.5

3. Capital expenditures and acquisitions

3.1. Goodwill

EUR million	Note	2017	2016
Net book value at 1 Jan		**522.4**	518.3
Acquisition of subsidiaries and business acquisitions	3.5.	**0.0**	0.0
Decreases and other changes		**0.0**	-0.1
Exchange differences		**-17.4**	4.2
Net book value at 31 Dec		**505.0**	522.4

Goodwill impairment testing

The Group carries out its annual impairment testing of goodwill on September 30. Impairment testing for goodwill are also carried out when changes in circumstances indicate that the carrying amount may not be recoverable. The recoverable amounts of cash-generating units have been determined based on value in use calculations. The key assumptions are long-term growth rate and discount rate. In 2017, impairment testing did not indicate any impairment (2016: no impairment).

Goodwill is allocated to two individual cash-generating units that are the Group's reportable segments. The reportable segment represents the lowest level within the Group at which the goodwill is monitored for internal management purposes. The Group's two reportable segments are Pulp & Paper and Industry & Water. A summary of the net book value and goodwill to the Group's reportable segments is presented in the following table.

	2017		2016	
EUR million	**Net book value**	**of which goodwill**	Net book value	of which goodwill
Pulp & Paper	**1,158**	**350**	1,086	360
Industry & Water	**581**	**155**	584	162
Total	**1,739**	**505**	1,670	522

Key assumptions for impairment testing of goodwill

Long-term growth rate

The long-term growth rate used is purely for the impairment testing of goodwill. The assumptions of the long-term growth rate were used based on the Group's financial forecasts prepared and approved by the management covering a five-year horizon. Forecasts for cash flow growth reflect the management's perception of developments in sales and cost items during the forecast period. The expected growth used to extrapolate cash flows subsequent to the five-year forecast period was assumed to be zero.

Discount rate

The discount rates applied were based on the Group's adjusted weighted average cost of capital (WACC). The risk-adjusted WACC rate was defined separately for each cash-generating unit. The discount rates used in performing the impairment tests of the Group's reportable segments are presented in the following table.

%	2017	2016
Pulp & Paper	**6.6**	6.5
Industry & Water	**6.6**	- 1)

1) Comparative information is not available due to Kemira's segment structure has changed in 2017. In 2016, the discount rate of the Municipal & Industrial segment was 6.5% and the discount rate of the Oil & Mining segment was 6.8%. Kemira merged Municipal & Industrial and Oil & Mining segments into one segment, Industry & Water. Kemira's new organization consists of two segments: Pulp & Paper and Industry & Water.

Sensitivity analysis

The sensitivity analyses were made under the assumption that there would be a decline in the growth rate of cash flows during and after the forecast period. A general increase in interest rates has also been taken into consideration as well as a decrease in profitability. A decrease of 10% in the estimated cash flow, or an increase of 2 percentage points in the discount rate, would not result impairment losses to be 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 accumulated impairment losses. Goodwill is tested for impairment annually and whenever there is any indication that an asset may be impaired. For this purpose, goodwill is allocated to cash-generating units.

Impairment testing

On each balance sheet date, the Group's assets are assessed to determine 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. Annual impairment tests cover goodwill and intangible assets not yet ready for use.

A cash-generating unit has been defined as an operating segment. Operating segments are Pulp & Paper and Industry & Water. Two or more operating segments are not combined into one reportable segment. Goodwill impairment is tested by comparing the reportable segment's (Pulp & Paper and Industry & Water) recoverable amount with its carrying amount. The Group does not have intangible assets with indefinite useful lives other than goodwill. All goodwill has been allocated to the reportable segments.

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 continuing use of an asset and on the latest five-year forecasts by the management. The annual growth rate used to extrapolate cash flows subsequent to the forecast period is assumed to be zero. Cash flow estimates do not include the effects of improved asset performance, investments or future reorganizations.

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 previously 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. An impairment loss for goodwill is never reversed.

Critical accounting estimates and judgments

Estimated impairment 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 gross margin levels, discount rates and the projected period. Major adverse developments in cash flows and interest rates may necessitate the recognition of an impairment loss.

3.2. Other intangible assets

2017, EUR million	Other intangible assets	Prepayments	Total
Acquisition cost at 1 Jan	**269.4**	**4.2**	**273.6**
Additions	**7.5**	**6.3**	**13.8**
Decreases and other changes	**-4.7**		**-4.7**
Exchange rate differences	**-4.9**		**-4.9**
Acquisition cost at 31 Dec	**267.3**	**10.5**	**277.8**
Accumulated amortization at 1 Jan	**-157.7**		**-157.7**
Accumulated amortization relating to decreases and transfers	**4.7**		**4.7**
Amortization during the financial year	**-26.0**		**-26.0**
Exchange rate differences	**1.8**		**1.8**
Accumulated amortization at 31 Dec	**-177.2**		**-177.2**
Net book value at 31 Dec	**90.0**	**10.5**	**100.5**

2016, EUR million			
Acquisition cost at 1 Jan	255.7	12.8	268.5
Additions	22.8	-8.5	14.3
Acquisitions of subsidiaries and business acquisitions	-4.0		-4.0
Decreases and other changes	-6.6	-0.1	-6.7
Exchange rate differences	1.5		1.5
Acquisition cost at 31 Dec	269.4	4.2	273.6
Accumulated amortization at 1 Jan	-133.8		-133.8
Accumulated amortization relating to decreases and transfers	6.8		6.8
Amortization during the financial year	-28.6		-28.6
Impairments	-1.8		-1.8
Exchange rate differences	-0.3		-0.3
Accumulated amortization at 31 Dec	-157.7		-157.7
Net book value at 31 Dec	111.7	4.2	115.9

The Group holds assigned emissions allowances under the EU Emissions Trading System in Sweden. At Group level, the allowances showed a net surplus of 122,464 tons in 2017 (a net surplus of 56,165 tons).

The Group's accounting policies

Other intangible assets

Other intangible assets include for instance software and software licenses as well as patents, technologies, non-compete agreements and customer relationships acquired in business combinations. 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.

Emissions allowances

The Group holds assigned emissions allowances, under the EU emissions trading system, at its Helsingborg site in Sweden. Carbon dioxide allowances are accounted for as intangible assets measured at cost. Carbon dioxide allowances received free of charge are measured at their nominal value (zero). A provision for the fulfillment of the obligation to return allowances is recognized if the free-of-charge allowances are not sufficient to cover actual emissions. The Group's consolidated balance sheet shows no items related to emissions allowances when the volume of actual emissions is lower than that of the free-of-charge emissions allowances and the Group has not bought allowances in the market.

3.3. Property, plant and equipment

2017, EUR million	Land	Buildings and constructions	Machinery and equipment	Other property, plant and equipment	Prepayments and non-current assets under construction 1)	Total
Acquisition cost at 1 Jan	53.1	480.9	1,452.7	61.7	154.4	2,202.8
Additions	0.2	40.7	183.2	9.6	-61.0	172.7
Decreases and other changes	-0.7	-1.1	-10.5			-12.3
Reclassifications		0.2	-0.2			0.0
Exchange rate differences	-1.7	-21.6	-73.5	-4.9	-4.0	-105.6
Acquisition cost at 31 Dec	51.0	499.0	1,551.7	66.3	89.4	2,257.5
Accumulated depreciation at 1 Jan	-9.9	-261.2	-985.4	-30.7		-1,287.2
Accumulated depreciation related to decreases and transfers		0.7	10.4			11.1
Depreciation during the financial year		-17.1	-88.5	-6.0		-111.5
Impairments	0.0					0.0
Exchange rate differences		9.7	40.7	2.5		53.0
Accumulated depreciation at 31 Dec	-9.8	-267.8	-1,022.9	-34.1		-1,334.7
Net book value at 31 Dec 2)	41.1	231.2	528.8	32.2	89.4	922.9

1) Prepayment and non-current assets under construction mainly comprises of plant investments.
2) Property, plant and equipment also includes the assets leased under finance leases. These are disclosed in Note 5.3. Interest-bearing liabilities.

2016, EUR million	Land	Buildings and constructions	Machinery and equipment	Other property, plant and equipment	Prepayments and non-current assets under construction 1)	Total
Acquisition cost at 1 Jan	54.5	446.3	1,319.2	54.7	127.8	2,002.5
Additions		39.0	130.4	6.5	22.4	198.3
Decreases and other changes	-0.6	-2.2	-0.5	-0.7	-0.7	-4.7
Reclassifications		0.1	4.2	0.4	-4.7	0.0
Exchange rate differences	-0.8	-2.3	-0.6	0.8	9.6	6.7
Acquisition cost at 31 Dec	53.1	480.9	1,452.7	61.7	154.4	2,202.8
Accumulated depreciation at 1 Jan	-9.5	-247.2	-905.5	-25.0		-1,187.2
Accumulated depreciation related to decreases and transfers		1.6	1.2	0.6		3.4
Depreciation during the financial year		-17.1	-83.4	-5.6		-106.1
Impairments	-0.4	-0.3	-2.2			-2.9
Exchange rate differences		1.8	4.5	-0.7		5.6
Accumulated depreciation at 31 Dec	-9.9	-261.2	-985.4	-30.7		-1,287.2
Net book value at 31 Dec 2)	43.2	219.7	467.3	31.0	154.4	915.6

1) Prepayment and non-current assets under construction mainly comprises of plant investments.
2) Property, plant and equipment also includes the assets leased under finance leases. These are disclosed in Note 5.3. Interest-bearing liabilities.

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, respectively. 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 benefit and the costs can be reliably measured. The costs of major inspections or the overhaul of asset performed at regular intervals and identified as separate components are capitalized and depreciated over their useful lives.

3.4. Available-for-sale financial assets

EUR million	The shares of Pohjolan Voima Group	Other non-listed shares	Total
Net book value at Jan 1, 2016	270.0	1.6	271.6
Additions	0.0	0.0	0.0
Decreases 1)	-29.5	-0.1	-29.6
Change in fair value	-39.5	0.0	-39.5
Net book value at Dec 31, 2016	201.0	1.5	202.5
Net book value at Jan 1, 2017	**201.0**	**1.5**	**202.5**
Additions	**3.3**	**0.3**	**3.6**
Decreases	**0.0**	**-0.3**	**-0.3**
Change in fair value	**30.0**	**0.0**	**30.0**
Net book value at Dec 31, 2017	**234.3**	**1.5**	**235.8**

The shares of Pohjolan Voima Group

EUR million	Class of shares	Holding %	Class of assets	2017	2016
Pohjolan Voima Oy	A	5	hydro power	**68.9**	65.2
Pohjolan Voima Oy	B	2	nuclear power	**40.9**	31.9
Pohjolan Voima Oy 2)	B2	7	nuclear power	**21.3**	18.0
Teollisuuden Voima Oyj	A	2	nuclear power	**78.8**	61.5
Other Pohjolan Voima Oy and Teollisuuden Voima Oyj	C, C2, G5, G6, M	several	several	**24.4**	24.4
Total				**234.3**	201.0

1) In 2016, Kemira sold 43.33% of its holding of class B shares in Pohjolan Voima Oy to Etelä-Suomen Voima Oy. The transaction price was EUR 35 million and recognized capital gain was EUR 5 million.
2) The plant supplier (AREVA-Siemens consortium) is building an Olkiluoto 3 (OL 3) nuclear power plant in Finland with fixed-price turnkey contracts. In spring 2005, the plant supplier started construction works with a contractual obligation to start the electricity production in the OL3 nuclear power plant in spring 2009. However, OL 3 has been delayed from its original start-up schedule. According to the information provided by TVO, the regular electricity production of the OL 3 nuclear power plant would take place in May 2019. In addition, in connection with the OL 3 project, an arbitration procedure is in progress between the plant supplier and the owner of the plant, Teollisuuden Voima, regarding the delay in the project and the costs incurred. The start-up of the OL 3 nuclear power plant and the final settlement of the arbitration will affect the value of the B2 series shares.

Kemira Oyj owns 5% of Pohjolan Voima Oy, and 1% of its subsidiary Teollisuuden Voima Oyj.

The fair value of the shares is based on the discounted cash flow resulting from the difference between the market price and the production cost of electricity. The discount rate used to calculate the net present value at the year-end is an annually defined weighted average cost of capital. The short-term discount rate in 2017 was 3.9% (3.7%), and the long-term discount rate was 4.7% (4.4%). A 10% decrease in the electricity market future price would decrease the fair value of shares by approximately EUR 33 million. An increase of 1 percentage point in the discount rate would decrease the fair value by approximately EUR 29 million.

The Group's accounting policies

Available-for-sale financial assets

Available-for-sale financial assets are measured at fair value if it is considered that fair value can be determined reliably. Unrealized changes in fair value of financial assets available for sale are recognized in other comprehensive income and presented under equity in the fair value reserve taking the tax effect into account. Accumulated changes in fair value are transferred to the income statement as a reclassification adjustment when the investment is divested or it has been impaired to the extent that an impairment loss has to be recognized. Available-for-sale financial assets include non-listed companies, the shareholdings in Pohjolan Voima Oy (PVO) and Teollisuuden Voima Oyj (TVO) representing the largest investments.

PVO and its subsidiary TVO comprise a private electricity-generating group owned by Finnish manufacturing and power companies, to which it supplies electricity at cost. PVO Group owns and operates, among others, two nuclear power plant units in Olkiluoto in the municipality of Eurajoki. Kemira Group has A and C series shares in TVO and A, B, C, G and

M series shares in PVO. 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 or energy share or not, and for variable costs in proportion to the amount of energy used.

Kemira Oyj's holding in PVO Group that entitles to the electricity from completed power plants 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. The forward electricity price quotations in Finland area published by the Nordic Electricity Exchange have been used as the market price for electricity of the first five years and after this the development of the prices 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 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 includes terminal value. The discount rate has been calculated using the annually determined average weighted cost of capital.

Critical accounting estimates and judgments

Estimated fair value of shares in PVO Group
The Group's investments include non-listed shares, with holdings in PVO Group representing the largest of these. The Group's shareholding in the company 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. Developments in the actual fair value may differ from the estimated value due to factors, such as electricity prices, the forecast period or the discount rate.

3.5. Business combinations

Kemira forms joint venture with fatty acid chloride producer in China
On September 29, 2017 Kemira has signed an agreement to form a joint venture - Kemira TC Wanfeng Chemicals Yanzhou ("NewCo") - with Shandong Tiancheng Wanfeng Chemical Technology ("Tiancheng"). NewCo will strengthen Kemira's position as the global leader in Pulp & Paper industry and supports the growth of water treatment.

NewCo will mainly produce AKD wax and its key raw material fatty acid chloride (FACL). AKD wax, where the main component is based on renewable raw material, is a sizing chemical used in board and paper manufacturing to create resistance to liquid absorption. In addition, NewCo plans to produce polyaluminum chloride (PAC), which is a coagulant used for water treatment.

Kemira owns 80% and Tiancheng 20% of NewCo. The value of the investment for the 80% share is around EUR 55 million. Conditions for the possible later acquisition of Tiancheng's remaining 20% ownership have been agreed.

The deal is subject to certain closing conditions and is expected to close in the first half of 2018.

4. Working capital and other balance sheet items

Net working capital

EUR million	Note	2017	2016
Inventories	4.1	**223.8**	216.9
Trade receivables and other receivables	4.2	**418.8**	386.1
Excluding financing items in other receivables [1]		**-21.4**	-16.8
Trade payables and other liabilities	4.3	**422.8**	405.2
Excluding financing items in other liabilities [1]		**-12.0**	-13.6
Total		**210.5**	194.6

1) Includes interest income and expense, exchange gains and losses and hedging related items.

Quarterly information on net working capital is disclosed in the section on Reconcilation of IFRS figures.

4.1. Inventories

EUR million	2017	2016
Materials and supplies	**77.9**	69.0
Finished goods	**130.3**	134.9
Prepayments	**15.5**	13.0
Total	**223.8**	216.9

In 2017, EUR 4.2 million (1.7) of the inventory value was recognized as an expense in order to decrease the book values of 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 of the 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 receivables

EUR million	2017	2016
Trade and other receivables		
Trade receivables	**315.2**	291.1
Prepayments	**4.9**	4.3
Prepaid expenses and accrued income	**49.2**	40.6
Other receivables	**49.5**	50.1
Total	**418.8**	386.1
Interest-bearing receivables		
Loan receivables	**5.3**	0.2
Ageing of outstanding trade receivables		
Undue trade receivables	**266.3**	240.2
Trade receivables 1–90 days overdue	**49.5**	48.1
Trade receivables more than 91 days overdue	**-0.6**	2.8
Total	**315.2**	291.1

In 2017, impairment loss of trade receivables amounted to EUR 0.8 million (2.2).

In 2017, items that are due in a time period longer than one year include prepaid expenses and accrued income of EUR 7.9 million (5.5) and non-interest-bearing receivables of EUR 10.8 million (13.3), prepayments 0.4 million (0.9) and loans receivable 0.2 million (0.1).

