Kemira

Where water
meets chemistry™

GRI DISCLOSURES
2016

Kemira

Where water
meets chemistry™

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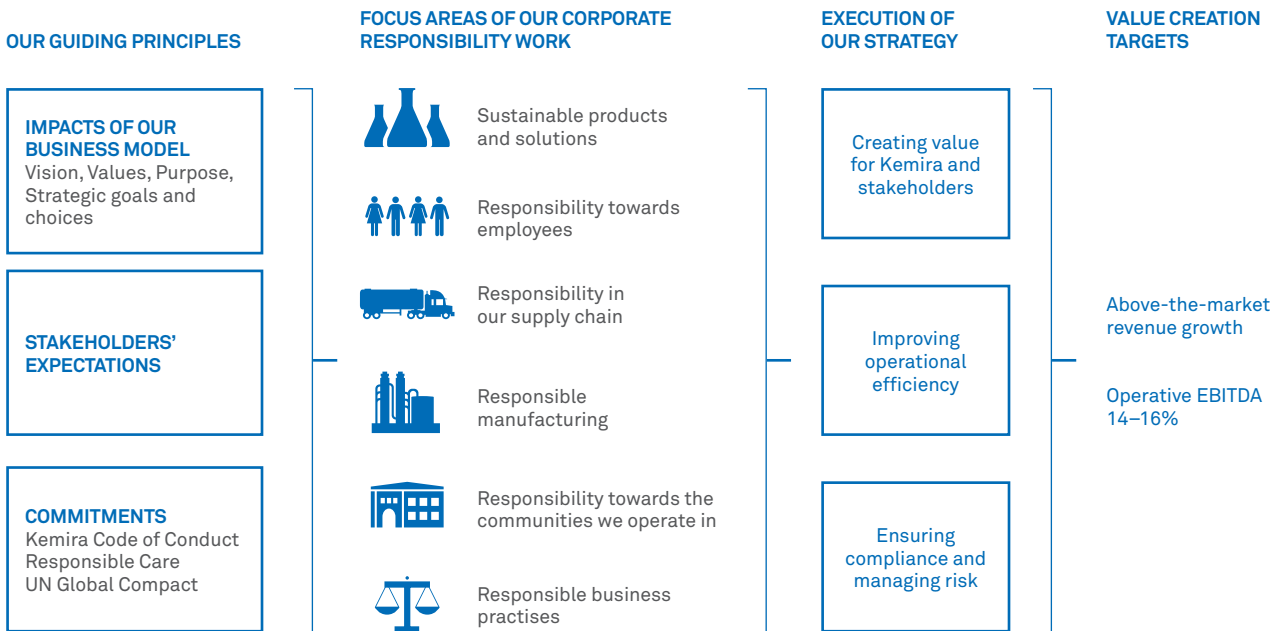
GRI disclosures provide information about our economic, environmental and social impacts caused by our business activities and how we manage these impacts. The GRI disclosures are prepared according to the sustainability reporting framework of The Global Reporting Initiative (GRI). These disclosures together with the Business Overview provide an overview on corporate responsibility at Kemira.

1 CORPORATE RESPONSIBILITY AT KEMIRA

1.1 CONTRIBUTION TO VALUE CREATION
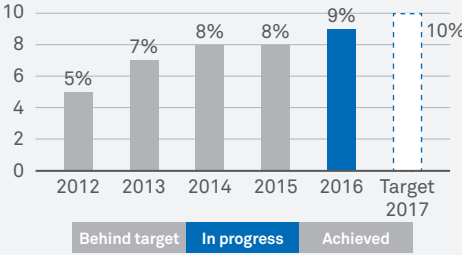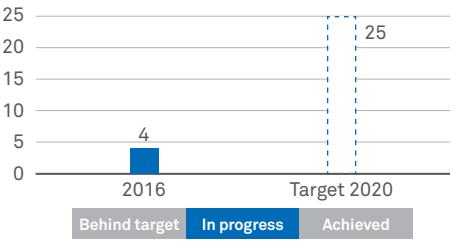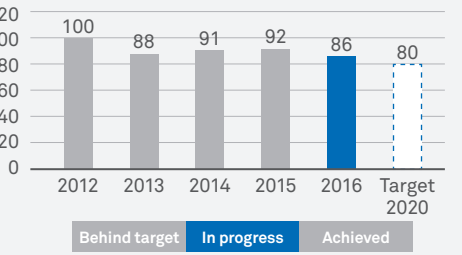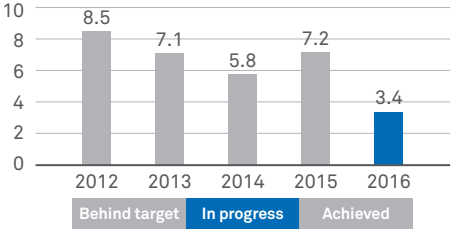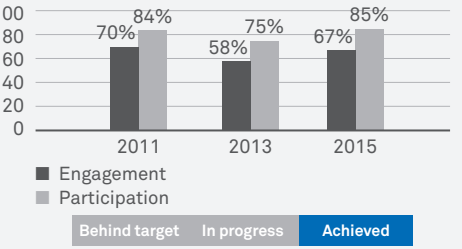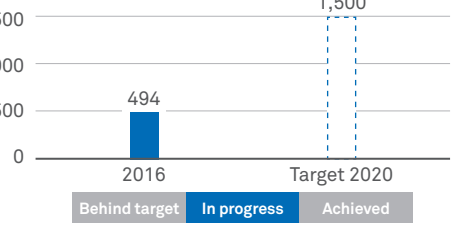
Our corporate responsibility work is guided by our strategic goals and choices, our stakeholders' expectations and our commitments to Kemira's Code of Conduct and internationally defined principles. In our corporate responsibility work, our selected focus areas, targets and key performance indicators (KPIs) all help us to execute our business strategy by creating value in the long term, improving our operational efficiency, ensuring compliance and managing risks. For Kemira, corporate responsibility means both being responsible throughout our own operations, and contributing to sustainable development all along our value chain.