The Group's accounting policies

Trade receivables
Trade receivables are initially recognized at fair value and subsequently measured at amortized cost, taking impairment into account.

Loans and receivables
Loans and receivables include non-current receivables carried at amortized cost using the effective interest rate method and accounting for any impairment.

4.3. Trade payables and other current liabilities

EUR million	2017	2016
Trade payables and other liabilities		
Prepayments received	**1.1**	1.2
Trade payables	**187.2**	159.6
Accrued expenses	**203.4**	210.8
Other non-interest-bearing current liabilities	**31.1**	33.6
Total	**422.8**	405.2
Accrued expenses		
Employee benefits	**67.7**	60.5
Items related to revenues and purchases	**96.4**	105.9
Interest	**8.2**	9.1
Exchange rate differences	**0.0**	0.2
Other	**31.2**	35.1
Total	**203.4**	210.8

The Group's accounting policies

Trade payables and other liabilities
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, 2017	Recognized in the income statement	Recognized in other comprehensive income	Recognized in equity	Acquired and disposed subsidiaries	Exchange differences and reclassifications	Dec 31, 2017
Deferred tax liabilities							
Depreciations and untaxed reserves	56.8	-11.2				-4.4	41.3
Available-for-sale financial assets	16.7		6.0				22.7
Defined benefit pensions	7.8	-0.1	3.3				11.0
Fair value adjustments of net assets acquired [1)]	7.3	-2.4				-0.1	4.8
Other	18.7	-2.0	-11.5	0.3		-0.2	5.2
Total	107.3	-15.6	-2.2	0.3	0.0	-4.7	85.1
Deferred tax assets deducted	-44.1						-22.7
Deferred tax liabilities in the balance sheet	63.2						62.4
Deferred tax assets							
Provisions	16.1	-4.8				2.5	13.8
Tax losses	22.8	-6.5				-5.9	10.4
Defined benefit pensions	8.1	1.0	1.0			-0.1	9.9
Other	24.6	-11.2	-0.6			0.6	13.4
Total	71.6	-21.6	0.4	0.0	0.0	-2.9	47.6
Deferred tax liabilities deducted	-44.1						-22.7
Deferred tax assets in the balance sheet	27.5						24.8

1) The identifiable assets acquired and liabilities assumed in a business combination are recognized at their fair values. The resulting deferred taxes affect goodwill.

As result of the change in tax legislation, the US corporate tax rate reduced from 35% to 21%. Therefore, the relevant deferred tax balances have been remeasured at the new 21% tax rate in the Consolidated Financial statements year ended on December 31, 2017. The change in the US corporate income tax is presented in more detail in Note 2.6. Income taxes.

EUR million	Jan 1, 2016	Recognized in the income statement	Recognized in other comprehensive income	Recognized in equity	Acquired and disposed subsidiaries	Exchange differences and reclassifications	Dec 31, 2016
Deferred tax liabilities							
Depreciations and untaxed reserves	59.2		0.0			-2.4	56.8
Available-for-sale financial assets	24.6		-7.9				16.7
Defined benefit pensions	11.3	0.1	-3.5			-0.1	7.8
Fair value adjustments of net assets acquired 1)	9.8	-2.2				-0.3	7.3
Other	12.3	-6.7	11.9	0.2		1.0	18.7
Total	117.2	-8.8	0.5	0.2	0.0	-1.8	107.3
Deferred tax assets deducted	-61.3						-44.1
Deferred tax liabilities in the balance sheet	55.9						63.2
Deferred tax assets							
Provisions	17.7	-2.6				1.0	16.1
Tax losses	32.3	-5.6				-3.9	22.8
Defined benefit pensions	4.7	0.2	2.8			0.4	8.1
Other	36.1	-9.5	-2.3			0.3	24.6
Total	90.8	-17.5	0.5	0.0	0.0	-2.2	71.6
Deferred tax liabilities deducted	-61.3						-44.1
Deferred tax assets in the balance sheet	29.5						27.5

1) The identifiable assets acquired and liabilities assumed in a business combination are recognized at their fair values. The resulting deferred taxes affect goodwill.

The Group's accounting policies

Deferred taxes

Deferred income 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. However, deferred tax liabilities are not recognized if they arise from the initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting profit nor taxable profit or loss. 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 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 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.

Critical accounting estimates and judgments

Deferred taxes

For the recognition of deferred tax assets on tax losses and other items, the management assesses the amount of a probable future taxable profit against which unused tax losses and unused tax credits can be utilized. Actual profits may differ from the forecasts and in such case, the change will affect the taxes in future periods.

4.5. Defined benefit pension plans and employee benefits

The Group has several defined benefit pension plans and other employee benefits obligations. The main defined benefit pension plans are in Finland, Sweden, Germany, UK, Norway and Canada.

Finland

The Group's most significant defined benefit plan is in Finland, through the 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. The plan is a final average pay pension plan relating to supplementary pension benefits. The obligations of Pension Fund Neliapila are a total of EUR 241.1 million (258.0) and the plan assets are EUR 287.4 million (288.5).

The Pension Fund Neliapila's supplementary benefit is 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, the employee must have accrued a pensionable service of 25 years. The supplementary pension benefits is the difference between aggregated and compulsory pension benefits. At the beginning of 2017, the pension legislation was amended so that the retirement age will increase gradually from 63 years upwards. Under the new rules the Pension Fund Neliapila will compensate for a portion of this increase in the retirement age. This had no material impact on the pension fund's liabilities.

Sweden

In Sweden there is a defined benefit pension plan of the ITP 2 plan for white-collar employees. To qualify for a full pension, the 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 normal retirement pension, complementary retirement pensions and survivors' pension. In addition, Kemira must have a credit insurance from PRI Pensionsgaranti Mutual Insurance Company for the ITP 2 plan pension liability. The defined benefit obligations in Sweden is a total of EUR 46.6 million (43.8).

Assets and liabilities of defined benefit plans recognized in the balance sheet

EUR million	2017	2016
Defined benefit obligations	343.9	359.0
Fair value of plan assets	-310.4	-311.3
Surplus (-) / Deficit (+)	33.5	47.7
The effect of asset ceiling	0.7	0.0
Net recognized assets (-) / liabilities (+) in the balance sheet	34.3	47.7
Liabilities of defined benefit plans	82.3	79.8
Receivables for defined benefit plans	-48.0	-32.1
Net recognized receivables (-) / liabilities (+) of defined benefit plans in the balance sheet	34.3	47.7

Amounts of defined benefit plans recognised in the comprehensive income

EUR million	2017	2016
Service costs 1)	3.5	3.6
Net interest cost 2)	1.3	1.0
Components of defined benefit expenses (+) / income (-) recorded in the income statement	4.8	4.6

1) Finnish pension reform legislation affected the calculation of supplementary benefits for persons under Pension Fund Neliapila. The pension reform legislation change of EUR 0.5 million is recognized in profit or loss as past service cost in the IFRS financial statements for 2016.
2) Net interest costs are presented in net finance costs, in the Income Statement.

Defined benefit plans recognised in other comprehensive income

EUR million	2017	2016
Items resulting from remeasurements on defined benefit pensions 3)		
Actuarial gains (-) / losses (+) on defined benefit obligation arising from changes in demographic assumptions 4)	0.1	-2.8
Actuarial gains (-) / losses (+) on defined benefit obligation arising from changes in financial assumptions 5)	1.2	36.1
Actuarial gains (-) / losses (+) on defined benefit obligation arising from experience assumptions	-3.4	-3.9
Actuarial gains (-) / losses (+) on plan assets 6)	-11.2	-12.1
Adjustments for asset ceiling	0.7	0.0
Other comprehensive income for defined benefit plans expenses (+) / income (-)	-12.6	17.3

3) 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.
4) In 2016, the result represents an actuarial gain and is mainly due to the changed mortality table in the ITP 2 plan in Sweden.
5) In 2016, the actuarial losses are mainly due to lower discount rates.
6) In 2017 and 2016, the actuarial gains are mainly due to income on assets in Pension Fund Neliapila.

The movement in the defined benefit obligations over the period

EUR million	2017	2016
Defined benefit obligation at 1 Jan	359.0	337.5
Current service cost	3.1	2.8
Interest cost	5.6	7.3
Actuarial losses (+) / gains (-) on obligation	-2.1	29.4
Exchange differences on foreign plans	-2.6	-1.5
Benefits paid	-19.2	-19.7
Curtailments and settlements	0.0	-0.3
Past service cost	0.0	0.5
Other movements	0.1	3.0
Defined benefit obligation at 31 Dec	343.9	359.0

Movement in the fair value of plan assets over the period in defined benefit plans

EUR million	2017	2016
Fair value at 1 Jan	**311.3**	309.1
Interest income	**4.3**	6.3
Contributions	**0.7**	0.9
Actuarial losses (-) / gains (+) on plan assets	**11.2**	12.1
Exchange differences on foreign plans	**-1.1**	0.1
Benefits paid	**-15.6**	-16.8
Other movements	**-0.4**	-0.4
Fair value of plan assets at 31 Dec	**310.4**	311.3

Analysis of plan assets by asset category in defined benefit plans

EUR million	2017	2016
Interest rate investments and other assets	**186.9**	189.8
Shares and share funds	**106.7**	104.6
Properties occupied by the Group	**15.5**	15.5
Kemira Oyj's shares	**1.3**	1.4
Total assets	**310.4**	311.3

The Finnish Pension Fund Neliapila, which has most of the defined benefit plan's assets of EUR 287.4 million (288.5), consists of interest rate investments and other assets of EUR 176.9 million (180.1), shares and share funds of EUR 93.7 million (91.5), properties of EUR 15.5 million (15.5) and Kemira Oyj´s shares of EUR 1.3 million (1.4). In Pension Fund Neliapila, the investment positions are 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 scheme. In Pension Fund Neliapila, a significant investment risk can be considered a market risk. Financial market cyclical fluctuations due to market risk are managed by ensuring that the investment position is sufficiently diversified.

The income (+) / expense (-) of actual return on plan assets of the Group's defined benefit plan was EUR 15.4 million (18.5).

Significant actuarial assumptions, %

	2017	2016
Discount rate	**1.3–3.3**	1.3–3.6
Inflation rate	**1.1–2.5**	1.1–2.5
Future salary increases	**1.6–3.0**	1.7–3.0
Future pension increases	**0.4–3.0**	1.1–3.0

The significant assumptions used in calculating the obligations of the Finnish Pension Fund Neliapila were as follows: discount rate 1.3% (1.3%), inflation rate 1.6% (1.7%), future salary increases 1.6% (1.7%) and future pension increases 1.9% (2.0%).

Sensitivity analyses

The sensitivity analysis is based on maintaining other assumptions are stagnant even through one assumption changes. 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 significant countries, the defined benefit obligation would increase by EUR 23.9 million (7.0%) if all other assumptions were held constant.

Pension Fund Neliapila in Finland

	Defined benefit obligation		Impact on defined benefit obligation	
EUR million	**2017**	2016	**2017**	2016
Discount rate 1.3% (1.3%)	**241.0**	258.0		
Discount rate +0.5%	**227.2**	242.7	**-5.7%**	-5.9%
Discount rate -0.5%	**256.5**	275.0	**6.4%**	6.6%
Future pension increases 1.9% (2.0%)	**241.0**	258.0		
Future pension increases +0.5%	**254.8**	273.1	**5.7%**	5.9%
Future pension increases -0.5%	**228.4**	244.2	**-5.2%**	-5.3%

Change in mortality assumption in which an increase in life expectancy by one year will increase the defined benefit obligation by EUR 10.6 million (4.4%).

ITP 2 pension plan in Sweden

	Defined benefit obligation		Impact on defined benefit obligation	
EUR million	**2017**	2016	**2017**	2016
Discount rate 2.2% (2.5%)	**46.6**	43.8		
Discount rate +0.5%	**43.2**	40.7	**-7.3%**	-7.1%
Discount rate -0.5%	**50.4**	47.3	**8.2%**	8.0%
Future salary increases 2.5% (2.5%)	**46.6**	43.8		
Future salary increases +0.5%	**47.8**	44.9	**2.4%**	2.5%
Future salary increases -0.5%	**45.5**	42.8	**-2.6%**	-2.2%

Change in mortality assumption in which an increase in life expectancy by one year will increase the defined benefit obligation by EUR 2.0 million (4.3%).

Expected contributions to the defined benefit plans for the year ended December 31, 2018, are EUR 3.6 million.

The Group's accounting policies

Defined benefit pension plans and employee benefits

The Group has post-employment schemes, including both defined contribution and defined benefit pension plans in accordance with the local conditions and practices in the countries in which it operates. Pension plans are generally funded through contributions to 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 compensation 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 that have the terms to maturity approximating to the terms of the related pension obligation. In countries where there is no deep market in such bonds, the market rates on 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 as the employee benefits expenses and net interest cost on finance income and finance expense. Past-service costs are recognized immediately in income statements.

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 expense 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.

Critical accounting estimates and judgments

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. Pension liability is calculated by independent actuaries.

4.6. Provisions

EUR million	Personnel related provisions	Restruc-turing provisions	Environ-mental provisions 1)	Other provisions	Total
Non-current provisions					
At January 1, 2017	0.7	3.5	17.2	5.1	26.5
Exchange rate differences			-0.5	-0.7	-1.1
Additional provisions and increases in existing provisions		1.6	1.3	3.4	6.2
Used during the financial year			-0.3	-0.1	-0.3
Unused amounts reversed	-0.3			-0.2	-0.6
Reclassification		-3.6		0.1	-3.5
At December 31, 2017	0.3	1.6	17.7	7.6	27.2
Current provisions					
At January 1, 2017	10.0	2.0	2.2	0.0	14.2
Exchange rate differences	-0.2				-0.2
Additional provisions and increases in existing provisions	9.6	0.2	0.1		9.8
Used during the financial year	-12.2	-0.8	-0.5		-13.5
Unused amounts reversed	-2.1	-0.2	-0.2		-2.5
Reclassification	0.0	3.5			3.5
At December 31, 2017	5.1	4.7	1.5	0.0	11.3

EUR million	2017	2016
Analysis of total provisions		
Non-current provisions	27.2	26.5
Current provisions	11.3	14.2
Total	38.5	40.7

1) The bulk of Kemira's business is in the chemical industry. Our operations are governed by numerous international agreements and regional and national legislation all over the world. The Group treats its environmental liabilities and risks in the consolidated financial statements in accordance with IFRS and observes the established internal environmental principles and procedures. Provisions for environmental remediation totaled EUR 19.2 million (19.4). The biggest provisions relate to site closures and reconditioning of the sediment of a lake in Vaasa, Finland.

The Group's accounting policies

Provisions

Provisions for restructuring costs, personnel related costs, environmental obligations, legal claims, and onerous contracts are recognized in the balance sheet when the Group has a present legal or constructive obligation as a result of past events; it is probable that an outflow of resources will be required to settle the obligation, and that 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 rate that reflects current market assessments of the time value of money and the risks specific to the obligation.

Critical accounting estimates and judgments

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	2017	2016
Equity	1,172.8	1,182.9
Total assets	2,674.9	2,620.9
Gearing 1)	59%	54%
Equity ratio 2)	44%	45%

1) The definition of the key figure for Gearing is 100 x Interests-bearing net liabilities / Total equity.
2) The definition of the key figure for Equity ratio is 100 x Total equity / (Total assets - prepayments received).

Interest-bearing net liabilities

EUR million	Note	2017	2016
Non-current interest-bearing liabilities	5.3.	669.1	649.5
Current interest-bearing liabilities	5.3.	191.4	157.9
Interest-bearing liabilities		860.5	807.4
Cash and cash equivalents	5.4.	166.1	173.4
Interest-bearing net liabilities		694.4	634.0

Quarterly information on interest-bearing net liabilities is disclosed in the section on Reconciliation of IFRS figures.

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	Cash and cash equivalents	Interest-bearing net liabilities
Net book value at Jan 1, 2016	-708.1	-85.4	151.5	-642.1
Change in net liabilities with cash flows				
Proceeds from non-current liabilities (-)	-50.0			-50.0
Payments of non-current liabilities (+)	48.1			48.1
Proceeds from current liabilities (-) and payments (+)		-6.8		-6.8
Change in cash and cash equivalents			20.0	20.0
Change in net liabilities with non-cash flows				
Effect on change in exchange gains and losses	-3.1	2.4	1.9	1.2
Other changes with non-cash flows	0.4	-4.7		-4.3
Net book value at Dec 31, 2016	-712.8	-94.6	173.4	-634.0
Net book value at Jan 1, 2017	**-712.8**	**-94.6**	**173.4**	**-634.0**
Change in net liabilities with cash flows				
Proceeds from non-current liabilities (-)	**-100.0**			**-100.0**
Payments of non-current liabilities (+)	**62.1**			**62.1**
Proceeds from current liabilities (-) and payments (+)		**-36.3**		**-36.3**
Change in cash and cash equivalents			**0.3**	**0.3**
Change in net liabilities with non-cash flows				
Effect on change in exchange gains and losses	**9.7**	**6.1**	**-7.5**	**8.3**
Other changes with non-cash flows	**0.8**	**4.5**	**0.0**	**5.3**
Net book value at Dec 31, 2017	**-740.1**	**-120.4**	**166.1**	**-694.4**

The Group's mid- to long-term objective is to maintain a gearing ratio below 60%. To calculate the gearing ratio, interest-bearing net liabilities (interest-bearing liabilities less cash and cash equivalents) are divided by shareholders' equity. The revolver credit facility agreement contains a covenant according to which the company gearing must be below 100%.