OUR GUIDING PRINCIPLES

IMPACTS OF OUR BUSINESS MODEL
Vision, Values, Purpose, Strategic goals and choices

STAKEHOLDERS' EXPECTATIONS

COMMITMENTS
Kemira Code of Conduct
Responsible Care
UN Global Compact

FOCUS AREAS OF OUR CORPORATE RESPONSIBILITY WORK

Sustainable products and solutions

Responsibility towards employees

Responsibility in our supply chain

Responsible manufacturing

Responsibility towards the communities we operate in

Responsible business practises

EXECUTION OF OUR STRATEGY

Creating value for Kemira and stakeholders

Improving operational efficiency

Ensuring compliance and managing risk

VALUE CREATION TARGETS

Above-the-market revenue growth

Operative EBITDA 14–16%

1.2 TARGETS, PERFORMANCE AND RECOGNITIONS

OUR TARGETS AND PERFORMANCE IN 2016

Focus area	Topic, KPI, target value	Comments	Status
Sustainable products & solutions	**INNOVATION SALES** **Share of innovation revenue in total revenue, %** → 10% by the end of 2017 → KPI reported quarterly	Due to delays in commercialization of NPD projects the innovation sales target was slightly behind the 10% target. However, a record number of new products and new treatment concepts were launched in 2016 (14 versus 3 in 2015). Innovation sales target 10% was extended by one year until 2017.	2012: 5% 2013: 7% 2014: 8% 2015: 8% 2016: 9% Target 2017: 10% (Behind target / In progress / Achieved)
Responsibility in our supply chain	**SUPPLIER MANAGEMENT** **Number of onsite sustainability audits for highest risk suppliers** (with lowest sustainability assessment score) [1] → 5 suppliers audited every year during 2016–2020, average → KPI reported annually	The new supplier audit process was initiated, with 4 onsite audits conducted by an external service provider.	2016: 4 Target 2020: 25 (Behind target / In progress / Achieved)
Responsible manufacturing	**CLIMATE CHANGE** **Carbon index** → Kemira Carbon Index ≤ 80 by end of 2020 (2012 = 100) → KPI reported annually	The carbon index[2] improved as a result of purchased electricity sourced from less carbon-intensive sources. This improvement outweighed the negative effect of the sale of part of Kemira's holding in Pohjola Voima Oy, which entitled to nuclear power production capacity in Finland.	2012: 100 2013: 88 2014: 91 2015: 92 2016: 86 Target 2020: 80 (Behind target / In progress / Achieved)
Responsibility towards the employees	**OCCUPATIONAL HEALTH AND SAFETY** **Total Recordable Injury Frequency (TRIF)** (per million hours, Kemira + contractor, 1 year rolling average) → Achieve zero injuries (TRIF 2.0 by 2020) → KPI reported quarterly	Safety performance significantly improved due to our time and efforts invested on management commitment, employee engagement and higher visibility of safety related matters in our internal communication.	2012: 8.5 2013: 7.1 2014: 5.8 2015: 7.2 2016: 3.4 (Behind target / In progress / Achieved)
	EMPLOYEE ENGAGEMENT **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 → KPI reported biennially	Next biennial Voices@Kemira survey is being planned for 2017.	2011: Engagement 70%, Participation 84% 2013: Engagement 58%, Participation 75% 2015: Engagement 67%, Participation 85% ■ Engagement ■ Participation (Behind target / In progress / **Achieved**)
	LEADERSHIP DEVELOPMENT **Leadership development activities provided, average** → Two (2) leadership development activities per people manager position during 2016–2020 [3] → KPI reported annually	The amount of leadership development activities during 2016 was very high (494), and we are significantly ahead of our target of having 1500 development activities[4] during 2016–2020.	2016: 494 Target 2020: 1,500 (Behind target / In progress / Achieved)

[1] 117 sustainability assessments have been performed for strategic, critical and large spend suppliers.
[2] Carbon index value in 2015 was corrected from 91 to 92 due to more accurate information from few sites.
[3] The cumulative amount of leadership development required to reach two (2) leadership development activities per people manager position during 2016–2020 equals 1,500 leadership activities (when number of people manager positions is 650–850).
[4] Development activities include job rotations, coaching and mentoring, and development programs.

OUR RECOGNITIONS IN 2016

CDP

Kemira achieved a rating of Leadership (A-) in CDP's Climate Change 2016 evaluation (on a scale of A to D). This Leadership 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's approach to Corporate Social Responsibility (CSR) management was given a Gold rating by EcoVadis. To achieve this recognition, a company must have an overall score of 62–100 on a scale of 1 to 100. Kemira's score was 75. 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 CSR approach, with appropriate engagements, policies and tangible actions on major issues, as well as effective CSR Reporting on our actions and performance.

ROBECOSAM

Kemira participates in the RobecoSAM corporate sustainability assessment to understand our strengths, identify development areas, and examine how our sustainability performance is benchmarked against our peers in the chemical industry. In 2016, our score improved to 73 on a scale of 0–100 (from 71 in 2015). Our relative ranking (as a percentile) within the chemical industry is 68% (66% in 2015), indicating that Kemira's overall sustainability performance is clearly above the chemical industry average. The assessment results show that our performance is above the average both at an aggregated level and on most individual issues in the economic and environmental dimension, although within the social dimension our Human Capital Development still needs improvement to bring our performance up to the same level.

1.3 FOCUS AREAS OF OUR CORPORATE RESPONSIBILITY WORK

Our focus areas clearly reflect Kemira's priorities for managing economic, environmental and social impacts in our value chain. For each focus area we have defined key topics to facilitate our management approach. We follow the principles of continuous improvement including target setting and follow-up.

Corporate responsibility focus areas	Key topics for the management approach
Responsible business practises	• Code of Conduct, Compliance program • Anti-corruption and bribery • Human rights
Sustainable products and solutions	• Innovation for a sustainable product portfolio • Product stewardship
Responsibility towards employees	• Workplace safety – Occupational Health and Safety • Employee engagement • Leadership development
Responsibility in our supply chain	• Responsible business practices in our supply chain
Responsible manufacturing	• Reducing environmental impacts of our operations through better energy efficiency and safety of our operations
Responsibility towards the communities we operate in	• Safe neighborhood with Kemira • Engagement of our employees for the benefit of local communities

1.3.1 RESPONSIBLE BUSINESS PRACTICES

Our commitment: to ensure compliance with regulatory requirements and high ethical standards.

CODE OF CONDUCT

Our management approach for 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.

Every Kemira employee receives regular training on our Code of Conduct, which is available in 21 languages and distributed to all our employees. 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 can be found at www.kemira.com.

ETHICS AND COMPLIANCE AT KEMIRA

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 risks related to ethics and compliance:
- 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 compliance program. The status of the compliance 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 consist 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.

REPORTING MECHANISMS FOR NON-COMPLIANCE

We promote a culture that encourages our employees to speak freely. We provide everyone with a safe, secure and confidential way to express their concerns and ask questions when the usual ways are unavailable or inappropriate. Our employees have access to an externally hosted Ethics and Compliance Hotline, which is a 24/7 service enabling them to report potential violations of our Code of Conduct and any other 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. Employees can additionally report suspected non-conformities to Kemira's Ethics and Compliance function or Internal Audit function.

The email address responsibility(at)kemira.com can also 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.

NUMBER OF GRIEVANCES FILED, ADDRESSED, AND RESOLVED THROUGH FORMAL GRIEVANCE MECHANISMS* IN 2016. (GRI G4: EN34, LA16, HR12, SO11)

G4-EN34: Number of grievances about environmental impacts	In 2016, public complaints about oil leakage at the FC Power hydrogen power plant located in the Kemira´s industrial site at Joutseno, Finland. See G4-SO2.
G4-LA16: Number of grievances about labor practices	No grievances about labour practices were filed through formal grievance mechanisms in 2016, and no previously filed grievances existed that needed to be resolved.
G4-HR12: Number of grievances about human rights	Four grievances regarding human rights impacts were filed in 2016 through our Ethics and Compliance hotline. All of these grievances were addressed and resolved during 2016.
G4-SO11: Number of grievances about impacts on society	No grievances about impacts on society were filed through formal grievance mechanisms in 2016, and no previously filed grievances existed that needed to be resolved.

* The formal grievance mechanism for our employees is the Ethics and Compliance Hotline. For external stakeholders there are several channels such as contacting Kemira management directly or responsibility[at]kemira.com.

KEY ACHIEVEMENTS IN 2016

- A Group-wide Ethics and Compliance Risk Assessment was performed in 2016 aiming to gain an overall understanding of Kemira's exposure to ethics and compliance risks. The assessment mainly focused on competition compliance, anti-corruption, third party due diligence, fraud, and ethics and compliance culture. The assessment was conducted jointly with an external partner. It involved an extensive survey, interviews, a workshop, and top management valida-tion. The results suggest that Kemira has a strong culture of ethics and compliance and the compliance program has many building blocks well in place that help us to manage our compliance risks. The assess-ment recommendations enable us to develop our compliance program further.
- Kemira's Management Board approved a new Investiga-tion Procedure in July, defining a standard investigation process for the timely and appropriate evaluation of any allegations involving potential non-compliance, misconduct or fraud. Our Ethics and Compliance function is responsible for the implementation of the new procedure.
- A Data Privacy Compliance Assessment was performed to evaluate how well Kemira's current personal data processing practices meet the requirements of the EU General Data Protection Regulation (GDPR), which will become effective in spring 2018. The assessment helped us to identify and plan actions required to improve our compliance with the GDPR. Kemira has nominated a project leader to take the development actions further.
- Our Ethics and Compliance function conducted regional ethics and compliance visits during 2016. These visits aim to increase our employees' awareness of ethics and compliance matters, and spotlight the principles of ethical business conduct.
- New part-time Local Ethics and Compliance Officers were nominated in 2016 to strengthen our compliance program. Their role is to provide support locally for related activities such as communications and training, while they will also help us to resolve compliance allegations and concerns.

FOR MORE INFORMATION, SEE THE RESPECTIVE MATERIAL ASPECTS AND GRI-G4 INDICATORS
Anti-corruption (SO3, SO4, SO5)
Public policy (SO6)
Anti-competitive behaviour (SO7)
Compliance (SO8, EN29, PR9)
Non-discrimination (HR3)
Human rights assessments (HR9)

1.3.2 SUSTAINABLE PRODUCTS AND SOLUTIONS

Our commitments: to provide sustainable products and solutions for our customers enabling improved resource and process efficiency, and to ensure the safe use of our products throughout their lifecycle.

Target	Key performance indicator (KPI) and related target value
Innovation sales*	Share of innovation revenue in total revenue → 10% by the end of 2017**

* Definition of innovation sales: new chemistries, product upgrades and tailored chemistries sold into new applications, developed and launched within the last 5 years.

** Target has been extented to 2017

INNOVATING FOR A MORE SUSTAINABLE PRODUCT PORTFOLIO

Sustainable value creation is an integral part of Kemira's strategy and business. We help our customers to improve their water, energy and raw material efficiency. Innovation drivers for new products include improved product performance, a lower environmental footprint in our value chain, and improved safety throughout the product lifecycle. Our innovation work also focuses on the identification and testing of alternative, more sustainable raw materials, particularly including secondary or bio-based materials. Our open innovation approach has especially been applied to find ways to increase the use of biodegradable raw materials.

SUSTAINABILITY REVIEWS IN NEW PRODUCT DEVELOPMENT

Sustainability evaluations are integrated into our New Product Development (NPD) process. The evaluations examine the economic, environmental and social impacts of any new product, compared to existing benchmarked solutions. The NPD process starts with an idea generation and collection phase, and continues with five development stages and decision gates. Each NPD project is supported by a cross-functional steering team, who ensure that sustainability and business related factors are considered at every stage of the process.

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. The NPD project must also demonstrate better overall sustainability both for Kemira's own operations, for example in terms of raw material use, safety and energy usage, and for our customers' operations, for example in terms of better process efficiency.

KEY ACHIEVEMENTS IN INNOVATION MANAGEMENT IN 2016

- Our innovation sales were 9%, while our target is 10% share of total revenue. The improvement was supported by an increase in the number of new products and concepts (14) launched in 2016 (3 in 2015).
- NPD projects are implemented with stronger cross-functional engagement and shorter throughput time of innovation projects, to speed up the rollout of new products. The time taken to get newly launched Kemira products to the market is on a par with or sligthly shorter than the chemical industry benchmark.
- We have continued to implement the NPD process applying a wider range of sustainability criteria, and with more quantitative evaluations of sustainability benefits.
- A new Technology Roadmap was approved by the Management Board with a focus on identifying secondary bio-based raw materials for our chemicals.

PRODUCT STEWARDSHIP AS A FOUNDATION FOR OUR SUSTAINABLE PRODUCT PORTFOLIO

Product Stewardship involves the proactive management of the health, safety and environmental aspects of a product throughout its lifecycle. It covers activities related to the initial introduction of a product, its evaluation and modification during the product lifetime, and eventually also the product's withdrawal from our product portfolio.

Our customers have their own health, safety and environmental requirements for their input materials, and they typically follow several voluntary certification schemes, including ecolabelling 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. Kemira follows all such developments closely, and we take an active approach to fulfilling the expectations of different stakeholders.

KEY ACHIEVEMENTS IN PRODUCT STEWARDSHIP MANAGEMENT IN 2016

In 2016, a new Product Stewardship policy was issued. We also continued to enhance and implement our management process for priority substances. These are substances included in selected regulatory schemes with the anticipation of stricter regulation in the future, or substances seen as controversial or questionable by our stakeholders.

FOR MORE INFORMATION, SEE THE RESPECTIVE MATERIAL ASPECTS AND GRI-G4 INDICATORS
Products and services (EN27, EN28)
Customer health and safety (PR1, PR2)
Product and service labelling (PR3, PR4)
Marketing communication (PR6)
Product compliance (PR9)

FOCUS AREAS

1.3.3 RESPONSIBILITY TOWARDS EMPLOYEES

Our commitment: to ensure a safe and engaging workplace for all employees

Target	Key performance indicators (KPIs) and related target values
Occupational health and safety	Total Recordable Injury Frequency (TRIF) (per million hours, Kemira employees and contractors) → zero injuries (TRIF 2.0 by 2020)
Leadership development	Leadership development activities provided, long-term average → Two (2) leadership development activities per people manager position during 2016–2020
Employee engagement	Employee Engagement Index → Index at or above the industry norm
	Participation rate in Voices@Kemira → 75% or above

SAFETY IN THE WORKPLACE

Kemira's long-term vision for safety is "Zero harm to people" and we aim for world class safety level (TRIF 2.0) by 2020. We aim to build up a strong health and safety culture through visible management commitment and having skilled and well-trained employees. We ensure that incidents and safety observations are consistently reported, with improvements realized to address the root causes of incidents.