Besides gearing, certain other bilateral loan agreements contain a covenant according to which the Company represents and warrants that its financial status will remain such that the consolidated shareholders' equity is always at least 25% of the consolidated total assets (equity ratio).

The Board of Directors will propose a per-share dividend of EUR 0.53 for 2017 (EUR 0.53), corresponding to a dividend payout ratio of 103% (88%). Kemira's dividend policy aims at paying a stable and competitive dividend.

The Group's accounting policies

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 categories.

Dividend distribution

Any dividend proposed by the Board of Directors is not deducted from distributable equity until it has been approved by the shareholders at the Annual General Meeting.

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)	Net book value of share capital	Net book value of treasury shares
January 1, 2016	152,062	3,280	155,343	221.8	22.1
Treasury shares issued to the participants on long-term share incentive plan 2015	294	-294	-	-	-2.0
Treasury shares issued to the Board of Directors	13	-13	-	-	-0.1
The shares returned by participants in the long-term share incentive plan 2015	-2	2	-	-	0.0
December 31, 2016	152,367	2,975	155,343	221.8	20.0
January 1, 2017	**152,367**	**2,975**	**155,343**	**221.8**	**20.0**
Treasury shares issued to the Board of Directors	**10**	**-10**	**-**	**-**	**-0.1**
The shares returned by participants in the long-term share incentive plan 2015	**-24**	**24**	**-**	**-**	**0.2**
December 31, 2017	**152,354**	**2,989**	**155,343**	**221.8**	**20.1**

Kemira Oyj has one class of shares. Each share entitles its holder to one vote at the Annual General Meeting. On December 31, 2017, the share capital was EUR 221.8 million and the total number of shares issued was 155,342,557 including 2,988,935 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 2,988,935 (2,975,327) of its treasury shares on December 31, 2017. The average share price of treasury shares was EUR 6.73 and they represented 1.9% (1.9%) of the share capital, and the aggregate number of votes conferred by all shares. The aggregate par value of the treasury shares is EUR 4.3 million.

Share premium

The share premium is a reserve accumulated through subscriptions that are entitled by the management stock option program of 2001. This reserve is based on the old Finnish Companies Act (734/1978), which will not change anymore.

Fair value reserves

The fair value reserve is a reserve accumulated based on available-for-sale financial assets (shares) measured at fair value and hedge accounting.

Other reserves

Other reserves originate from local requirements of subsidiaries. On December 31, 2017, other reserves were EUR 4.0 million (5.0).

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 the specific decision, be recognized in share capital.

Exchange differences

The foreign currency exchange differences arise from the translation of foreign subsidiaries' financial statements. Also, loans have been granted to some foreign subsidiaries, and exchange differences 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

2017, EUR million	2018	2019	2020	2021	2022	2023–	Book value total
Loans from financial institutions	71.0	11.9	205.0	-	-	-	287.9
Bonds	-	100.0	-	-	150.0	200.0	450.0
Finance lease liabilities	0.0	0.0	-	-	-	-	0.1
Other non-current liabilities	-	-	2.3	-	-	-	2.3
Other current liabilities	120.4	-	-	-	-	-	120.4
Total amortizations of interest-bearing liabilities	**191.4**	**111.9**	**207.3**	**0.0**	**150.0**	**200.0**	**860.5**

2016, EUR million	2017	2018	2019	2020	2021	2022	Book value total
Loans from financial institutions	63.0	79.4	10.4	207.3	-	-	360.1
Bonds	-	-	200.0	-	-	150.0	350.0
Finance lease liabilities	0.4	0.1	-	-	-	-	0.5
Other non-current liabilities	-	-	-	2.4	-	-	2.4
Other current liabilities	94.5	-	-	-	-	-	94.5
Total amortizations of interest-bearing liabilities	157.9	79.5	210.4	209.7	0.0	150.0	807.4

At year's end 2017, the Group's interest-bearing net liabilities were EUR 694.4 million (634.0). For more information, see Note 5.1. Capital structure.

Maturity of non-current interest-bearing liabilities by currencies

2017, Currency, EUR million	2018	2019	2020	2021	2022	2023–	Book value total
EUR	10.0	111.6	207.3	-	150.0	200.0	678.9
USD	60.7	-	-	-	-	-	60.7
Other	0.3	0.2	-	-	-	-	0.6
Total	**71.0**	**111.9**	**207.3**	**0.0**	**150.0**	**200.0**	**740.1**

2016 Currency, EUR million	2017	2018	2019	2020	2021	2022–	Book value total
EUR	19.3	10.0	210.0	209.7	-	150.0	599.0
USD	43.7	69.0	-	-	-	-	112.7
Other	0.4	0.4	0.3	-	-	-	1.1
Total	63.4	79.5	210.4	209.7	-	150.0	712.8

Finance lease agreements

EUR million	2017	2016
Acquisition cost – capitalized finance leases	3.5	3.5
Accumulated depreciation	-2.6	-2.0
Book value at 31 Dec	**1.0**	1.5
Maturity of minimum lease payments		
No later than 1 year	0.0	0.4
1–5 years	0.0	0.1
Later than 5 years	-	0.0
Total minimum lease payments	**0.1**	0.5
Present value of finance lease liabilities		
Total minimum lease payments	0.1	0.5
Future finance charges on finance leases	0.0	0.0
Total	**0.1**	0.5
Maturity of the present value of finance lease liabilities		
No later than 1 year	0.0	0.4
1–5 years	0.0	0.1
Later than 5 years	-	0.0
Total present value of finance lease liabilities	**0.1**	0.5

The Group leases buildings and constructions, machinery and equipment and other property, plant and equipment under finance lease agreements. Commitments related to other lease agreements than finance leases are disclosed in Note 7.1. Commitments and contingent liabilities.

The Group's accounting policies

Finance lease

Leases involving tangible assets, in which the Group acts as a lessee, are classified as finance leases if all of the risks and rewards of ownership transfer substantially to the Group.

At the commencement of the lease term, the finance lease assets are recognized at the lower of the fair value of the leased asset and the present value of the minimum lease payments. These assets and related rental obligations are presented as part of the Group's non-current assets and interest-bearing liabilities. In respect to the finance lease agreements, depreciation on the leased assets and interest expenses from the associated liability are shown in the income statement. Rents paid on the basis of operating leases are expensed on a straight-line basis over the lease terms.

When the Group is a lessor, it recognizes assets held under the finance lease as receivables in the balance sheet. Assets held under operating leases are included in PP&E.

Also the arrangements that are not leases in their legal form but convey the rights to use assets in return for a payment or series of payments are treated as leases.

5.4. Financial assets and liabilities by measurement categories

Book values of financial assets

EUR million	Note	2017	2016
Financial assets at fair value through profit and loss not qualifying for hedge accounting	5.6.		
Derivatives		**3.9**	2.8
Derivatives qualifying for hedge accounting	5.6.		
Cash flow hedges		**7.0**	3.8
Fair value hedges		**2.7**	3.4
Loans and other receivables			
Other non-current assets		**3.8**	4.4
Current interest-bearing loan receivables		**5.3**	0.2
Trade receivables and other receivables	4.2.	**315.2**	291.1
Cash and cash equivalents			
Cash in hand and at bank accounts		**124.6**	95.1
Deposits and money market investments 1)		**41.6**	78.3
Available-for-sale financial assets	3.4.		
The shares of Pohjolan Voima Group		**234.3**	201.0
Other non-listed shares		**1.5**	1.5
Total financial assets		**739.9**	681.6

Book values of financial liabilities

EUR million	Note	2017	2016
Financial liabilities at fair value through profit and loss not qualifying for hedge accounting	5.6.		
Derivatives		**3.7**	4.1
Derivatives qualifying for hedge accounting	5.6.		
Cash flow hedges		**1.7**	3.0
Other financial liabilities			
Interest-bearing liabilities	5.3.		
Non-current loans from financial institutions		**215.2**	294.7
Current portion		**71.0**	63.0
Bonds 2)		**451.5**	352.3
Other non-current liabilities		**2.4**	2.4
Current loans from financial institutions		**120.4**	95.0
Non-interest-bearing liabilities			
Other non-current liabilities		**21.4**	21.4
Other current liabilities		**31.0**	33.6
Trade payables	4.3.	**187.2**	159.6
Total financial liabilities		**1,105.5**	1,029.1

1) Deposit and money market investments comprise bank deposit and other liquid investment with a maximum original maturity of three months.
2) Includes hedge accounting adjustment of EUR 1.5 million (2.3).

Fair value of financial assets

Fair value hierarchy, EUR million	2017 Level 1	2017 Level 2	2017 Level 3	2017 Total net	2016 Level 1	2016 Level 2	2016 Level 3	2016 Total net
Available-for-sale financial assets	-	-	235.8	235.8	-	-	202.5	202.5
Other non-current assets	-	3.8	-	3.8	-	4.4	-	4.4
Currency derivatives	-	3.9	-	3.9	-	2.8	-	2.8
Currency derivatives, hedge accounting	-	0.8	-	0.8	-	-	-	0.0
Interest rate derivatives, hedge accounting	-	2.7	-	2.7	-	3.4	-	3.4
Other derivatives, hedge accounting	-	6.2	-	6.2	-	3.8	-	3.8
Other receivables	-	5.3	-	5.3	-	0.2	-	0.2
Trade receivables	-	315.2	-	315.2	-	291.1	-	291.1
Total financial assets	-	337.9	235.8	573.7	-	305.7	202.5	508.2

Level 3 specification, EUR million	Total net 2017	Total net 2016
Net book value at 1 Jan	202.5	271.6
Effect on the Statement of Comprehensive Income	30.0	-39.5
Increases	3.6	0.0
Decreases	-0.3	-29.6
Net book value at 31 Dec	235.8	202.5

Fair value of financial liabilities

Fair value hierarchy, EUR million	2017 Level 1	2017 Level 2	2017 Level 3	2017 Total net	2016 Level 1	2016 Level 2	2016 Level 3	2016 Total net
Non-current interest-bearing liabilities	-	697.2	-	697.2	-	673.5	-	673.5
Current portion of non-current interest-bearing liabilities	-	74.8	-	74.8	-	65.7	-	65.7
Non-current other liabilities	-	21.4	-	21.4	-	21.4	-	21.4
Finance lease liabilities	-	0.1	-	0.1	-	0.5	-	0.5
Short-term loans from financial institutions	-	126.8	-	126.8	-	98.7	-	98.7
Other current liabilities	-	31.0	-	31.0	-	33.6	-	33.6
Currency derivatives	-	3.7	-	3.7	-	4.1	-	4.1
Interest rate derivatives, hedge accounting	-	1.6	-	1.6	-	2.2	-	2.2
Other derivatives, hedge accounting	-	0.1	-	0.1	-	0.8	-	0.8
Trade payables	-	187.2	-	187.2	-	159.6	-	159.6
Total financial liabilities	-	1,143.9	-	1,143.9	-	1,060.1	-	1,060.1

There is no transfers between levels 1–3 during the financial year.

The Group's accounting policies

When a financial asset or a 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, loans and receivables issued by the Group, and available-for-sale financial assets.

Category	Financial instrument	Measurement
Financial assets at 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	Fair value
Loans and receivables	Non-current loan receivables, cash in hand and at bank accounts, bank deposits, trade receivables and other receivables	(Amortized) cost
Available-for-sale financial assets	Shares	Fair value

Financial assets at fair value through income statements

All derivatives are recognized at fair value in 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 IAS 39 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 qualifying for hedge accounting

Accounting treatment of change in the fair value of the derivatives qualifying for hedge accounting is presented in Note 5.6. Derivatives.

Loans and receivables

Loans and receivables 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 in hand and cash on bank accounts, 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.

Available for sale financial assets

The accounting policy of Available-for-sale financial assets is described in Note 3.4. Available for sale financial assets.

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 when an event with a negative effect on the future cash flows from the investment has occurred. For items measured at 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 at fair value through profit or loss and other financial liabilities. Financial liabilities at fair value through profit and loss include derivatives to which hedge accounting is not applied.

Other financial liabilities are initially recognized in the balance sheet at the initial value of received net assets deducted with direct costs. Later, these financial liabilities are measured at amortized cost, and the difference between the received net assets and amortizations is recognized as interest costs over the loan term.

Category	Financial instrument	Measurement
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	Fair value
Other financial liabilities	Current and non-current loans, pension loans, bonds and trade payables	(Amortized) cost

The following levels are used to measure the fair values:

Level 1:
Fair value is determined based on quoted market prices.

Level 2:
Fair value is determined with valuation techniques. The fair value refers either to the value that is observable from the market value of elements of the financial instrument or market value of corresponding financial instrument; 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 inputs are not based on observable market data. Level 3 includes mainly 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. Treasury policy, approved by the Board of Directors, defines treasury management principles. 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 only hedging purposes derivative instruments for which 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 compromises 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 assets and liabilities of group companies located outside the Euro area are consolidated into EUR. Transaction risk is hedged mainly using foreign currency forwards.

The Group's most significant transaction currency risks arise from the Swedish krona, the Canadian dollar and the U.S. dollar. At the end of the year the denominated exchange rate risk of the Swedish krona had an equivalent value of approximately EUR 58 million (57), the average hedging rate being 63% (68%). The Canadian dollar's denominated exchange rate risk had an equivalent value of approximately EUR 36 million (23), the average hedging rate being 63% (64%). The U.S. dollar denominated exchange rate risk was approximately EUR 30 million (42), the average hedging rate being 58% (51%). In addition Kemira is exposed to smaller transaction risks in relation to the Chinese renminbi, the Norwegian krona and Brazilian real with the annual exposure in those currencies being approximately EUR 56 million.

Transaction exposure, the most significant currencies, EUR million	2017			2016		
	SEK	**CAD**	**USD**	SEK	CAD	USD
Operative cash flow forecast [1]	**-57.6**	**36.2**	**30.4**	-56.6	22.6	41.6
Loans, net	**-7.5**	**2.3**	**355.7**	-2.8	-	408.0
Derivatives, operative cash flow hedging	**41.2**	**-13.7**	**-18.8**	36.1	-15.5	-21.3
Derivatives, hedging of loans, net	**8.1**	**-2.3**	**-26.6**	-	-	1.0
Total	**-15.8**	**22.5**	**340.7**	-23.3	7.1	429.3

1) Based on 12-month foreign currency operative cash flow forecast.

At the turn of 2017/2018, the foreign currency operative cash flow forecast for 2018 was EUR 205 million of which 41% was hedged (43%). The hedge ratio is monitored daily. A minimum of 30% and a maximum of 100% of the forecast flow must always be hedged. A 10% fall in foreign exchange rates against the euro, based on the average exchange rates, and without hedging, would increase EBITDA by approximately EUR 1 million.

The most significant translation risk currencies are the U.S. dollar, the Swedish krona, the Canadian Dollar, Chinese Renminbi and the Brazilian real.

Kemira's main equity items denominated in foreign currencies are in the Canadian Dollar, the Swedish krona and U.S. 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 of net investments in foreign subsidiaries. These hedges do not apply to hedge accounting. To some foreign subsidiaries loans in U.S. dollar have been granted, and currency differences have been included in foreign currency translation differences.

Interest rate risk

Kemira is exposed to interest rate risk when fixing interest rates of floating rate loans and through fair value changes of bonds and derivatives. In accordance with the treasury policy the Group's interest rate risk is measured with the duration which describes average repricing moment of the loan portfolio. The duration must be in the range of 6–60 months. 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 was 33 months at the end of 2017 (26 months). Excluding the interest rate derivatives, the duration was 30 months (22 months). At the end of 2017, 75% of the Group's entire net debt portfolio, including derivatives, was fixed (72%). The net financing cost of the Group was 3.1% (2.2%). This figure 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 U.S. dollar and Chinese renminbi-denominated debt.

The table below shows the time for interest rate fixing of the loan portfolio.