Our health and safety management practices are guided by our updated Environmental, Health, Safety and Quality Policy (Jan 1, 2017) which requires that Kemira's companies and operations will continue to implement and maintain management systems that meets all applicable international standards. By the end of 2016, 89% (86% in 2015) of Kemira's manufacturing sites were covered by OHSAS 18001 certification.

Our safety performance has improved as measured by the TRIF indicator (Total Recordable Injury Frequency per million hours worked), which includes fatalities, lost time injuries, restricted work cases and medical treatment

OUR SAFETY PERFORMANCE (TRIF)
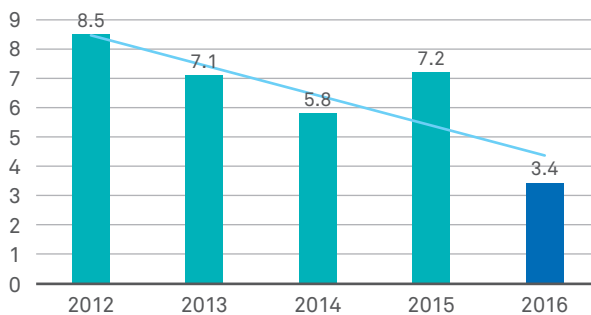
TRIF indicator = Total Recordable Injury Frequency per million hours worked, including fatalities, lost time injuries, restricted work cases and medical treatment cases involving both Kemira employees and contractors working at our sites and facilities. Contractors' injuries and working hours have been included in our TRI figures since 2014.

cases covering Kemira employees and contractors working at our sites and facilities.

In 2016, 45 people were involved in accidents (TRI) in our operations. In comparison to 2015, we were able to decrease the amount by 42%. For Kemira employees, there has been no fatalities since 2005.

During 2016, we focused on improving our health and safety culture to prevent incidents and mitigating health and safety risks. We also ran an extensive behavior based safety assessment with findings indicating that Kemira is developing well in safety culture although improvements are still needed. The Behaviour Based Safety (BBS) culture development program was initiated on a global level and the program will continue in 2017. Two BBS management workshop were organized for our top management and communication of the company safety issues has been extensive.

We also continued improvements in our internal audit and review systems. We continued the implementation of EHSQ standards for critical activities, for example the contractor management standard. We also improved incident investigations to identify root causes to learn and share, and to avoid repeating similar incidents.

In 2016, all Kemira employees had safety as an obligatory bonus KPI based on safety performance (TRIF) and near miss reporting.

EMPLOYEE ENGAGEMENT

Our Employer Brand promise, performance management, competence development, and leadership development are all central to our commitment to employee engagement and our goal of becoming an employer of choice.

EMPLOYER BRAND PROMISE

During 2016, we renewed our employer brand concept which describes our value proposition to our employees. 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 in an inspiring company, so that together we can have a major impact on the future.

EMPLOYEE ENGAGEMENT SURVEY

To follow-up on the Voices@Kemira survey in 2015, we conducted a lighter Pulse survey in Q2, 2016, with a focus on the key drivers of the employee engagement. While the results of the two surveys are not directly comparable, feedback obtained through the Pulse survey indicated that engagement levels remained positive during the period.

The results of the Voices@Kemira people survey conducted in 2015 showed that we are meeting our target to have an employee engagement index at or above the industry norm, and a participation rate of 75% or above. Improved engagement was achieved by carefully creating, implementing and monitoring action plans designed to address areas for improvement identified in the previous such survey in 2013.

EMPLOYEE ENGAGEMENT INDEX
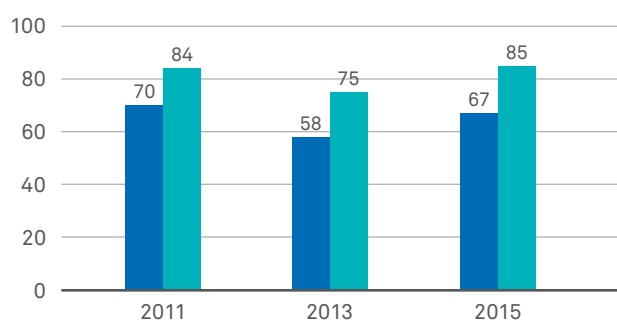
- ■ Employee engagement index, %
- ■ Participation rate, % of total employees

PERFORMANCE MANAGEMENT AND COMPETENCE DEVELOPMENT

Kemira's performance management process aligns our strategic targets with each employees' 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 required 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 2016, we completed two pilots to test a simplified approach to competence assessment, development and evaluation. We will apply the key findings from this project when we shape our Performance Development Discussion (PDD) process in 2017.

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, and provides a structured way to identify employees with potential for leadership positions. We work with this identified leadership talent to ensure we have strong development plans in place. To this end, 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 2016, a total of 494 such activities were realized (target = 300), representing a significant improvement compared to 2015.

FOR MORE INFORMATION, SEE THE RESPECTIVE MATERIAL ASPECTS AND GRI-G4 INDICATORS
Employment (LA1, LA2)
Labor/management Relations (LA4)
Occupational health and safety (LA6)
Training and education (LA9, LA10, LA11)
Diversity and equal opportunity (LA12)
Equal remuneration for women and men (LA13)
Freedom of association and collective bargaining (HR4)

FOCUS AREAS

1.3.4 RESPONSIBILITY IN OUR SUPPLY CHAIN

Our commitment: To ensure compliance with responsible business practices in our supply chain

Target	Key performance indicator (KPI) and related target value
Responsible business conduct in our supply chain	Number of onsite sustainability audits for suppliers with lowest sustainability assessment score (=highest risk) 5 suppliers with highest risk onsite audited per year (average during 2016–2020)

STRUCTURE OF OUR SOURCING AND SUPPLY CHAIN MANAGEMENT [GRI G4-12]

Our Sourcing function is globally responsible for strategic spend management, while our Supply Chain Management function provides supply chain related services on 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, which was added as criteria in 2016.
- 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 sourcing categories Direct materials and Indirect goods and services amounted to about EUR 1.8 billion in 2016. The Direct materials cover all raw materials and energy while Indirect goods and services include all non raw material related spend for example equipment, services, and logistics.

We have approximately 13,800 suppliers consisting of 1,600 Direct material suppliers and 12,200 Indirect suppliers. Despite of the large number of suppliers, approximately 10% of all suppliers account for some 80% of the total spend. Geographically approximately half of our suppliers are in Europe.

MANAGING RESPONSIBILITY IN OUR SUPPLY CHAIN

Supplier risk and compliance management, supplier performance evaluation, and supplier relationship development are cornerstones of our management approach to ensure responsibility in our supply chain.

RISK AND COMPLIANCE MANAGEMENT

- Compliance with our Code of Conduct for Suppliers, Distributors and Agents is required by all our suppliers and business partners.
- 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.
- New supplier screening is part of our New Vendor Creation process. All new potential suppliers fill in a questionnaire which checks for conflicts of interest and supplier acceptance of Kemira's Code of Conduct for Suppliers, Distributors and Agents (CoC-SDA), covering responsible business conduct, respect for human rights and provision of appropriate working conditions, and environmental responsibility. [Indicators GRI-G4-EN32; LA14; HR10; SO9 percentage of new suppliers screened.]
- Sustainability assessments. Strategic, critical or large spend suppliers undergo an assessment through an online platform provided by an external service provider.
- Sustainability and Quality Audits. Suppliers with low sustainability assessment score are audited with certified and qualified Audit Partner. Large spend suppliers undergo also quality audits, which include workplace health and safety standards, production quality and supply security.

SUPPLIER PERFORMANCE EVALUATION (SPE) PROGRAM

- The program provides our suppliers regular feedback on their operational performance. We rate our suppliers for the accuracy of invoice price and quantity, compliance to delivery terms and quality requirements, in order to identify where any improvement is needed. Supplier sustainability assessments are an established part of the overall evaluation program.

Structure of Kemira's supplier base	Direct materials	Indirect Goods and Services
Number of suppliers, approximately	**1,600**	**12,200**
EMEA	700 (44%)	6,700 (55%)
Americas	630 (39%)	4,000 (33%)
APAC	270 (17%)	1,500 (12%)
Number of suppliers that form 80% of the category spend	**180 (~10%)**	**1,220 (~10%)**

SUPPLIER RELATIONSHIP DEVELOPMENT
- Our Vendor Value Program@Kemira was launched in 2015 to support our management of strategic supplier relationships. The program is aimed to develop capabilities that will enable us to identify, partner with and manage strategic and critical suppliers along the various value chains associated with Kemira's product lines.

CODE OF CONDUCT FOR SUPPLIERS, DISTRIBUTORS AND AGENTS (COC-SDA)
———

All 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. Kemira's Sourcing and Procurement policy emphasizes that adherence to these principles is to be confirmed in writing by all repeat suppliers with an annual spend value of at least EUR 200,000 (EUR 250,000 starting from Jan 1, 2017) for indirect materials or EUR 500,000 for direct materials. Should a supplier refuse to give such a confirmation, and if Kemira cannot otherwise confirm that the supplier adheres to acceptable ethical principles, an evaluation is performed by our Sourcing personnel to assess whether we need to cease all purchases from them. Signed CoC-SDAs are registered in Kemira's contract archive. By the end of 2016, a total of 89% (93%) of Kemira's repeat suppliers had signed CoC-SDAs.

SUPPLIER SUSTAINABILITY ASSESSMENT PROGRAM
———

Our strategic, critical and large spend suppliers are requested to participate in a sustainability assessment process. The assessment platforms are provided by external third party companies which are specialized in standardized supplier sustainability evaluation based on the principles of the UN Global Compact and the Responsible Care program.

Based on the assessment results, the suppliers in the target group are classified into high, medium or low risk categories. High risk suppliers who do not comply with our Code of Conduct or meet our expectations in certain areas of their sustainability profile, are asked to implement an improvement plan, which define the corrective actions needed and an implementation timeframe. Suppliers with ongoing improvement plans are always reassessed the following year.

A total of 117 supplier sustainability assessments have been conducted since the launch of Supplier Sustainability program in 2014. Approximately 25% of total spend has been assessed. In 2016, our focus was on indirect and logistics service providers, with 43 such suppliers assessed.

SUPPLIER SUSTAINABILITY AUDITS
———

In those few cases where suppliers have failed to improve their sustainability performance to meet our standards and expectations, the suppliers are subject to sustainability audits at their own premises. In 2016, we conducted four audits in collaboration with an external service provider. Based on the audit results, a plan with corrective actions and implementation timeframe and follow-up schemes have been prepared. The corrective actions were related to health and safety and labor practices.

KEY ACHIEVEMENTS IN 2016
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- A new supplier audit process was initiated, with four audits conducted in collaboration with an external service provider.
- Kemira issued a Slavery and Human Trafficking Statement in accordance with the UK Modern Slavery Act.

FOR MORE INFORMATION, SEE THE RESPECTIVE MATERIAL ASPECTS AND GRI G4 INDICATORS
Emissions (EN17) – Scope 3 (supply chain)
Transport (EN30)

1.3.5 RESPONSIBLE MANUFACTURING

Our commitment: to improve our manufacturing operations to enhance safety and environmental protection

Target	Key performance indicator (KPI) and related target value
Climate change	Kemira Carbon Index → an index score of at least 80 by the end of 2020 (baseline year 2012 = 100)

The main environmental impacts of Kemira's manufacturing operations relate to CO_2 emissions due to high energy intensity of some of our product lines.

In 2016, our operations in Finland account for 40% of our total energy consumption, USA 33%, region South America 16%, and other countries 10%. The 14 largest manufacturing sites of our 66 operational sites during 2016 consumed 90% of the energy we use, and accounted 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 more than 80% of the electricity we purchase. Electricity prices consequently play an important role in the capacity utilization planning of our chlorate plants. The growing market for pulp has increased demand for chlorates as pulp bleaching agents, and has driven our investments in chlorate production.

KEMIRA CARBON INDEX – TARGETED REDUCTIONS IN OUR CARBON FOOTPRINT

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. Our key measures to reduce carbon dioxide (CO_2) emissions include:
- Purchasing more steam and electricity generated using renewable, or less carbon-intensive energy sources
- Shifting our use of fuels towards less carbon-intensive energy sources
- Improving energy efficiency in our manufacturing sites

In 2016, the Kemira Carbon Index decreased to 86 (baseline year 2012: 100) as we were able to source a higher share of low-carbon energy and we continued to invest in more energy efficient equipment and production lines through our E3Plus energy efficiency program. This improvement outweighed the negative effect of the sale of part of Kemira's holding in Pohjola Voima Oy, which entitled to nuclear power production capacity in Finland. The Carbon Index for 2015 was updated from 91 to 92 due to more accurate data from a few sites.

KEMIRA CARBON INDEX
Based on Scope 1 and Scope 2 emissions
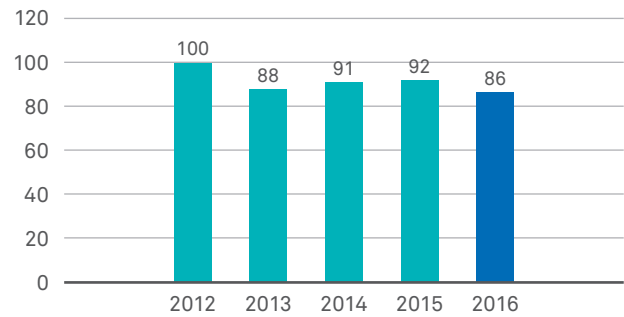
The Kemira Carbon Index measures our CO_2 performance both on a consolidated basis and for individual manufacturing sites. The index covers the CO_2 emissions of fuel consumption for direct energy production in our sites, as well as emissions from purchased steam and electricity, but it excludes direct emissions from chemical processing. The index is independent of the impacts of any changes in production volumes, but it can be affected by the product mix.