2017 **Time to interest rate fixing, EUR million**	**<1 year**	**1–5 years**	**> 5 year**	**Total**
Floating net liabilities	**174.4**	**-**	**-**	**174.4**
Fixed net liabilities	**25.0**	**295.0**	**200.0**	**520.0**
Total	**199.4**	**295.0**	**200.0**	**694.4**

2016 Time to interest rate fixing, EUR million	<1 year	1–5 years	> 5 year	Total
Floating net liabilities	179.2	-	-	179.2
Fixed net liabilities	31.3	273.5	150.0	454.8
Total	210.5	273.5	150.0	634.0

On the balance sheet date, the average interest rate of loan portfolio was approximately 2.0% (2.1%). If interest rates had risen by one percentage point on January 1, 2018, the resulting interest expenses before taxes incurred by the Group over the next 12 months would increase by approximately EUR 1,7 million (0.5). During 2018, Kemira will reprice 28% (19%) of the Group's net debt portfolio, including derivatives.

On the balance sheet date, the Group had outstanding interest rate derivatives related to cash flow hedging with a market value of EUR -1.6 million (-2.2) and fair value hedging with market value of EUR 2.7 million (3.4). All interest rate swaps are used to hedge the Group's loan portfolio, and are accounted for in accordance with the principles of hedge accounting set out in IAS 39. One percentage point increase in interest rates would positively affect market valuation of interest rate swaps of EUR 0.5 million (0.4) in equity.

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 the 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 forwards on the power exchange as hedging instruments. Currency and regional price risks connected with hedges are hedged by making agreements in Finland, mainly in HELEUR amounts and, in Sweden, mainly in MALSEK amounts. The outstanding electricity derivatives are treated in accordance with cash flow hedge accounting, as discussed above. The forecast for physical deliveries of the underlying asset, or purchases, are not recorded until the delivery period. A +/- 10% change in the market price of electricity hedging contracts would impact the valuation of these contracts EUR +/-5.9 million (+/- 5.5). This impact would be mainly in equity.

Credit risk

Group is exposed to counterparty risk 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 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 decentralizing agreements among them.

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 may invest a maximum of EUR 150 million in liquid assets in the commercial papers of Finnish companies and certificates of deposit.

The Group Treasury approves the new banking relationships of subsidiaries. At present, financial institution counterparties, used by the Group Treasury, have a credit rating of at least 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 172.2 million (179.6). 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. Credit risks associated with financing 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 pre-defined risk category and credit limit. These are constantly monitored. Based on the customer evaluation Kemira decides the applicable payment terms to minimize credit risk. Pre-approved payment terms have been defined on group level. If necessary, also securities and documentary credit, like letters of credit, are applied. The group does not have any significant credit risk concentrations due to its extensive customer base across the world.

In USA, Kemira has an accounts receivable purchase facility worth USD 38 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 counterparty and 96.9% of the receivables transferred are derecognized from the balance sheet. The amount of outstanding receivables transferred, which also reflects the carrying value of the receivables before the transfer was EUR 28.1 million (30.4) at 31 December 2017. The amounts recognized in the balance sheet at 31 December 2017 due to the continuing involvement are EUR 1.8 million (1.1) in assets and EUR 0.5 million (0.5) in liabilities.

Liquidity and refinancing risks

Kemira's liquidity is secured with cash and cash equivalents, account overdrafts and revolving credit facility. At the end of 2017 the Group's cash and cash equivalents stood at EUR 166.1 million (173.4), of which cash on bank accounts accounted for EUR 124.6 million (78.3) and bank deposits EUR 41.6 million (95.1). In addition, the Group has revolving credit facility of EUR 400 million which will mature on August 29, 2020. At the turn of the year 2017/2018, 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 2017, there were no commercial papers outstanding on the market.

Kemira manages its refinancing risk with diversified loan portfolio. Long-term financing consist of bonds and bilateral loan agreements with several financial institution.

In accordance with the Group Treasury policy, the average maturity of outstanding loans should always be at least 3 years. In addition 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 debt at the end of 2017 was 3.6 years.

Loan structure divided by type and maturity

2017 Loan type, EUR million	Undrawn	2018	2019	2020	2021	2022	2023–	Total drawn
Loans from financial institutions	-	71.0	11.9	207.3	-	-	-	290.1
Bonds	-	-	100.0	-	-	150.0	200.0	450.0
Revolving credit facility	400.0	-	-	-	-	-	-	0.0
Finance lease liabilities	-	0.0	0.0	-	-	-	-	0.1
Commercial paper program	600.0	-	-	-	-	-	-	0.0
Other interest-bearing current liabilities	-	120.4	-	-	-	-	-	120.4
Total interest-bearing liabilities	**1,000.0**	**191.4**	**111.9**	**207.3**	**0.0**	**150.0**	**200.0**	**860.5**

2016 Loan type, EUR million	Undrawn	2017	2018	2019	2020	2021	2022–	Total drawn
Loans from financial institutions	-	63.0	79.4	10.2	209.7	-	-	362.3
Bonds	-	-	-	200.0	-	-	150.0	350.0
Revolving credit facility	400.0	-	-	-	-	-	-	0.0
Finance lease liabilities	-	0.4	0.1	-	-	-	-	0.5
Commercial paper program	600.0	-	-	-	-	-	-	0.0
Other interest-bearing current liabilities	-	94.6	-	-	-	-	-	94.6
Total interest-bearing liabilities	1,000.0	158.0	79.5	210.2	209.7	0.0	150.0	807.4

5.6. Derivative instruments

Nominal values, EUR million	Maturity structure 2018	2019	2020	2021	2022	2023–	2017 Total	2016 Total
Currency derivatives								
Forward contracts	341.4	-	-	-	-	-	**341.4**	260.9
Inflow	166.8	-	-	-	-	-	**166.8**	118.1
of which cash flow hedges	43.5	-	-	-	-	-	**43.5**	0.0
Outflow	174.7	-	-	-	-	-	**174.7**	142.8
Interest rate derivatives								
Interest rate swaps	25.0	115.0	130.0	-	-	-	**270.0**	304.8
of which cash flow hedges	25.0	15.0	130.0	-	-	-	**170.0**	204.8
of which fair value hedges	-	100.0	-	-	-	-	**100.0**	100.0
Other derivatives								
Electricity contracts, bought (GWh)	862.7	569.3	333.8	96.4	-	-	**1,862.1**	1,971.5
Electricity forward contracts	810.2	508.1	289.9	96.4	-	-	**1,704.5**	1,971.5
of which cash flow hedges	810.2	508.1	289.9	96.4	-	-	**1,704.5**	1,971.5
Electricity future contracts	52.5	61.2	43.9	-	-	-	**157.6**	0.0
of which cash flow hedges	52.5	61.2	43.9	-	-	-	**157.6**	0.0

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.

Fair values, EUR million	2017			2016		
	Positive	Negative	Net	Positive	Negative	Net
Currency derivatives						
Forward contracts	4.7	-3.7	1.0	2.8	-4.1	-1.3
of which cash flow hedges	0.8	-	0.8	-	-	-
Interest rate derivatives						
Interest rate swaps	2.7	-1.6	1.1	3.4	-2.2	1.2
of which cash flow hedges	-	-1.6	-1.6	-	-2.2	-2.2
of which fair value hedges	2.7	-	2.7	3.4	-	3.4
Other derivatives						
Electricity forward contracts, bought	6.2	-	6.2	3.8	-0.8	3.0
of which cash flow hedges	6.2	-	6.2	3.8	-0.8	3.0
Electricity future contracts, bought	-	-0.1	-0.1	-	-	-
of which cash flow hedges	-	-0.1	-0.1	-	-	-

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.

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.

All of the derivatives open on the balance sheet date are measured at their fair values. As a rule, fair value changes from open derivative contracts are recognized through profit or loss in the Consolidated Financial Statements.

Hedge accounting

According to IAS 39, hedge accounting 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. Hedge accounting is applied to hedging interest rate risk, currency risk, commodity risk and fair value. Part of currency forwards and all interest rate swaps, electricity forwards as well as electricity futures are under hedge accounting treatment.

Hedge effectiveness is monitored as required by IAS 39. 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 in the range of 80–125 percent. Hedge effectiveness is assessed both prospectively and retrospectively. 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 under IAS 39 are recognized directly in the income statement.

At the inception of a hedge, the Group has documented the existence of the hedging relationship, 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 hedges. Cash flow hedge accounting, specified in IAS 39 is applied by the Group to only selected hedging items. 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.

Fair value hedging

Fair value hedges are related to the fixed rate bond loan. Interest rate derivatives are used as instruments in fair value hedging. The fair value of the hedging derivative contracts of change in fair value are recognized in the income statement and the hedged item's book value is adjusted through profit or loss to the extent that the hedge is effective.

6. Group structure

6.1. Related parties

Parties are considered to be related if one party has the ability to control the other party or exercise significant influence, 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 Boards, the CEO and his Deputy, and their immediate family members.

Employee benefits of CEO, Deputy CEO and Members of Management Board

	Salaries and other benefits, EUR	Bonuses, EUR	Share-based payments, EUR 1)	Severance payments, EUR	2017 Total, EUR	2016 Total, EUR
CEO Jari Rosendal	567,000	324,000	-	-	891,000	1,494,177
Deputy CEO Jukka Hakkila 2)	181,653	86,502	-	-	268,155	479,272
Other members of Management Board 3)	1,595,866	929,188	-	271,544	2,796,597	4,998,347
Total	2,344,519	1,339,690	-	271,544	3,955,752	6,971,796

1) Share-based incentive plans for management and key personnel are disclosed in Note 2.3. Share-based payments.
2) Jukka Hakkila is not a member of the Management Board.
3) Members of the Management Board who are employed by a Finnish Kemira company do not have any supplementary pension arrangements in addition to the 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.

Employment terms and conditions of CEO

Remuneration of CEO comprises a monthly salary including a car benefit and a mobile phone benefit, 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 70% of the annual 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.

CEO Jari Rosendal 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. CEO's retirement age is determined by TyEL. The CEO does not have a separate supplementary pension arrangement.

A mutual termination notice period of six months applies to CEO. CEO is entitled to an additional severance pay of 12 months' salary, in case the company will terminate his service.

The Board of Directors' emoluments

On March 24, 2017, the Annual General Meeting 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 the Kemira shares owned by the company or, if this is not possible, then Kemira shares acquired from the securities market, and 60% is paid in cash. In May 2017, the shares owned by the company of 10,113 shares were distributed to the members of the Board of Directors.

There are no special terms or conditions associated with owning these 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 4)	2017 Total, EUR	2016 Total, EUR
Jari Paasikivi, Chairman	**2,742**	**32,164**	**58,722**	**90,885**	91,495
Kerttu Tuomas, Vice Chairman	**1,680**	**19,706**	**37,378**	**57,085**	57,091
Wolfgang Büchele	**1,337**	**15,683**	**33,866**	**49,549**	50,754
Winnie Fok (until March 24, 2017)	**-**	**-**	**4,800**	**4,800**	65,154
Shirley Cunningham (since March 24, 2017)	**1,337**	**15,683**	**42,266**	**57,949**	-
Juha Laaksonen (until March 24, 2017)	**-**	**-**	**2,400**	**2,400**	60,691
Timo Lappalainen	**1,680**	**19,706**	**39,778**	**59,485**	48,354
Kaisa Hietala (since March 21, 2016)	**1,337**	**15,683**	**32,066**	**47,749**	47,154
Total	**10,113**	**118,625**	**251,276**	**369,902**	420,693

4) Includes the annual fees and the meeting fees.

Transactions carried out with related parties

EUR million	2017	2016
Revenue		
Associated companies	**1.7**	1.5
Purchases		
Associated companies	**3.3**	3.3
Pension Fund Neliapila	**1.2**	1.2
Total	**4.5**	4.5
Receivables		
Associated companies	**0.2**	0.1
Liabilities		
Associated companies	**0.3**	0.3

The amount of contingent liabilities on behalf of associates are presented in Note 7.1. Commitments and contingent liabilities.

Related parties include Pension Fund Neliapila, which is a separate legal entity. Pension Fund Neliapila manages Kemira Oyj's voluntarily organized additional pension fund. Pension Fund Neliapila manages part of the pension assets of the Group's personnel in Finland. The assets include Kemira shares representing 0.07% of the company's outstanding shares. Supplementary benefit in Pension Fund Neliapila are presented in more detail in Note 4.5. Defined benefit pension plans and employee benefits.

No loans had been granted to the key persons of the management at year-end of 2016 and 2017, 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 investment 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		49.9
AS Kemivesi	Tallinn	Estonia	100.0	100.0	
CJSC "Kemira HIM"	St. Petersburg	Russia	100.0		
Corporación Kemira Chemicals de Venezuela, C.A.	Caracas	Venezuela	100.0		
Industry Park i Helsingborg Förvaltning AB	Helsingborg	Sweden	100.0		
Kemifloc a.s.	Přerov	Czech Republic	51.0		49.0
Kemifloc Slovakia S.r.o.	Prešov	Slovakia	51.0		49.0
Kemipol Sp. z o.o.	Police	Poland	51.0		49.0
Kemira (Asia) Co., Ltd.	Shanghai	China	100.0		
Kemira Argentina S.A.	Buenos Aires	Argentina	100.0	15.8	
Kemira Australia Pty Ltd	Hallam	Australia	100.0		
Kemira Cell Sp.z.o.o	Ostroleka	Poland	55.0	55.0	45.0
Kemira Chemicals (Nanjing) Co., Ltd.	Nanjing	China	100.0	100.0	
Kemira Chemicals (Shanghai) Co., Ltd.	Shanghai	China	100.0	100.0	
Kemira Chemicals (UK) Ltd.	Harrogate	United Kingdom	100.0	100.0	
Kemira Chemicals (Yanzhou) Co., Ltd.	Yanzhou City	China	100.0	100.0	
Kemira Chemicals AS	Gamle Fredrikstad	Norway	100.0		
Kemira Chemicals Brasil Ltda	São Paulo	Brazil	100.0	99.9	
Kemira Chemicals Canada Inc.	Maitland	Canada	100.0	100.0	
Kemira Chemicals Germany GmbH	Frankfurt am Main	Germany	100.0		
Kemira Chemicals Korea Corporation	Gunsan-City	Korea	100.0	100.0	

	City	Country	Kemira Group's holding %	Kemira Oyj's holding %	Non-controlling interest's holding %
Kemira Chemicals NV	Aartselaar	Belgium	100.0		
Kemira Chemicals Oy	Helsinki	Finland	100.0		
Kemira Chemicals, Inc.	Atlanta, GA	United States	100.0		
Kemira Chemie Ges.mbH	Krems	Austria	100.0	100.0	
Kemira Chile Comercial Limitada	Santiago	Chile	100.0	99.0	
Kemira Chimie S.A.S.U.	Lauterbourg	France	100.0		
Kemira Europe Oy	Helsinki	Finland	100.0	100.0	
Kemira Finance Solutions B.V.	Rotterdam	Netherlands	100.0		
Kemira Gdańsk Sp. z o.o.	Gdansk	Poland	100.0		
Kemira Germany GmbH	Leverkusen	Germany	100.0	100.0	
Kemira GrowHow A/S	Fredericia	Denmark	100.0	100.0	
Kemira Hong Kong Company Limited	Hong Kong	China	100.0	100.0	
Kemira Ibérica S.A.	Barcelona	Spain	100.0		
Kemira International Finance B.V.	Rotterdam	Netherlands	100.0		
Kemira Italy S.p.A.	San Giorgio di Nogaro	Italy	100.0		
Kemira Japan Co., Ltd.	Tokyo	Japan	100.0		
Kemira Kemi AB	Helsingborg	Sweden	100.0		
Kemira Kopparverket KB	Helsingborg	Sweden	100.0		
Kemira KTM d.o.o.	Ljubljana	Slovenia	100.0	100.0	
Kemira Nederland Holding B.V.	Rotterdam	Netherlands	100.0	100.0	
Kemira Operon Oy	Helsinki	Finland	100.0	100.0	
Kemira Rotterdam B.V.	Rotterdam	Netherlands	100.0		
Kemira South Africa (Pty) Ltd.	Weltevredenpark	South Africa	100.0		
Kemira Świecie Sp. z o.o.	Swiecie	Poland	100.0	100.0	
Kemira Taiwan Corporation	Taipei	Taiwan	100.0		
Kemira TC Wanfeng Chemicals (Yanzhou) Co., Ltd.	Yanzhou City	China	80.0		20.0

	City	Country	Kemira Group's holding %	Kemira Oyj's holding %	Non-controlling interest's holding %
Kemira (Thailand) Co., Ltd.	Bangkok	Thailand	100.0		
Kemira Uruguay S.A.	Montevideo	Uruguay	100.0		
Kemira (Vietnam) Company Limited	Long Thanh	Vietnam	100.0		
Kemira Water Danmark A/S	Esbjerg	Denmark	100.0	100.0	
Kemira Water Solutions Brasil - Produtos para Tratamento de Água Ltda.	São Paulo	Brazil	100.0	100.0	
Kemira Water Solutions Canada Inc.	Varennes Qs	Canada	100.0		
Kemira Water Solutions, Inc.	Atlanta, GA	United States	100.0		
Kemwater Brasil S.A.	Camaçari	Brazil	100.0		
Kemwater ProChemie s.r.o.	Kosmonosy	Czech Republic	95.1		4.9
PT Kemira Indonesia	Jakarta	Indonesia	100.0	74.8	
PT Kemira Chemicals Indonesia	Pasuruan	Indonesia	99.8	99.8	0.2
Scandinavian Tanking System A/S	Copenhagen	Denmark	100.0		
ZAO Avers	St. Petersburg	Russia	100.0		

Associates

	City	Country	Kemira Group's holding %	Kemira Oyj's holding %
FC Energia Oy 1)	Ikaalinen	Finland	34.0	
FC Power Oy 1)	Ikaalinen	Finland	34.0	
Haapaveden Ympäristöpalvelut Oy	Haapavesi	Finland	40.5	
Honkalahden Teollisuuslaituri Oy	Lappeenranta	Finland	50.0	

Investments in associates

EUR million	2017	2016
Net book value at 1 Jan	**1.2**	1.2
Dividends received	**-0.1**	-0.1
Share of the results of associates	**0.2**	0.1
Transferred to non-current assets classified as held-for-sale 1)	**-0.6**	-
Net book value at 31 Dec	**0.7**	1.2

1) The shares of FC Energia Oy and FC Power Oy were transferred to non-current assets classified as held-for-sale. Kemira Chemicals Oy and Leppäkosken Sähkö Oy signed a contract on January 10, 2018 with Adven Oy for the sale of the shares for FC Energia Oy and FC Power Oy. The deal is conditional and will be realized on a later date. FC Energia Oy and FC Power Oy are energy production companies that have been co-owned by Kemira (34% of shares) and Leppäkosken Sähkö (66% of shares).

Summary of the associates financial information is presented in the following table. The figures also include FC Energia Oy and FC Power Oy transferred to assets classified as held-for-sale. The presented figures equal the figures in the financial statements of the each associate, not the portion of Kemira Group.

EUR million	2017	2016
Assets	**18.1**	19.3
Liabilities	**15.6**	17.4
Revenue	**6.7**	6.6
Profit (+) / loss (-) for the period	**0.5**	0.2

Related party transactions carried out with associates are disclosed in Note 6.1. Related parties.

Non-controlling interests

EUR million	2017	2016
Net book value at 1 Jan	**12.9**	12.9
Dividends	**-6.2**	-5.8
Share of the profit for the period	**6.6**	6.1
Exchange rate differences	**0.5**	-0.3
Net book value at 31 Dec	**13.8**	12.9

Changes in the Group structure

New subsidiaries established

- Kemira established a new company Kemira (Vietnam) Company Limited in Vietnam on November 27, 2017.
- Kemira established a new company Kemira TC Wanfeng Chemicals (Yanzhou) Co., Ltd. in China on December 4, 2017.

Changes in the holdings of group companies within the Group

- Kemira Chemicals Spain, S.A. merged with and into Kemira Ibérica S.A. on January 1, 2017.
- Kemira France SAS merged with and into Kemira Chimie S.A.S.U. on January 1, 2017.
- Kemira Ibérica Sales and Marketing S.L. merged with and into Kemira Ibérica S.A. on January 1, 2017.

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 are valued at the lower of carrying amount and fair value less costs to sell. Non-current assets classified as held for sale is disclosed separately in the balance sheet.

7. Off-balance sheet items

7.1. Commitments and contingent liabilities

Commitments

EUR million	2017	2016
Assets pledged		
On behalf of own commitments	**5.7**	5.9
Guarantees		
On behalf of own commitments	**50.2**	54.4
On behalf of others	**3.9**	3.1
Operating lease commitments - the Group as lessee		
Minimum lease payments under operating leases are as follows:		
No later than 1 year	**32.2**	39.7
Later than 1 year and no later than 5 years	**84.5**	88.7
Later than 5 years	**80.9**	82.8
Total	**197.6**	211.2
Other obligations		
On behalf of own commitments	**1.0**	1.1
On behalf of associates	**0.2**	0.4

The most significant off-balance sheet investments commitments

On December 31, 2017, major amounts of contractual commitments for the acquisition of property, plant and equipment were about EUR 18.7 million (48.4) for plant investments.

Litigation

On May 19, 2014 Kemira announced that it had signed an agreement with Cartel Damage Claims Hydrogen Peroxide SA and CDC Holding SA (together “CDC”) to settle the lawsuit in Helsinki, Finland relating to alleged old violations of competition law applicable to the hydrogen peroxide business. Based on the settlement CDC withdrew the damages claims and Kemira paid to CDC a compensation of EUR 18.5 million and compensated CDC for its legal costs. The settlement also included significant limitations of liabilities for Kemira regarding the then pending legal actions filed by CDC entities in Dortmund, Germany (mentioned and settled as below) and in Amsterdam, the Netherlands (mentioned and pending as below).

On October 16, 2017 Kemira entered into a settlement with Cartel Damage Claims Hydrogen Peroxide SA settling -for its part- fully and finally the Dortmund lawsuit filed by Cartel Damage Claims Hydrogen Peroxide SA in 2009 against six hydrogen peroxide manufacturers, including Kemira, for alleged old violations of competition law in the hydrogen peroxide business. Based on the settlement Cartel Damage Claims Hydrogen Peroxide SA withdrew the damages claims against Kemira and Kemira paid to Cartel Damage Claims Hydrogen Peroxide SA as compensation and costs an amount of EUR 12.7 million.

On June 9, 2011 Kemira Oyj's subsidiary Kemira Chemicals Oy (former Finnish Chemicals Oy) has received documents where it was stated that CDC Project 13 SA has filed an action against four companies in municipal court of Amsterdam, including Kemira, asking damages for violations of competition law applicable to the old sodium chlorate business. The European Commission set on June 2008 a fine of EUR 10.15 million on Finnish Chemicals Oy for antitrust activity in the company's sodium chlorate business during 1994-2000. Kemira Oyj acquired Finnish Chemicals in 2005. The municipal court of Amsterdam decided on June 4, 2014 to have jurisdiction over the case. The said decision on jurisdiction was appealed by Kemira to the court of appeal of Amsterdam. According to the decision by the court of appeal on July 21, 2015, the municipal court of Amsterdam has jurisdiction over the case. The proceedings now continue at the municipal court of Amsterdam where Kemira is the only defendant after the other defendants have settled the claim with CDC Project 13 SA. CDC Project 13 SA claims from Kemira in its brief filed to the municipal court of Amsterdam EUR 61.1 million as damages and interests calculated until December 2, 2015 from which amount CDC Project 13 SA asks the court to deduct the share of the earlier other defendants for other sales than made by them directly, and statutory interest on so defined amount starting from December 2, 2015. Kemira defends against the claim of CDC Project 13 SA. On May 10, 2017, the municipal court of Amsterdam rendered an interim decision on certain legal aspects relating to the claims of CDC Project 13 SA. The interim decision was favorable to Kemira on matters as to applicable statute of limitations, though not supporting Kemira’s view that assignments made to CDC (allegedly giving CDC rights to present damage claims against the defendants) were invalid. CDC Project 13 SA has appealed against said interim decision and likewise Kemira has decided to file a cross-appeal accordingly.

As mentioned above the settlement between Kemira and CDC relating to the Helsinki litigation also includes significant limitations of liabilities for Kemira regarding the remaining pending legal action filed by CDC Project 13 SA in Amsterdam, the Netherlands. However, regardless of such limitations of liabilities, Kemira is currently not in a position to make any estimate regarding the duration or the likely outcome of the said process. No assurance can be given as to the outcome of the process, and unfavorable judgments against Kemira could have an adverse effect on Kemira’s business, financial condition or results of operations. Due to its extensive international operations the Group, in addition to the above referred claims, is involved in a number of other legal proceedings incidental to these operations and it does not expect the outcome of these other currently pending legal proceedings to have materially adverse effect upon its consolidated results or financial position.

The Group's accounting policies

Contingent liabilities
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 a present obligation that it is not probable that an outflow of resources embodying economic benefits will be required to settle the obligation; or 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 income statement

EUR	Note	2017	2016
		Year ended 31 December	
Revenue	2	**1,397,201,212.74**	1,364,211,556.79
Change in inventories of finished goods	4	**-568,022.30**	2,755,294.03
Other operating income	3	**7,753,556.30**	2,273,459.05
Materials and services	4	**-898,030,399.57**	-851,640,194.15
Personnel expenses	5	**-45,083,052.80**	-47,003,676.91
Depreciation, amortization and impairments	6	**-37,310,651.59**	-38,511,189.49
Other operating expenses	4	**-379,212,349.92**	-393,603,485.01
Operating profit/loss		**44,750,292.86**	38,481,764.31
Financial income and expenses	7	**4,581,712.35**	182,211,554.97
Profit/loss before appropriations and taxes		**49,332,005.21**	220,693,319.28
Appropriations	8	**-2,876,711.40**	2,694,417.39
Income taxes	9	**-5,114,362.84**	-7,605,755.19
Net profit for the period		**41,340,930.97**	215,781,981.48

Kemira Oyj balance sheet

EUR	Note	2017	2016
		As at 31 December	
ASSETS			
NON-CURRENT ASSETS			
Intangible assets	10	**66,211,164.82**	82,956,948.85
Property, plant and equipment	11	**33,317,806.89**	30,383,281.23
Investments	12		
Shares in subsidiaries		**2,123,929,283.74**	2,103,542,628.42
Receivables from Group companies		**289,459,118.13**	302,197,671.84
Other shares and holdings		**121,926,295.78**	118,574,547.83
Total investments		**2,535,314,697.65**	2,524,314,848.09
Total non-current assets		**2,634,843,669.36**	2,637,655,078.17

EUR	Note	2017	2016
		As at 31 December	
CURRENT ASSETS			
Inventories	13	**88,955,853.89**	83,345,318.15
Non-current receivables	14	**4,801,250.13**	8,624,902.31
Current receivables	14	**372,474,830.17**	290,600,971.41
Money-market investments	15	**25,000,000.00**	70,719,098.15
Cash and cash equivalents		**92,087,792.71**	57,070,058.22
Total current assets		**583,319,726.90**	510,360,348.24
Total assets		**3,218,163,396.26**	3,148,015,426.41
EQUITY AND LIABILITIES			
EQUITY	16		
Share capital		**221,761,727.69**	221,761,727.69
Share premium		**257,877,731.94**	257,877,731.94
Fair value reserve		**4,393,565.38**	2,717,240.52
Unrestricted equity reserve		**199,963,876.20**	199,963,876.20
Retained earnings		**541,296,237.49**	406,303,596.51
Net profit / loss for the financial year		**41,340,930.97**	215,781,981.48
Total equity		**1,266,634,069.67**	1,304,406,154.34
Appropriations	17	**5,823,410.28**	6,901,698.88
Obligatory provisions	18	**22,180,605.49**	21,514,581.37
LIABILITIES			
Non-current liabilities	19	**687,884,087.43**	610,798,960.37
Current liabilities	20	**1,235,641,223.39**	1,204,394,031.45
Total liabilities		**1,923,525,310.82**	1,815,192,991.82
Total equity and liabilities		**3,218,163,396.26**	3,148,015,426.41

Kemira Oyj cash flow statement

EUR	2017	2016
	Year ended 31 December	
CASH FLOW FROM OPERATING ACTIVITIES		
Net profit for the period	**41,340,930.97**	215,781,981.48
Adjustments for		
Depreciation, amortization and impairments	**37,310,651.59**	38,511,189.49
Income taxes	**5,114,362.84**	7,605,755.19
Finance expenses, net	**-4,581,712.35**	-182,211,554.97
Other non-cash items and expenses not involving cash flow	**-13,811,398.21**	11,774,509.54
Operating profit before change in working capital	**65,372,834.84**	91,461,880.73
Change in working capital		
Increase (–) / decrease (+) in inventories	**-5,610,535.74**	2,044,743.17
Increase (–) / decrease (+) in trade and other receivables	**-80,619,697.07**	30,500,627.07
Increase (+) / decrease (–) in trade payables and other liabilities	**20,647,700.65**	-20,456,698.29
Change in working capital	**-65,582,532.16**	12,088,671.95
Cash generated from operations before financing items and taxes	**-209,697.32**	103,550,552.68
Interest and other finance cost paid	**-41,411,820.71**	-27,030,509.80
Interest and other finance income received	**18,058,441.18**	21,655,705.11
Realized exchange gains and losses	**14,225,541.34**	-9,324,161.58
Dividends received	**38,166,089.45**	173,072,698.42
Income taxes paid	**-8,790,302.28**	-5,345,063.26
Net cash generated from operating activities	**20,038,251.66**	256,579,221.57

EUR	2017	2016
	Year ended 31 December	
CASH FLOW FROM INVESTING ACTIVITIES		
Acquisitions of subsidiaries and increases in subsidiary shares	**-33,386,655.32**	-19,906,487.93
Acquisitions of associated companies and other shares	**-3,624,816.00**	0.00
Purchases of intangible assets	**-13,310,322.90**	-13,498,891.85
Purchases of property, plant and equipment	**-10,191,632.11**	-4,183,211.65
Proceeds from sale of subsidiaries and other shares	**218,536.50**	38,649,269.00
Proceeds from sale of other plant, property and equipment and intangible assets	**31,030.00**	276,510.56
Change in loan receivables, net increase (–) / decrease (+)	**16,562,205.89**	-44,512,536.49
Net cash used in investing activities	**-43,701,653.94**	-43,175,348.36
Cash flow before financing	**-23,663,402.28**	213,403,873.21
CASH FLOW FROM FINANCING ACTIVITIES		
Proceeds from non-current interest-bearing liabilities (+)	**200,000,000.00**	50,000,000.00
Repayment from non-current interest-bearing liabilities (–)	**-122,914,872.94**	-40,312,606.93
Short-term financing, net increase (+) / decrease (–)	**14,305,467.34**	-110,808,548.15
Dividends paid	**-80,747,684.13**	-80,748,892.00
Received group contribution	**0.00**	2,850,000.00
Net cash used in financing activities	**10,642,910.27**	-179,020,047.08
Net increase (+) / decrease (–) in cash and cash equivalents	**-13,020,492.01**	34,383,826.13
Cash and cash equivalents at 31 Dec	**117,087,792.71**	127,789,156.37
Exchange gains (+) / losses (–) on cash and cash equivalents	**2,319,128.35**	-900,459.56
Cash and cash equivalents at 1 Jan	**127,789,156.37**	94,305,789.80
Net increase (+) / decrease (–) in cash and cash equivalents	**-13,020,492.01**	34,383,826.13

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). Changes in Finnish Accounting Act have been adopted and prior year has been reclassified accordingly. 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 according to FAS whenever it has been possible. Mainly the accounting policies are presented below, in which the practice differs from the Group's accounting policies. In other respects the Group's accounting policies are applied.

Revenue

Kemira Oyj's revenue consists of mainly revenues from the sale of goods and services. Revenue includes also intercompany service charges due to change in definition of Accounting Act effective 2016.

Other operating income

Insurance compensation received has been included in other operating income.

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 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, cash proportion of share-based incentive plans is recognized as an expense in the performance year and share proportion in the year shares are given using the average share price.

Income taxes

The Group's accounting policies are applied to income taxes and deferred tax assets and liabilities as permitted under Finnish GAAP. Deferred tax liability for the appropriations is stated in the notes to financial statements.

Lease

Lease payments are treated as rental expenses.

Financial assets, financial liabilities and derivative contracts

Reductions in capital of other non-current loans as well as loan transaction costs have been capitalized in a manner allowed by the Finnish Accounting Act. The non-expensed portion of these expenses, EUR 2.6 million (EUR 1.8 million), is included in Accrued income from others in the balance sheet.

All financial assets (including shares) and liabilities are recognized at their acquisition value or their acquisition value less write-downs, with the exception of derivative instruments, which are measured at their fair value.

Changes in the value of the financial assets and liabilities, including derivatives, are booked as a credit or charge into income statement under financial income and expenses, with the exception of other derivatives used for hedging purposes, the efficient part of which is booked to a fair value reserve. Inefficient part of other derivative instruments used for hedging purposes is booked as profit or loss into the income statement.

The valuation methods of derivative instruments are described in the Group's accounting policies and in Note 5.6 in the Consolidated Financial Statements.

Cash flow statement

The parent company's cash flow statement has been prepared in accordance with the general guidelines on cash flow by the Finnish Board of Accounting.

2. Revenue

Revenue by segments [1)]

EUR	2017	2016
Pulp & Paper	742,889,552.89	724,290,860.70
Industry & Water	400,506,429.34	399,616,249.18
Intercompany revenue	253,805,230.51	240,304,446.91
Total	**1,397,201,212.74**	1,364,211,556.79

Distribution of revenue by geographical areas as a percentage of total revenue

%	2017	2016
Finland, domicile of the parent company	28	27
Other Europe, Middle East and Africa	59	59
Americas	7	7
Asia Pacific	6	7
Total	**100**	100

1) During 2017, Oil & Mining and Municipal & Industrial segments merged under a new segment Industry & Water. Comparison figures have been reclassified to reflect the new segments.