KEMIRA ENERGY EFFICIENCY INDEX

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

KEMIRA ENERGY EFFICIENCY INDEX
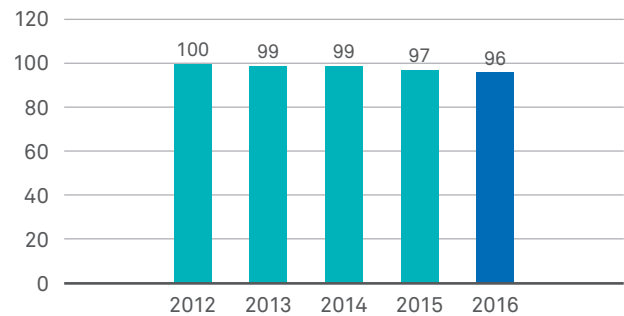
The Kemira Energy Efficiency Index measures the ratio of energy use and production normalized to a 2012 benchmark for our 14 most energy-intensive production sites (12 in 2015), which account for more than 90% of our total energy use. The index is not affected by changes in production volumes, but may be affected by the product mix.

OUR ENERGY EFFICIENCY ENHANCEMENT PROGRAM – E3PLUS

Improving energy efficiency in manufacturing is the best way for us to reduce our energy usage and related costs. Energy costs amount to approximately 10% of our total spend of sourcing.

During 2015–16 we have upgraded our E3plus Energy Efficiency Enhancement Program to step up the energy efficiency improvement work and activities started in 2010. The E3plus program aims to reduce the overall specific energy consumption of all our sites (measured as kWh per ton of product) and thereby reduce our energy costs.

The key focus areas of E3plus program are:
- Global alignment of energy efficiency management across all Kemira sites
- E3 Energy Reviews conducted to identify improvement projects and support their implementation
- Technical and economic evaluation of investement projects to improve energy efficiency
- Further development of our energy efficiency management system, facilitating ISO 50001 certification in selected major sites

Our energy efficiency measures focus on our most energy intensive sites. During 2016, we set site-specific energy efficiency targets for selected sites based on energy consumption data collected in 2015 in addition to the findings of E3 Energy Reviews.

In 2016, we also established a new global energy management team whose members represent manufacturing sites, our global energy management work, and electricity sourcing personnel. This continues strengthening our global energy efficiency and technology management work under global coordination. Our energy management team coordinates, steers and supports energy management activities across all regions.

Since the start of the E3 program in 2010, energy efficiency improvement measures have been continously implemented across Kemira's operations. In 2016, we continued to focus on manufacturing processes, with investments made in more energy efficient equipment and production lines. The continuous modernization of the process equipment used in our two highly energy-intensive chlorate plants in Finland, Joutseno and Äetsä, generated important savings. Our latest chlorate plant Ortigueira in Brazil is using the state-of-the-art energy efficient technology.

Energy savings were also achieved during 2016 through 20 projects implemented across Kemira's operations. The resulting energy savings totaled 11,068 MWh (7,664 MWh) with cost savings of EUR 0.5 million (EUR 0.3 million). The cumulative cost savings achieved through about 450 such initiatives completed globally since 2010 now total EUR 9.2 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 US. Our chlorate sites in Finland count for 41% (44%) of total purchased electricity during 2016.

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). During 2016 Kemira sold off 43.3% PVO Class B shares which represented approximately 16% of Kemira´s share of its electricity production capacity in Finland. 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 2016, Kemira received Guarantee of Origin certificates for 111,678 MWh (105,895 MWh in 2015) of electricity purchased from hydropower and wind energy suppliers. All the certificates granted to Kemira were cancelled i.e. made non-tradable, with their benefits exclusively redeemed by Kemira.

FOR MORE INFORMATION, SEE THE RESPECTIVE MATERIAL ASPECTS AND GRI-G4 INDICATORS
Materials (EN1, EN2)
Energy (EN3, EN5, EN6)
Water (EN8, EN10)
Emissions (EN15, EN16, EN17, EN18, EN19, EN20, EN21)
Effluents and waste (EN22, EN23, EN24, EN25)
Environmental expenditures and investments (EN31)
Environmental compliance (EN 29)
Local communities (SO2)

1.3.6 RESPONSIBILITY TOWARDS LOCAL COMMUNITIES

Our commitment: to establish and maintain credible relationships with local communities

Kemira is committed to create positive social impacts in communities close to our operations. Key priorities include transparency on safety and environmental impacts in the vicinity of our manufacturing sites, measures to promote chemistry and our industry as an educational and employment opportunity, and the maintenance of open dialogues with local authorities and other stakeholders.

We regularly conduct environmental impact assessments and systematic process risk assessments of our operations. We conduct assessments at every manufacturing site, as defined in regulatory requirements, the ISO 14001 management system and our own internal standards.

In our dealings with local stakeholders we emphasize transparency, trust and continuous dialogue. We also encourage our employees to engage with local community initiatives and activities on a voluntary basis.

Our Sponsorship and Donation Policy, launched in 2015 and revised in 2016, provides guidance on the permissibility, appropriateness and general acceptability of cash donations, sponsorships, contributions to community involvement initiatives and other donations made on behalf of or in the name of any Kemira company.

All our community involvement activities are locally selected, planned and implemented. Examples of local activities include open house days for local residents at our manufacturing sites, cooperation with local schools and universities, and local charity work. In 2016, Kemira organized approximately 40 local community activities.

> **FOR MORE INFORMATION, SEE THE RESPECTIVE MATERIAL ASPECTS AND GRI-G4 INDICATORS**
> Local communities (SO1, SO2)

2 OUR MANAGEMENT APPROACH

Our management approach is based on our commitments, on our stakeholders' expectations, and on the need to manage the most material impacts and risks due to our business model. Management activities are integrated into company-wide management systems.

2.1 OUR COMMITMENTS

CODE OF CONDUCT

The Kemira Code of Conduct reflects the principles of the OECD Guidelines for Multinational Enterprises. It outlines the fundamental requirements affecting how we do business, and sets standards for behavior throughout the company. 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, Agents and Distributors.

COMMITMENTS TO INTERNATIONALLY DEFINED PRINCIPLES

- The United Nations Global Compact is signed by Kemira 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.

2.2 STAKEHOLDER EXPECTATIONS

Our key stakeholders include our shareholders, lenders, customers, employees and suppliers. Other important 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 the 20 largest shareholders which own 62% of Kemira shares, 13 investors have signed the Principles of Responsible Investment representing 22% 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.

We regularly review our stakeholders' expectations and concerns to help us update our sustainability priorities. According to the most recent review, conducted in spring 2015, our stakeholders continue to highlight the importance of topics such as sustainable products, safety, employee development, business ethics and compliance, responsibility along the supply chain, and reductions in environmental impacts both in our own operations and in the value chain. These stakeholder topics are addressed through our corporate responsibility focus areas. Our approach to stakeholder engagement includes activities ranging from information sharing to active dialogue and collaboration on issues of mutual interest.