3. Other operating income

EUR	2017	2016
Gain on the sale of property, plant and equipment	86,158.14	122,813.14
Rent income	665,790.58	975,904.36
Insurance compensation received	5,615,743.68	1,104.04
Other income from operations	1,385,863.90	1,173,637.51
Total	**7,753,556.30**	2,273,459.05

4. Operating expenses

EUR	2017	2016
Change in inventories of finished goods	**568,022.30**	-2,755,294.03
Materials and services		
Materials and supplies		
Purchases during the financial year	891,574,427.25	840,073,110.26
Change in inventories of materials and supplies	-6,836,235.36	1,690,639.92
External services	13,292,207.68	9,876,443.97
Total materials and services	**898,030,399.57**	851,640,194.15
Personnel expenses	**45,083,052.80**	47,003,676.91
Other operating expenses		
Rents	6,977,336.69	9,586,333.83
Intercompany tolling manufacturing charges	189,068,613.26	179,941,960.81
Other intercompany charges	117,143,473.54	149,981,501.52
Other expenses	66,022,926.43	54,093,688.85
Total other operating expenses	**379,212,349.92**	393,603,485.01
Total operating expenses	**1,322,893,824.59**	1,289,492,062.04

In 2017, the operating expenses included a net increase in the obligatory provisions of EUR +0.7 million (personnel expenses EUR -0.5 million, rents EUR +0.0 million and other expenses EUR +1.2 million), and in 2016, the operating expenses included a net increase in the obligatory provisions of EUR +2.0 million (personnel expenses EUR -0.3 million, rents EUR +2.4 million and other expenses EUR -0.1 million).

Deloitte network's fees and services

EUR	2017	2016
Audit fees	**453,086.38**	423,500.00
Tax services	**134,000.00**	130,530.00
Other services [1)]	**628,000.00**	412,554.00

1) In 2017, other services include fees mainly related to internal rationalization projects. In 2016, other services include fees mainly related to internal rationalization projects and AkzoNobel's global paper chemicals business acquisition.

5. Personnel expenses and number of personnel

EUR	2017	2016
Emoluments of the Board of Directors, the CEOs and his Deputy [1)]	**1,529,056.75**	2,394,141.66
Other wages and salaries	**35,677,560.04**	35,867,385.14
Pension expenses	**6,679,426.39**	6,823,398.55
Other personnel expenses	**1,197,009.62**	1,918,751.56
Total	**45,083,052.80**	47,003,676.91

1) The emolument of the Kemira Oyj's CEO was EUR 891,000 (1,494,177) including bonuses and share-based payments of EUR 324,000 (927,177). The emolument of the Kemira Oyj's Deputy CEO was EUR 268,155 (479,272) including bonuses and share-based payments of EUR 86,502 (297,619).

Other transactions between related parties are presented in Note 6.1 in the Notes to the Consolidated Financial Statements.

Personnel at 31 Dec

	2017	2016
Pulp & Paper	**107**	91
Industry & Water	**35**	36
Other, of which	**356**	366
R&D and Technology	**167**	162
Total	**498**	493
Personnel, average	**499**	495

6. Depreciation, amortization and impairments

Depreciation according to plan and impairments

EUR	2017	2016
Intangible assets		
Intangible rights	**12,672,468.34**	12,268,318.14
Other intangible assets	**17,383,638.59**	19,154,619.82
Tangible assets		
Impairment of land and water	**0.00**	109,776.05
Buildings and constructions	**420,609.68**	351,731.82
Machinery and equipment	**6,819,090.16**	6,611,898.84
Other property, plant and equipment	**14,844.82**	14,844.82
Total	**37,310,651.59**	38,511,189.49

7. Finance income and expenses

EUR	2017	2016
Dividend income		
From the Group companies	**37,331,608.45**	172,934,588.42
From others	**834,481.00**	138,110.00
Total	**38,166,089.45**	173,072,698.42
Interest income		
From the Group companies	**13,774,866.43**	14,394,515.64
From others	**2,554,642.03**	436,754.97
Total	**16,329,508.46**	14,831,270.61
Interest expenses		
To the Group companies	**-894,531.11**	-846,093.05
To others	**-17,256,731.84**	-16,928,675.43
Total	**-18,151,262.95**	-17,774,768.48
Other finance income		
From the Group companies	**396,331.05**	3,841,440.59
From others	**205,872.96**	7,610,429.09
Total	**602,204.01**	11,451,869.68
Other finance expenses		
To the Group companies 1)	**-13,000,000.00**	0.00
To others 2)	**-7,299,201.80**	-2,305,296.97
Total	**-20,299,201.80**	-2,305,296.97

EUR	2017	2016
Exchange gains and losses		
From the Group companies	**-30,151,817.32**	8,043,452.25
From others	**18,086,192.50**	-5,107,670.54
Total	**-12,065,624.82**	2,935,781.71
Total finance income and expenses	**4,581,712.35**	182,211,554.97
Exchange gains and losses		
Realized	**14,225,541.34**	-9,324,161.58
Unrealized	**-26,291,166.16**	12,259,943.29
Total	**-12,065,624.82**	2,935,781.71

1) In 2017, other finance expenses from the Group companies include impairment of subsidiary shares of EUR 13.0 million (0.0).
2) In 2017, other finance expenses from others include one-time set-up and issuance costs of EUR 5.0 million (0.0) of a bond issued in 2017.

8. Appropriations

EUR	2017	2016
Change in difference between scheduled and actual depreciation (– increase/ + decrease)		
Intangible rights	**8,188.68**	14,493.48
Other intangible assets	**-172,136.65**	1,546,056.00
Buildings and constructions	**33,369.24**	140,150.29
Machinery and equipment	**1,199,020.18**	983,870.47
Other property, plant and equipment	**9,847.15**	9,847.15
Total	**1,078,288.60**	2,694,417.39
Group contribution		
Group contributions given	**-3,955,000.00**	0.00
Total	**-3,955,000.00**	0.00
Total appropriations	**-2,876,711.40**	2,694,417.39

9. Income taxes

EUR	2017	2016
(income +, expense –)		
Income taxes, current year	**0.00**	-4,699,620.09
Income taxes, previous years	**-1,876,051.05**	336,118.20
Deferred taxes	**-3,404,571.05**	-1,134,094.13
Other taxes	**166,259.26**	-2,108,159.17
Total	**-5,114,362.84**	-7,605,755.19

10. Intangible assets

2017, EUR	Intangible rights	Goodwill	Prepayments and non-current assets under constructions	Other intangible assets	Total
Acquisition cost at 1 Jan	**87,429,502.37**	**6,181,419.27**	**3,913,735.49**	**189,998,902.96**	**287,523,560.09**
Additions	**5,549,745.60**		**7,542,827.05**	**217,750.25**	**13,310,322.90**
Decreases	**-395,536.03**			**-3,983,467.34**	**-4,379,003.37**
Transfers	**764,685.73**		**-1,504,128.28**	**739,442.55**	**0.00**
Acquisition cost at 31 Dec	**93,348,397.67**	**6,181,419.27**	**9,952,434.26**	**186,972,628.42**	**296,454,879.62**
Accumulated amortization at 1 Jan	**-37,964,014.76**	**-6,181,419.27**	**0.00**	**-160,421,177.21**	**-204,566,611.24**
Accumulated amortization relating to decreases and transfers	**395,536.03**			**3,983,467.34**	**4,379,003.37**
Amortization and impairments during the financial year	**-12,672,468.34**			**-17,383,638.59**	**-30,056,106.93**
Accumulated amortization at 31 Dec	**-50,240,947.07**	**-6,181,419.27**	**0.00**	**-173,821,348.46**	**-230,243,714.80**
Net book value at 31 Dec	**43,107,450.60**	**0.00**	**9,952,434.26**	**13,151,279.96**	**66,211,164.82**

2016, EUR	Intangible rights	Goodwill	Prepayments and non-current assets under constructions	Other intangible assets	Total
Acquisition cost at 1 Jan	72,758,028.28	6,181,419.27	12,496,146.08	183,989,932.81	275,425,526.44
Additions	5,300,284.73		3,861,735.49	394,355.93	9,556,376.15
Decreases	-599,633.99			-801,224.21	-1,400,858.20
Transfers	9,970,823.35		-12,444,146.08	6,415,838.43	3,942,515.70
Acquisition cost at 31 Dec	87,429,502.37	6,181,419.27	3,913,735.49	189,998,902.96	287,523,560.09
Accumulated amortization at 1 Jan	-26,295,330.61	-6,181,419.27	0.00	-142,067,781.60	-174,544,531.48
Accumulated amortization relating to decreases and transfers	599,633.99			801,224.21	1,400,858.20
Amortization and impairments during the financial year	-12,268,318.14			-19,154,619.82	-31,422,937.96
Accumulated amortization at 31 Dec	-37,964,014.76	-6,181,419.27	0.00	-160,421,177.21	-204,566,611.24
Net book value at 31 Dec	49,465,487.61	0.00	3,913,735.49	29,577,725.75	82,956,948.85

11. Property, plant and equipment

2017, EUR	**Land and water areas**	**Buildings and constructions**	**Machinery and equipment**	**Other property, plant and equipment**	**Prepayments and non-current assets under construction**	**Total**
Acquisition cost at 1 Jan	**1,083,492.95**	**17,430,665.63**	**102,671,637.08**	**553,073.82**	**5,329,455.27**	**127,068,324.75**
Additions	**1.00**	**406,375.55**	**2,711,509.68**		**7,073,745.88**	**10,191,632.11**
Decreases		**-76,726.10**	**-5,886,031.51**			**-5,962,757.61**
Transfers		**806,956.42**	**2,503,383.27**		**-3,310,339.69**	**0.00**
Acquisition cost at 31 Dec	**1,083,493.95**	**18,567,271.50**	**102,000,498.52**	**553,073.82**	**9,092,861.46**	**131,297,199.25**
Accumulated depreciation at 1 Jan	**-109,776.05**	**-13,482,550.60**	**-82,610,694.44**	**-482,022.43**	**0.00**	**-96,685,043.52**
Accumulated depreciation relating to decreases and transfers		**76,726.10**	**5,883,469.72**			**5,960,195.82**
Depreciation and impairments during the financial year		**-420,609.68**	**-6,819,090.16**	**-14,844.82**		**-7,254,544.66**
Accumulated depreciation at 31 Dec	**-109,776.05**	**-13,826,434.18**	**-83,546,314.88**	**-496,867.25**	**0.00**	**-97,979,392.36**
Net book value at 31 Dec	**973,717.90**	**4,740,837.32**	**18,454,183.64**	**56,206.57**	**9,092,861.46**	**33,317,806.89**

2016, EUR	Land and water areas	Buildings and constructions	Machinery and equipment	Other property, plant and equipment	Prepayments and non-current assets under construction	Total
Acquisition cost at 1 Jan	1,175,482.19	17,107,512.52	98,934,631.85	553,073.82	7,735,350.77	125,506,051.15
Additions		64,377.03	3,023,625.19		5,037,725.13	8,125,727.35
Decreases	-91,989.24	-38,411.60	-2,490,537.21			-2,620,938.05
Transfers		297,187.68	3,203,917.25		-7,443,620.63	-3,942,515.70
Acquisition cost at 31 Dec	1,083,492.95	17,430,665.63	102,671,637.08	553,073.82	5,329,455.27	127,068,324.75
Accumulated depreciation at 1 Jan	0.00	-13,156,663.18	-78,447,990.22	-467,177.61	0.00	-92,071,831.01
Accumulated depreciation relating to decreases and transfers		25,844.40	2,449,194.62			2,475,039.02
Depreciation and impairments during the financial year	-109,776.05	-351,731.82	-6,611,898.84	-14,844.82		-7,088,251.53
Accumulated depreciation at 31 Dec	-109,776.05	-13,482,550.60	-82,610,694.44	-482,022.43	0.00	-96,685,043.52
Net book value at 31 Dec	973,716.90	3,948,115.03	20,060,942.64	71,051.39	5,329,455.27	30,383,281.23

12. Investments

2017, EUR	**Shares in subsidiaries**	**Receivables from Group companies** [1)]	**Other shares and holdings**	**Total**
Net book value at 1 Jan	**2,103,542,628.42**	**302,197,671.84**	**118,574,547.83**	**2,524,314,848.09**
Additions	**33,386,655.32**		**3,624,816.00**	**37,011,471.32**
Decreases and transfers	**-13,000,000.00**	**-12,738,553.71**	**-273,068.05**	**-26,011,621.76**
Net book value at 31 Dec	**2,123,929,283.74**	**289,459,118.13**	**121,926,295.78**	**2,535,314,697.65**

2016, EUR	Shares in subsidiaries	Receivables from Group companies	Other shares and holdings	Total
Net book value at 1 Jan	2,083,703,472.85	254,707,458.08	148,222,158.17	2,486,633,089.10
Additions	19,906,487.93	68,792,697.55		88,699,185.48
Decreases and transfers	-67,332.36	-21,302,483.79	-29,647,610.34	-51,017,426.49
Net book value at 31 Dec	2,103,542,628.42	302,197,671.84	118,574,547.83	2,524,314,848.09

1) In 2017, non-current loan receivables from Group companies have been adjusted from current assets to investments, under receivables from Group companies. Reclassification has been applied also to comparison figures.

13. Inventories

EUR	**2017**	2016
Raw materials and supplies	**28,416,340.71**	21,580,105.35
Finished goods	**56,804,073.25**	57,372,095.55
Prepayments	**3,735,439.93**	4,393,117.25
Total	**88,955,853.89**	83,345,318.15

14. Receivables

Non-current receivables [1)]

EUR	**2017**	2016
Interest-free non-current receivables		
Deferred taxes	**4,801,250.13**	8,624,902.31
Total interest-free non-current receivables	**4,801,250.13**	8,624,902.31
Total non-current receivables	**4,801,250.13**	8,624,902.31

1) In 2017, non-current loan receivables from Group companies have been adjusted from current assets to investments, under receivables from Group companies. Reclassification has been applied also to comparison figures.

Current receivables

EUR	2017	2016
Interest-bearing current receivables		
From the Group companies	105,171,487.02	77,669,312.79
Total interest-bearing current receivables	**105,171,487.02**	77,669,312.79
Interest-free current receivables		
Advances paid		
To the Group companies	18,836,395.50	18,836,395.50
Total	**18,836,395.50**	18,836,395.50
Trade receivables		
From the Group companies	40,919,062.10	27,183,225.37
From others	132,879,638.68	127,246,884.44
Total	**173,798,700.78**	154,430,109.81
Accrued income		
From the Group companies	33,585,374.99	4,828,844.62
From others	25,943,780.16	24,100,931.78
Total	**59,529,155.15**	28,929,776.40
Other short-term interest-free receivables		
From the Group companies	34,646.80	525,573.92
From others	15,104,444.92	10,209,802.99
Total	**15,139,091.72**	10,735,376.91
Total interest-free current receivables	**267,303,343.15**	212,931,658.62
Total current receivables	**372,474,830.17**	290,600,971.41
Total receivables	**377,276,080.30**	299,225,873.72

Current receivables

EUR	2017	2016
Accrued income		
Interests	6,011,598.62	7,597,612.88
Taxes	4,699,272.35	2,318,381.95
Exchange rate differences	11,350,677.02	10,891,391.47
Dividends	30,000,000.00	0.00
Other	7,467,607.16	8,122,390.10
Total	**59,529,155.15**	28,929,776.40

15. Money-market investments

EUR	2017	2016
Money-market investments		
Book value	25,000,000.00	70,719,098.15
Fair value	25,000,000.00	70,719,098.15
Difference	**0.00**	0.00

Money-market investments include company's short-term investments.

16. Equity

EUR	2017	2016
Restricted equity		
Share capital at 1 Jan	**221,761,727.69**	221,761,727.69
Share capital at 31 Dec	**221,761,727.69**	221,761,727.69
Share premium account at Jan 1	**257,877,731.94**	257,877,731.94
Share premium account at 31 Dec	**257,877,731.94**	257,877,731.94
Fair value reserve at 1 Jan	**2,717,240.52**	-4,657,093.00
Cash flow hedges	**1,676,324.86**	7,374,333.52
Fair value reserve at 31 Dec	**4,393,565.38**	2,717,240.52
Total restricted equity at 31 Dec	**484,033,025.01**	482,356,700.15
Unrestricted equity reserve		
Unrestricted equity reserve at 1 Jan	**199,963,876.20**	199,963,876.20
Unrestricted equity reserve at 31 Dec	**199,963,876.20**	199,963,876.20
Retained earnings at 1 Jan 1)	**622,085,577.99**	484,949,441.70
Net profit for the period	**41,340,930.97**	215,781,981.48
Dividends paid	**-80,747,684.13**	-80,748,892.00
Share-based incentive plan		
Shares given	**118,018.71**	2,103,046.81
Shares returned	**-159,675.08**	0,00
Retained earnings and net profit for the period ending at 31 Dec	**582,637,168.46**	622,085,577.99
Total unrestricted equity at 31 Dec	**782,601,044.66**	822,049,454.19
Total equity at 31 Dec	**1,266,634,069.67**	1,304,406,154.34
Total distributable funds at 31 Dec	**782,601,044.66**	822,049,454.19

1) The company owns 2,988,935 treasury shares, the acquisition value of which totals EUR 20,119,667.69.

Change in treasury shares

	EUR	Number of shares
Acquisition value / number at Jan 1, 2017	20,119,667.69	2,988,935
Change	91,614.59	13,608
Acquisition value/number at Dec 31, 2017	**20,119,667.69**	**2,988,935**

17. Accumulated appropriations

EUR	2017	2016
Appropriations		
Appropriations in the property, plant and equipment by asset class are as follows		
Buildings and constructions	**788,423.36**	821,792.60
Machinery and equipment	**1,508,201.15**	2,707,221.32
Other property, plant and equipment	**13,201.60**	23,048.75
Intangible rights	**487,483.76**	495,672.44
Other intangible assets	**3,026,100.41**	2,853,963.77
Total	**5,823,410.28**	6,901,698.88
Change in appropriations		
Appropriations at 1 Jan	**6,901,698.88**	9,596,116.27
Change in untaxed reserves in income statement	**-1,078,288.60**	-2,694,417.39
Appropriations at 31 Dec	**5,823,410.28**	6,901,698.88

On December 31, 2017, deferred tax liabilities on accumulated appropriations were EUR 1.2 million (1.4).

18. Obligatory provisions

EUR	2017	2016
Non-current provisions		
Pension provisions	**5,886,652.00**	6,062,164.00
Other obligatory provisions		
Environmental provisions	**11,408,559.38**	10,227,914.39
Restructuring provisions	**0.00**	3,515,000.00
Total other obligatory provisions	**11,408,559.38**	13,742,914.39
Total non-current provisions	**17,295,211.38**	19,805,078.39
Current provisions		
Other obligatory provisions		
Personnel related provisions	**372,095.06**	694,011.93
Restructuring provisions	**4,513,299.05**	1,015,491.05
Total current provisions	**4,885,394.11**	1,709,502.98
Total provisions	**22,180,605.49**	21,514,581.37
Change in obligatory provisions		
Obligatory provisions at 1 Jan	**21,514,581.37**	19,484,405.66
Decrease of provisions during the year	**-1,176,185.56**	-2,740,134.67
Provisions reversed during the year	**-285,001.32**	-326,291.05
Increase during financial year	**2,127,211.00**	5,096,601.43
Obligatory provisions at 31 Dec	**22,180,605.49**	21,514,581.37

Environmental risks and liabilities are disclosed in Note 4.6 in the Notes to the Consolidated Financial Statements.

19. Non-current liabilities

EUR	2017	2016
Loans from financial institutions	**215,000,000.05**	237,095,621.37
Other non-current liabilities	**472,884,087.38**	373,703,339.00
Total	**687,884,087.43**	610,798,960.37
Long-term liabilities maturing in		
2019 (2018)	**110,000,989.43**	22,295,621.37
2020 (2019)	**205,000,000.00**	212,179,971.00
2021 (2020)	**0.00**	204,900,000.00
2022 (2021) or later	**372,883,098.00**	171,423,368.00
Total	**687,884,087.43**	610,798,960.37
Liabilities maturing in 5 years or more		
Other non-current liabilities	**372,883,098.00**	171,423,368.00
Total	**372,883,098.00**	171,423,368.00

Other non-current liabilities include EUR 100 million bond, which matures on May 27, 2019, EUR 150 million bond, which matures on May 13, 2022 and EUR 200 million bond, which matures on May 30, 2024.

20. Current liabilities

EUR	2017	2016
Interest-bearing current liabilities		
Loans from financial institutions	**20,631,201.54**	31,009,515.48
Other interest-bearing current liabilities		
To the Group companies	**987,538,883.67**	959,043,155.65
To others	**20,385,392.42**	24,197,339.16
Total interest-bearing current liabilities	**1,028,555,477.63**	1,014,250,010.29
Interest-free current liabilities		
Prepayments received		
From others	**519,600.65**	660,527.45
Total	**519,600.65**	660,527.45
Trade payables		
To the Group companies	**37,744,054.11**	42,095,195.21
To others	**91,754,465.63**	57,637,340.34
Total	**129,498,519.74**	99,732,535.55
Accrued expenses		
To the Group companies	**8,168,050.10**	7,883,757.27
To others	**59,828,187.46**	72,550,079.73
Total	**67,996,237.56**	80,433,837.00
Total other interest-free liabilities	**9,071,387.81**	9,317,121.16
Total interest-free current liabilities	**207,085,745.76**	190,144,021.16
Total current liabilities	**1,235,641,223.39**	1,204,394,031.45

EUR	2017	2016
Accrued expenses		
Salaries	**12,266,255.17**	10,893,082.28
Interests and exchange rate differences	**9,798,604.28**	12,759,960.24
Other	**45,931,378.11**	56,780,794.48
Total	**67,996,237.56**	80,433,837.00

21. Collateral and contingent liabilities

EUR	2017	2016
Guarantees		
On behalf of the Group companies		
For loans	**410,418,819.00**	401,271,034.00
For other obligations	**50,195,465.00**	54,437,160.00
On behalf of others	**3,485,607.00**	2,686,798.00
Total	**464,099,891.00**	458,394,992.00
Leasing liabilities		
Maturity within one year	**4,098,006.00**	4,968,769.00
Maturity after one year and no later than 5 years	**8,967,031.00**	12,018,709.00
Maturity after 5 years	**5,387,304.00**	5,889,076.00
Total	**18,452,341.00**	22,876,554.00

22. Shares and holdings owned by Kemira Oyj

Shares in subsidiaries

	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 GrowHow A/S	100.00	100.00
Kemira Hong Kong Company Limited	100.00	100.00
Kemira KTM d.o.o.	100.00	100.00
Kemira Nederland Holding B.V.	100.00	100.00
Kemira Operon Oy	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 - Produtos para Tratamento de Água Ltda.	100.00	100.00
PT Kemira Indonesia	100.00	74.80
PT Kemira Chemicals Indonesia	99.77	99.77

Shares and shareholders

Shares and share capital

On December 31, 2017 Kemira Oyj's share capital amounted to EUR 221.8 million and the number of shares was 155,342,557. Each share entitles to one vote at the general meeting. Kemira Oyj's shares are registered in the book-entry system maintained by Euroclear Finland Ltd.

Shareholders

At the end of 2017, Kemira Oyj had 35,571 registered shareholders (32,622). Foreign shareholding of Kemira Oyj shares increased 3% during the year and was 25.8% of the shares (25.1%), including nominee-registered holdings. Households owned 17.9% of the shares (16.0%). At year-end, Kemira held 2,988,935 treasury shares (2,975,327), representing 1.9% (1.9%) of all company shares. A list of Kemira's largest shareholders is updated monthly and can be found on the company website at **www.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 closed at EUR 11.50 at the Nasdaq Helsinki at the end of 2017 (12.13). Shares registered a high of EUR 12.44 (12.55) and a low of EUR 10.33 (8.92). The average share price of Kemira was EUR 11.47 (10.96). The share price decreased 5% during the year while Helsinki Cap index increased 7%. STOXX Chemicals (Europe), chemical sector benchmark index for Kemira increased 12% in 2017 Kemira's market capitalization, excluding treasury shares, was EUR 1,752 million at the end of the year 2017 (1,848).

In 2017, Kemira Oyj's share trading volume on Nasdaq Helsinki was 54 million (65) shares. Share turnover value decreased 12% and was EUR 614.9 million (702.7). The average daily trading volume was 215,814 (256,233) shares.

In addition to Nasdaq Helsinki, Kemira shares are traded on several alternative market places or multilateral trading facilities (MTF), for example at BATS, Chi-X and Turquoise. The total share trading in 2017 was 85 million (95) shares, of which 36% (32%) was executed on other trading facilities than on Nasdaq Helsinki. Source: Kemira.com.

Up-to-date information on Kemira's share price is available on the company's website at **www.kemira.com** > Investors.

Dividend policy and dividend distribution

Kemira's dividend policy aims to pay a stable and competitive dividend.

The company's Board of Directors will propose to the Annual General Meeting that a per-share dividend of EUR 0.53 (0.53) totaling EUR 81 million (81) be paid for the financial year 2017. The Annual General Meeting will be held on March 21, 2018. The dividend ex-date is March 22, 2018, dividend record date March 23, 2018, and payment date April 5, 2018.

In April 2017, a dividend of EUR 0.53 per share was paid for the financial year that ended December 31, 2016. The dividend record date was March 28, 2017, and the payment (EUR 81 million in total) date April 11, 2017.

Board authorizations

The Annual General Meeting on March 24, 2017 authorized the Board of Directors to decide upon repurchase of a maximum of 4,800,000 company's own shares ("Share repurchases authorization"). 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, 2017.

The AGM authorized the Board of Directors to decide to issue a maximum of 15,600,000 new shares and/or transfer a maximum of 7,800,000 company's own shares 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, 2018. The share issue authorization has been used in connection with the remuneration of Board of Directors.

Management shareholding

The members of the Board of Directors as well as the President and CEO and his Deputy held 454,215 (458,133) Kemira Oyj shares on December 31, 2017, or 0.29% (0.29%) 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 45,000 shares (40 000) on December 31, 2017. Board members are not covered by the share-based incentive plan. Members of the Management Board, excluding the President and CEO and his Deputy, held a total of 77,641 shares on December 31, 2017 (106,355), representing 0.05% (0.07%) 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 **www.kemira.com** > Investors > Corporate governance > Insiders.

Largest shareholders December 31, 2017

	Shareholder	Number of shares	% of shares and votes
1	Oras Invest Oy	28,278,217	18.2
2	Solidium Oy	25,896,087	16.7
3	Varma Mutual Pension Insurance Company	5,329,836	3.4
4	Ilmarinen Mutual Pension Insurance Company	3,238,000	2.0
5	Nordea funds	1,434,248	0.9
6	Pohjola Fund Management	1,403,177	0.9
7	Veritas Pension Insurance Company Ltd.	1,297,637	0.8
8	Etola Erkki Olavi	1,250,000	0.8
9	The State Pension Fund	990,000	0.6
10	Laakkonen Mikko	600,000	0.4
11	Säästöpankki Funds	561,418	0.4
12	OP-Henkivakuutus Ltd.	536,642	0.4
13	Aktia Funds	470,000	0.3
14	Holding Manutas Oy	400,000	0.3
15	Paasikivi Pekka	395,000	0.3
	Kemira Oyj	2,988,935	1.9
	Nominee registered and foreign shareholders	40,024,574	25.8
	Others, total	40,248,786	25.9
	Total	**155,342,557**	**100.0**

Shareholding by number of shares held December 31, 2017

Number of shares	Number of shareholders	% of shareholders	Shares total	% of shares and votes
1–100	8,637	24.3	514,591	0.3
101–500	14,959	42.0	4,118,698	2.7
501–1,000	5,701	16.0	4,397,344	2.8
1,001–5,000	5,271	14.8	11,068,718	7.1
5,001–10,000	537	1.5	3,900,966	2.5
10,001–50,000	368	1.0	7,203,461	4.7
50,001–100,000	31	0.1	2,354,524	1.5
100,001–500,000	51	0.1	10,501,334	6.8
500,001–1,000,000	6	0.0	3,911,277	2.5
1,000,001–	10	0.0	107,371,644	69.1
Yhteensä	**35,571**	**100.0**	**155,342,557**	**100.0**

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, 2017, Kemira Oyj's distributable funds are EUR 782,601,045 of which net profit for the period amounts to EUR 41,340,931.

The Board of Directors proposes to the Annual General Meeting to be held on March 21, 2018 that a dividend of EUR 0.53 per share will 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 152,353,622 shares are held outside the company, the total dividends paid would amount to EUR 80,747,420. The distributable funds of EUR 701,853,625 to be retained as equity.

There have been no material changes in the company's financial position since December 31, 2017. The liquidity of the company remains good, and the proposed dividend payment does not risk the solvency of the company.

Helsinki, February 7, 2018

Jari Paasikivi
Chairman

Kerttu Tuomas
Vice Chairman

Wolfgang Büchele

Shirley Cunningham

Kaisa Hietala

Timo Lappalainen

Jari Rosendal
CEO

Auditor's report (Translation from the Finnish original)

To the Annual General Meeting of Kemira Oyj

Report on the Audit of Financial Statements

Opinion

We have audited the financial statements of Kemira Oyj (business identity code 0109823-0) for the year ended 31 December, 2017. The financial statements comprise the consolidated statement of financial position, 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, cash flow statement and notes to the financial statements.

In our opinion

- the consolidated financial statements give a true and fair view of the group's financial performance and financial position in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU and
- 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.

According to our best knowledge and understanding all services other than the statutory audit we have provided for parent company and group companies comply with regulations governing the services other than the statutory audit in Finland. We have not provided any prohibited non-audit services re-ferred to in Article 5(1) of regulation (EU) 537/2014. All services other than the statutory audit which we have provided have been disclosed in note 2.2. to the consolidated financial statements and in note 4 to the parent company's 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 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
Goodwill impairment testing Consolidated financial statements as of 31.12.2017 includes Goodwill amounting to EUR 505,0 million. Management has conducted goodwill impairment testing and as a result of the testing conducted, Kemira has not accounted for any impairments over goodwill as at 31.12.2017. Goodwill impairment testing requires substantial management judgment over the recoverable amounts over: • estimations over the projected future cash flow • long term growth assumptions • applied discount rate. For further details over the goodwill impairment testing conducted by the management is presented in the note 3.1. within the consolidated financial statements. This matter is regarded as significant risk of material misstatement in accordance with EU Audit Regulation (537/2014) Article 10 paragraph 2 c.	As part of our audit procedures we have evaluated the estimates over the future recoverable cash flows and we have compared, that the forecasts used in the impairment tests are based on approved long term forecast and budgets approved. We have assessed the impairment testing by: • evaluating the key assumptions applied per segment applied • assessing the growth estimates and comparing them to historical performance • comparing applied discount rates to independent third party sources • assessing the sensitivity analysis over the long term assumptions and discount rate. We have also assessed the sensitivity analysis, which is disclosed in the consolidated financial statements note 3.1. In particular we considered the completeness of the disclosures regarding those CGUs with material goodwill balances and where a reasonably possible change in certain variables could lead to impairment.

Key audit matter	How our audit addressed the key audit matter
Fair value measurement of available for sale financial instruments Consolidated financial statements as of 31.12.2017 includes Available for Sale Financial assets amounting to EUR 235,8 million. This item consists mainly from shares of Pohjolan Voima Oyj (PVO) and Teollisuuden Voima Oyj (TVO) share which fair value is approximately EUR 234,3 million. Fair value measurement of these shares require substantial management judgment relating to the following estimates: • future electricity market prices in Finland • future electricity production costs • applied discount rate. For further details over the fair value measurement conducted by the management is presented in the note 3.4. within the consolidated financial statements. This matter is regarded as significant risk of materi-al misstatement in accordance with EU Audit Regula-tion (537/2014) Article 10 paragraph 2 c.	Our audit procedures included assessment of the underlying electricity price and production cost assumptions used in the management's valuation model against the available third party information. We have assessed the processes relating to fair value measurement and reasonableness of the valuation model applied by the management. We have assessed the assumptions that management has applied in the Weighted Average Cost of Capital (WACC) rate which is used as discount rate. We have compared the assumptions and estimates applied by management to other available third party estimates and assessed the reasonableness of these assumptions.

There are no significant risks of material misstatement referred to in Article 10(2c) of Regulation (EU) No 537/2014 with respect to the parent company financial statements.

Responsibilities of the Board of Directors and the Chief Executive Officer for the financial statements

The Board of Directors and the Chief Executive Officer 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 an comply with statutory requirements. The Board of Directors and the Chief Executive Officer 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 Chief Executive Officer 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 in 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 Chief Executive Officer 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 company 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 2012, and our appointment represents a total period of uninterrupted engagement of 6 years.

Other information

The Board of Directors and the Chief Executive Officer are responsible for the other information. The other information comprises information included in the Board of Directors Review and in the Annual Report, but does not include the financial statements and our report thereon. We obtained the Board of Directors Review prior to the date of the auditor's report, and the Annual Report is expected to be made available to us after the date of the auditor's report.

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 Board of Directors Review, our responsibility also includes considering whether the Board of Directors Review has been prepared in accordance with the applicable laws and regulations.

In our opinion, the information in the Board of Directors Review is consistent with the information in the information in the financial statements and the Board of Directors Review has been prepared in accordance with the applicable laws and regulations.