OUR MANAGEMENT APPROACH TO STAKEHOLDER ENGAGEMENT

Kemira stakeholders (G4-24)	Basis for identification and selection of stakeholders (G4-25)	Kemira's approach to stakeholder engagement (G4-26)	Key topics and concerns raised through stakeholder engagement (G4-27)	Kemira's response (G4-27)
Shareholders and lenders	• Share of value creation through dividends and interests 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. 23 roadshow days; 390 institutions were met in 225 meetings in 2016	• 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)
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 • Webinars, exhibitions and trade shows • Product testing and plant trials • Customer surveys	• Product safety • Transportation safety • Solutions to reduce environmental footprints • Sustainability risks in our supply chain • Kemira's sustainability performance	• Sustainability checks in New Product Development • Product stewardship • Transportation safety programs • Supplier Performance Evaluation program • 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.	• Biennial Voices@Kemira engagement survey, plus lighter Pulse surveys as follow-up • Performance management process • Kemira European Forum • Town hall meetings • Compliance & ethics hotline	Key topics based on the Voices 2015 survey: • Performance management and rewards • Visible role modelling emphasizing Kemira's values	• Performance and development discussions • Leadership development, skills development and training programs • Documented action plans launched in response to the findings of employee surveys
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 (supplier relationship programs)	• Our customers' expectations 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 hazards • 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	• Position paper on relevant topics such as the circular economy, water reuse and phosphorus recovery • Participation in CEFIC and its member organizations

2.3 MATERIAL IMPACTS AND RISKS DUE TO OUR BUSINESS MODEL

Our 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 relation-ships. 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 custom-ers.

OUR MATERIAL ECONOMIC IMPACTS

- 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.

OUR MATERIAL ENVIRONMENTAL IMPACTS

- Our main environmental impacts and risks concern CO_2 emissions and the safety of our operations.
- Indirect impacts of our products: Global resource scarcity is an important business driver for our custom-ers. 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 do provide solutions to enable the effective utilization of these resources with the lowest possible environmental impact.
- Direct impacts of our manufacturing: We convert input materials into products through processess causing also wastes and emissions. Some of our major product lines are very energy-intensive. The main environmental impacts of our manufacturing relate to CO_2 emissions and process safety.
- 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 supply chain: Our logistics operations involve an extensive network of suppliers and customers whose operations have environmental impacts both upstream and downstream of our operations, through processes such as transportation. We currently have 16,000 ship-to-customers in 112 countries, and a manufacturing network with 63 sites and business units in 40 countries. Our supplier base for all direct materials and supplies, logistics services and indirect materials is very extensive, covering some 13,800 suppliers. However, only a limited number of large global suppliers exist for some of our main raw materials, while for secondary raw materials (recycled or industrial by-products) we typically rely on local suppliers, who often operate in industrial symbiosis with Kemira.

OUR MATERIAL SOCIAL IMPACTS

- 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 busi-ness partners.
- Direct impacts on local communities: Our plants seldom have a dominant position in their local com-munities, for example in terms of significant employ-ment impacts, because our manufacturing units are mainly small or mid-size, and mainly located in more extensive industrial areas such as chemical parks.
- 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 the health, safety and environmental aspects of our products and manufacturing processes.
- Direct impacts on product responsibility: Our product portfolio includes about 2,400 products which must all be registered and documented according to national, regional and global legislation and standards in order to ensure they are safely used throughout their life cycle.
- 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.

OUR BUSINESS IMPACTS AND RESPECTIVE MATERIAL ASPECTS FOR PERFORMANCE DISCLOSURES

	INDIRECT IMPACTS		DIRECT IMPACTS	INDIRECT IMPACTS	
	Production of input materials and energy	**Upstream transportation**	**Kemira's own operations**	**Downstream transportation**	**Use of Kemira products**
Economic impact			Economic performance		
Environmental impacts	• **Emissions** • **Suppliers' performance** in terms of environmental impacts	• **Emissions** • **Suppliers' performance** in terms of environmental impacts	• **Materials and energy** • **Emissions** • **Effluents and wastes**	• **Emissions** • **Service providers' performance** in terms of environmental impacts	• **Emissions** • **Performance of our products and services**
Social impacts	• **Suppliers' performance** in terms of labor practices, human rights and ethical business behavior	• **Suppliers' performance** in terms of labor practices, human rights and ethical business behavior	• **Labor practices and decent work:** employment and labor relations; occupational health and safety; training and education; diversity and equal opportunity; equal remuneration for women and men • **Human rights:** non-discrimination; freedom of association and collective bargaining; human rights assessments • **Societal:** anticorruption, anticompetitive behavior, public policy, local communities • **Product responsibility:** customer health and safety; product and service labelling; marketing communications; product compliance	• **Service providers' performance** in terms of labor practices, human rights and ethical business behavior	

2.4 MANAGING OUR MATERIAL IMPACTS AND RISKS

Our management approach is guided by our Code of conduct and policies, and the systematic implementation of our integrated management systems. We regularly conduct due diligence assessments, management reviews and audits to monitor the effectiviness of our management approach. Internal and third party audits are conducted according to a defined program. Our aim is to bring together all our operational sites, our Enterprise Resource Planning (ERP) processes, our work procedures and our responsibilities under one integrated management system globally. This also includes an integrated approach to our global Environmental, Health, Safety and Quality (EHSQ) management system, which is based on the ISO 9001, ISO 14001 and OHSAS 18001 standards.

DUE DILIGENCE ASSESSMENTS AND INTERNAL AUDITS

	Key policies and principles	Due diligence processes*	Internal audits**
Economic impacts	• Tax policy	• Enterprise Risk Management process	• Evaluation of internal controls • Reliability of financial reporting • Effectiveness and efficiency of operations
Supply chain impacts	• Sourcing and procurement policy • Code of Conduct for Suppliers, Distributors and Agents	• Supplier assessment program • Trade compliance screening • Third party due diligence project initiated	
Environmental impacts	• Environmental, Health, Safety and Quality (EHSQ) Policy and Vision	• Environmental impact assessments • Process hazard analysis • Legal compliance audits • Stakeholder surveys	• Management system audits • Process safety audits • E3 Energy reviews at site level • Group energy reviews in alignment with ISO 50001 • Self-assessments
Social impacts	• EHSQ Policy • Product stewardship policy • Compensation approval policy • Competition law compliance policy • Gifts, entertainment and bribery policy	• Behavior based safety program • Human Rights Impact Assessment 2014 • Priority substance identification and prioritization 2015 • Stakeholder surveys	• Site specific EHS audits • Product regulatory compliance at manufacturing sites • Internal legal compliance audits • Internal management system audits
Governance, compliance and ethics	• Code of Conduct	• Ethics and compliance survey 2016 • Non-compliance management (investigation procedure and Compliance Committee) • Legal compliance audits > due diligence	• Evaluation of internal controls

* Due diligence: proactive process to identify the actual and potential negative social, environmental and economic impacts of an organization's decisions and activities, with the aim of avoiding and mitigating negative impacts.