If, based on the work we have performed to the other information made available to us prior the issuance date of our auditor's report, we conclude that there is a material misstatement in of the information included in the other information, we are required to report this fact. We have nothing to report in this regard.

Other opinions

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, 7 February 2018

Deloitte Oy
Audit Firm

Jukka Vattulainen
Authorised Public Accountant (KHT)

Quarterly earnings performance

(The figures are unaudited)

EUR million	1–3	4–6	7–9	10–12	2017 Total	1–3	4–6	7–9	10–12	2016 Total
Revenue										
Pulp & Paper	**372.2**	**368.9**	**363.0**	**372.8**	**1,476.9**	362.4	361.1	365.2	368.6	1,457.3
Industry & Water	**237.8**	**248.3**	**259.2**	**263.8**	**1,009.1**	220.3	226.7	231.1	227.9	906.0
Total	**610.0**	**617.2**	**622.2**	**636.6**	**2,486.0**	582.7	587.8	596.3	596.5	2,363.3
EBITDA 1)										
Pulp & Paper	**45.1**	**45.1**	**34.6**	**55.1**	**179.9**	46.7	46.2	50.5	44.4	187.8
Industry & Water	**21.5**	**22.0**	**35.7**	**23.4**	**102.5**	24.4	23.1	27.8	21.1	96.4
Total	**66.7**	**67.0**	**70.2**	**78.4**	**282.4**	71.1	69.3	78.3	65.5	284.2
EBIT 1)										
Pulp & Paper	**22.9**	**23.0**	**10.4**	**30.6**	**86.9**	27.0	25.8	28.5	20.3	101.6
Industry & Water	**9.7**	**10.5**	**23.0**	**11.2**	**54.4**	12.2	9.1	15.2	8.9	45.4
Total	**32.6**	**33.5**	**33.4**	**41.8**	**141.4**	39.2	34.9	43.7	29.2	147.0
Finance costs, net	**-6.7**	**-7.7**	**-7.4**	**-7.1**	**-28.9**	-6.0	-0.3	-6.9	-5.9	-19.1
Share of the results of associates	**0.1**	**0.0**	**0.1**	**-0.1**	**0.2**	0.1	0.0	0.0	0.0	0.1
Profit before tax	**26.1**	**25.9**	**26.1**	**34.6**	**112.6**	33.3	34.6	36.8	23.3	128.0
Income taxes	**-6.3**	**-6.2**	**-6.1**	**-8.8**	**-27.4**	-7.6	-7.9	-9.5	-5.1	-30.1
Net profit for the period	**19.8**	**19.6**	**20.0**	**25.8**	**85.2**	25.7	26.7	27.3	18.2	97.9
Net profit attributable to										
Equity owners of the parent	**18.3**	**17.7**	**18.4**	**24.3**	**78.6**	24.5	25.0	25.6	16.7	91.8
Non-controlling interests	**1.6**	**1.9**	**1.7**	**1.5**	**6.6**	1.2	1.7	1.7	1.5	6.1
Net profit for the period	**19.8**	**19.6**	**20.0**	**25.8**	**85.2**	25.7	26.7	27.3	18.2	97.9
Earning per share, basic and diluted, EUR	**0.12**	**0.12**	**0.12**	**0.16**	**0.52**	0.16	0.17	0.16	0.11	0.60

1) Includes items affecting comparability.

Reconciliation of IFRS figures

(The figures are unaudited)

EUR million	1–3	4–6	7–9	10–12	2017 Total	1–3	4–6	7–9	10–12	2016 Total
Items affecting comparability in EBITDA and EBIT										
Operative EBITDA										
Pulp & Paper	**46.0**	**47.8**	**48.5**	**55.4**	**197.7**	47.9	49.3	51.8	46.3	195.3
Industry & Water	**22.9**	**29.3**	**36.0**	**25.3**	**113.6**	24.9	29.6	29.0	23.7	107.2
Total	**69.0**	**77.1**	**84.5**	**80.7**	**311.3**	72.8	78.9	80.8	70.0	302.5
Total Items affecting comparability	**-2.3**	**-10.1**	**-14.3**	**-2.2**	**-28.9**	-1.7	-9.6	-2.5	-4.5	-18.3
EBITDA	**66.7**	**67.0**	**70.2**	**78.4**	**282.4**	71.1	69.3	78.3	65.5	284.2
Operative EBIT										
Pulp & Paper	**23.8**	**25.7**	**24.4**	**30.9**	**104.8**	28.2	28.9	30.0	24.5	111.6
Industry & Water	**11.1**	**17.9**	**23.4**	**13.1**	**65.5**	12.7	17.7	16.5	11.6	58.5
Total	**34.9**	**43.6**	**47.7**	**44.0**	**170.3**	40.9	46.6	46.5	36.1	170.1
Total Items affecting comparability	**-2.3**	**-10.1**	**-14.3**	**-2.2**	**-28.9**	-1.7	-11.7	-2.8	-6.9	-23.1
Operating profit (EBIT)	**32.6**	**33.5**	**33.4**	**41.8**	**141.4**	39.2	34.9	43.7	29.2	147.0
Operative EBITDA	**69.0**	**77.1**	**84.5**	**80.7**	**311.3**	72.8	78.9	80.8	70.0	302.5
Restructuring and streamlining programs	**-1.9**	**-7.5**	**-1.2**	**-2.4**	**-13.1**	0.0	-4.3	-0.4	-1.1	-5.8
Transaction and integration expenses in acquisition	**0.1**	**0.2**	**0.3**	**-0.2**	**0.3**	-1.4	-1.9	-0.5	-1.2	-5.0
Divestment of businesses and other disposals	**0.0**	**-2.6**	**0.0**	**0.8**	**-1.9**	0.3	0.0	0.2	0.0	0.5
Other items	**-0.5**	**-0.1**	**-13.4**	**-0.3**	**-14.4**	-0.6	-3.4	-1.8	-2.2	-8.0
Total Items affecting comparability	**-2.3**	**-10.1**	**-14.3**	**-2.2**	**-28.9**	-1.7	-9.6	-2.5	-4.5	-18.3
EBITDA	**66.7**	**67.0**	**70.2**	**78.4**	**282.4**	71.1	69.3	78.3	65.5	284.2
Operative EBIT	**34.9**	**43.6**	**47.7**	**44.0**	**170.3**	40.9	46.6	46.5	36.1	170.1
Total Items affecting comparability in EBITDA	**-2.3**	**-10.1**	**-14.3**	**-2.2**	**-28.9**	-1.7	-9.6	-2.5	-4.5	-18.3
Items affecting comparability in depreciation, amortization and impairments	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	0.0	-2.1	-0.3	-2.4	-4.8
Operating profit (EBIT)	**32.6**	**33.5**	**33.4**	**41.8**	**141.4**	39.2	34.9	43.7	29.2	147.0

EUR million	1–3	4–6	7–9	10–12	2017 Total	1–3	4–6	7–9	10–12	2016 Total
ROCE and Operative ROCE										
Operative EBIT	**34.9**	**43.6**	**47.7**	**44.0**	**170.3**	40.9	46.6	46.5	36.1	170.1
Operating profit (EBIT)	**32.6**	**33.5**	**33.4**	**41.8**	**141.4**	39.2	34.9	43.7	29.2	147.0
Share of profit or loss of associates	**0.1**	**0.0**	**0.1**	**-0.1**	**0.2**	0.1	0.0	0.0	0.0	0.1
Capital Employed	**1,736.8**	**1,749.7**	**1,759.9**	**1,763.2**	**1,763.2**	1,697.8	1,709.6	1,711.5	1,718.2	1,718.2
Operative ROCE, %	**9.5**	**9.2**	**9.2**	**9.7**	**9.7**	9.7	9.8	9.8	9.9	9.9
ROCE, %	**8.1**	**8.0**	**7.3**	**8.0**	**8.0**	7.9	7.9	7.9	8.6	8.6
Net working capital										
Inventories	**230.2**	**227.1**	**224.4**	**223.8**	**223.8**	215.4	214.0	214.0	216.9	216.9
Trade receivables and other receivables	**412.8**	**419.5**	**398.6**	**418.8**	**418.8**	404.6	404.9	398.9	386.1	386.1
Excluding financing items in other receivables	**-15.1**	**-21.2**	**-18.3**	**-21.4**	**-21.4**	-26.0	-19.3	-15.3	-16.8	-16.8
Trade payables and other liabilities	**490.3**	**384.2**	**385.6**	**422.8**	**422.8**	462.3	359.1	377.5	405.2	405.2
Excluding financing items in other liabilities	**-98.4**	**-5.6**	**-11.1**	**-12.0**	**-12.0**	-119.1	-20.4	-16.7	-13.6	-13.6
Net working capital	**236.0**	**246.8**	**230.3**	**210.5**	**210.5**	250.8	260.9	236.8	194.6	194.6
Interest-bearing net liabilities										
Non-current interest-bearing liabilities	**592.1**	**690.9**	**674.5**	**669.1**	**669.1**	666.6	676.8	656.8	649.5	649.5
Current interest-bearing liabilities	**200.3**	**180.8**	**186.6**	**191.4**	**191.4**	133.7	167.4	170.7	157.9	157.9
Interest-bearing liabilities	**792.4**	**871.7**	**861.2**	**860.5**	**860.5**	800.3	844.2	827.5	807.4	807.4
Cash and cash equivalents	**131.5**	**113.7**	**160.5**	**166.1**	**166.1**	156.2	154.3	161.9	173.4	173.4
Interest-bearing net liabilities	**660.9**	**758.0**	**700.7**	**694.4**	**694.4**	644.1	689.9	665.6	634.0	634.0

Information for investors

Financial reports in 2018

Kemira will publish three financial reports in 2018.

April 27, 2018: Interim report for January–March
July 20, 2018: Half-year financial report for January–June
October 24, 2018: Interim report for January–September

The financial reports and related presentation material are available on Kemira's website at **www.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. Financial Statements can also be ordered from Kemira Oyj, Group Communications, tel. +358 10 8611.

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 Relation function is responsible for keeping the calendar up-to-date.

Annual General Meeting

Kemira's Annual General Meeting will be held on Friday, March 21, 2018 at 1.00 p.m. in Marina Congress Center, Katajanokanlaituri 6, Helsinki, Finland. A shareholder who on the record date of the Annual General Meeting, March 9, 2018, is registered in the company's shareholders' register maintained by Euroclear Finland Ltd, is entitled to attend and participate in the Annual General Meeting. Registration to the Annual General Meeting has begun on February 8, 2018 and registration instructions has been published on that day as a stock exchange release and at Kemira's web site at **www.kemira.com** > Investors > Corporate Governance > Annual General Meeting > Annual General Meeting 2018. 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 96.

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. If the book-entry account is held by Finnish Central Securities Depository Ltd, changes of address should be reported there directly.

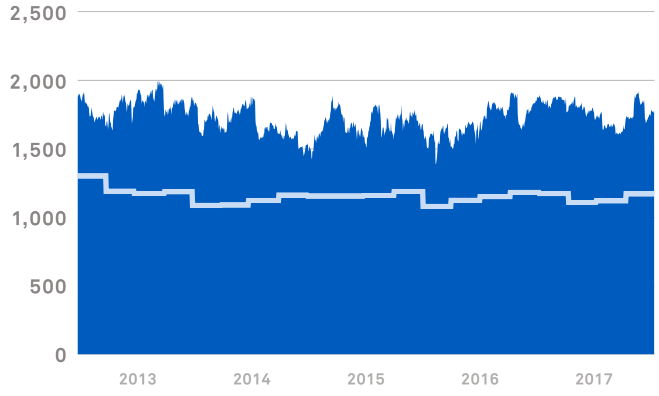
Investor relations

Olli Turunen, Vice President, Investor Relations
tel. +358 10 862 1255
e-mail: olli.turunen@kemira.com

Basic share information

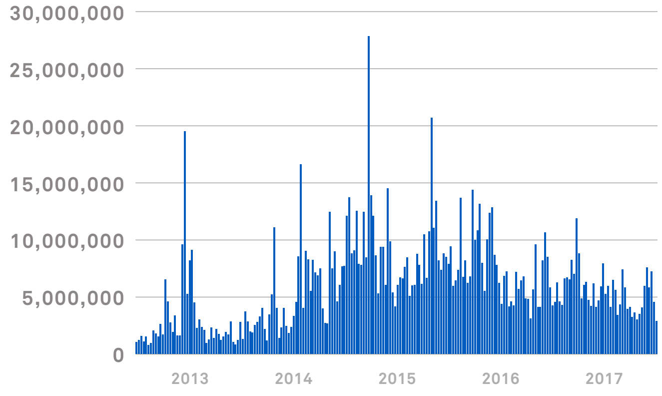
Listed on: Nasdaq Helsinki Ltd
Trading code: KEMIRA
ISIN code: FI0009004824
Industry group: Materials
Industry: Chemicals
Number of shares on December 31, 2017: 155,342,557
Listing date: November 10, 1994

Market value and equity 2013–2017
EUR million

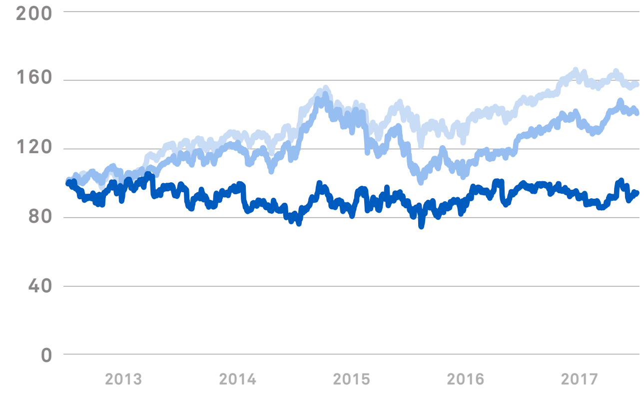


Market value
Total equity

Monthly trading volume on Nasdaq Helsinki 2013–2017
Shares

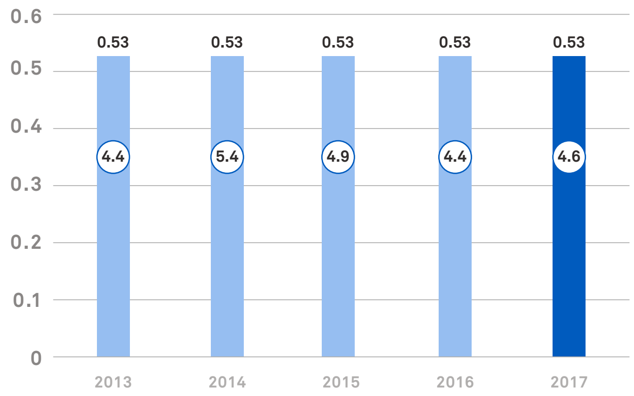


Share price 2013–2017



Kemira Oyj
Euro STOXX Chemicals
OMX Helsinki

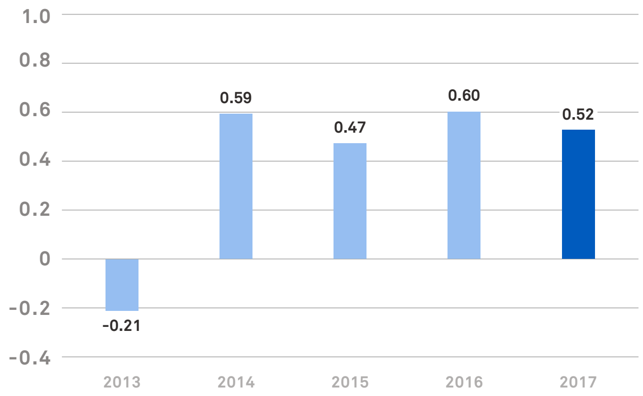
Dividend per share and dividend yield
EUR



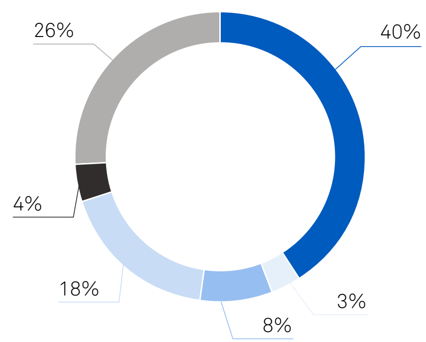
Dividend per share[1]
Dividend yield, %[1]

[1] The dividend for 2017 is the Board of Directors' proposal to the Annual General Meeting.

Earnings per share
EUR



Ownership December 31, 2017
%



Corporations
Financial and insurance corporations
General government
Households
Non-profit institutions
Non-Finnish shareholders incl. nominee register

KEMIRA IS a global chemicals company serving customers in water intensive industries. We provide expertise, application know-how and chemicals that improve our customers' product quality, process and resource efficiency. Our focus is on pulp & paper, oil & gas and water treatment. In 2017, Kemira had annual revenue of around EUR 2.5 billion and 4,730 employees. Kemira shares are listed on the Nasdaq Helsinki Ltd.

WWW.KEMIRA.COM