** Internal audit is performed within an organization to measure its strengths and weaknesses against its own procedures or methods and/or against external standards adopted by (voluntary) or imposed on (mandatory) the organization. An internal audit is conducted by auditors who are employed by the organization being audited.

OUR EHSQ MANAGEMENT SYSTEM

The effective management of Environmental, Health, Safety and Quality (EHSQ) issues is a fundamental aspect of our efforts to conduct our business in a responsible way.

KEMIRA'S VALUE RELATING TO EHSQ:
We care for people and the environment

KEMIRA´S EHSQ VISION:
Zero environmental harm
Zero harm to people
Customer Satisfaction

Our EHSQ policy applies to all Kemira's locations and operations – and also to anyone working on behalf of Kemira or in alliance with Kemira. The policy sets out our commitment to continuously enhance our health and safety performance, reduce harmul environmental impacts, enhance our energy efficiency, improve customer satisfaction levels, and eliminate quality failures. The updated EHSQ policy (Jan 1, 2017) requires that Kemira's companies and operations will continue to implement and maintain management systems that meets all applicable international standards.

Our EHSQ management system covers our value chain processes all the way from our suppliers to our customers, to ensure that all of the environmental, health and safety and quality aspects are well managed. Related key performance indicators (KPIs) and annual improvement targets are set at global, regional and site level, and we conduct monthly KPI monitoring and quarterly management reviews on a regional basis.

MAIN SCOPE OF EHSQ MANAGEMENT SYSTEMS:

Environmental impact	ISO 14001
Health and safety	OHSAS 18001
Customer satisfaction	ISO 9001

Our EHSQ management system is externally audited through a three-year audit scheme. In 2016, the auditors examined 77 site locations (77 in 2015), including manufacturing sites, major office locations and R&D centers. The certification rates for manufacturing site locations were 91% (88%) for ISO 9001, 89% (86%) for ISO 14001, and 89% (86%) for OHSAS 18001.

CERTIFIED MANUFACTURING SITES, %
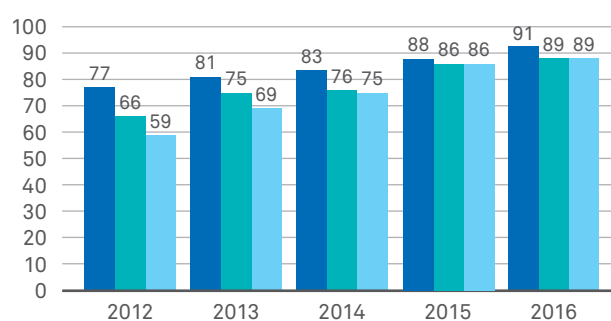
- ISO 9001 certification
- ISO 14001 certification
- OHSAS 18001 certification

Total number of manufacturing sites 63 at the end of 2016.

Kemira implements a Plan, Do, Check, Act (PDCA) process of the EHSQ management system as part of our commitment to achieve continual improvement. The process includes conducting internal and external audits of our manufacturing plants, research and development facilities, and offices. Kemira also reviews (and updates as necessary) the EHSQ standards, procedures, policies, and related elements that are part of the management system. Kemira has developed a global EHSQ Document Management System (DMS) to manage and maintain our controlled documents, records, and archived documents created as part of this process.

In 2016, Kemira updated and approved standards for Contractor Management, Emergency Planning and Preparedness, Field Sales EHS, Management Review and Management System Auditing, Process Safety, and Transportation EHS. In addition, EHSQ developed a Spill Prevention Standard that will be approved and published in the first quarter of 2017.

OUR ENERGY MANAGEMENT SYSTEM

Our energy policy is part of our EHSQ policy.
- Major energy consuming sites in the European Union must be certified under ISO 50001 to meet the requirements of the EU's Energy Efficiency Regulation. Our Helsingborg site in Sweden, Äetsä and Joutseno sites in Finland, and Kemira Oyj's energy management system in Europe are duly certified through ISO 50001 energy management schemes.

2.5 GOVERNANCE OF OUR CORPORATE RESPONSIBILITY MANAGEMENT APPROACH

RESPONSIBILITY FOR ECONOMIC, ENVIRONMENTAL AND SOCIAL TOPICS
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GRI G4: G4-34, G4-36

Our CEO is ultimately accountable for sustainability and overall performance of our corporate responsibility targets. The CEO reports on these issues directly to Kemira's Board of Directors.

Our Management Board approves our corporate responsibility targets and key performance indicators (KPIs). 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. The targets and their respective KPIs are reviewed annually, with performance follow-ups made on a quarterly basis and externally reported.

Responsibilities for individual targets are shared between the members of the Management Board (MB), as outlined below. Segments and functions are responsible for their implementation and for driving performance.

Areas of accountability	Responsibility by position
• Responsible business practices • Ethics and compliance	Group General Counsel (reports directly to the CEO and is a secretary of the MB, though not a member of the MB)
• Economic impact (Tax policy, Dividend policy)	Chief Financial Officer
• Responsible sourcing • Climate Change (Emissions based on purchased energy, Scope 2) • Sustainable products and solutions: Product stewardship	EVP, Operational Excellence
• Energy efficiency • Climate Change (Emissions from our own energy production, Scope 1) • Safety	EVP, Projects & Manufacturing Technology
• Leadership and employee engagement	EVP, Human Resources
• Sustainable products and solutions: Innovation	Chief Technology Officer
• Local community engagement • Corporate responsibility function	SVP, Communications & Corporate Responsibility (reports directly to the CEO, but is not a member of the MB)

ORGANIZATION AND ROLE OF KEMIRA'S CORPORATE RESPONSIBILITY FUNCTION
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The Corporate Responsibility function, led by the Director, Corporate Responsibility is responsible for managing company-wide processes including:
- Identifying, understanding and managing the most significant economic, environmental and social impacts of our business activities
- Defining our corporate responsibility priorities and targets
- Coordinating, monitoring and reporting on activities related to our corporate responsibility targets
- Coaching and supporting the organization
- Engaging in stakeholder dialogue on sustainability matters
- Establishing processes, tools and metrics to ensure our compliance with relevant external norms and standards, guidelines and expectations.

The Corporate Responsibility Management Team, chaired by Director, Corporate Responsibility, supports and coordinates the implementation of our corporate responsibility targets. The members of the team represent the organizational units that are responsible for the implementation and business integration of these targets, and for management and performance follow-up in their respective organizational units. They also help to prepare proposals for target updates and KPIs for approval by Kemira's Management Board, and support the quarterly performance reporting process.

3 OUR PERFORMANCE INDICATORS

3.1 ECONOMIC PERFORMANCE INDICATORS

MATERIAL ASPECT: ECONOMIC PERFORMANCE
G4-EC1: DIRECT ECONOMIC VALUE GENERATED AND DISTRIBUTED
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Kemira generates economic value from expertise, products and sustainable solutions where water meets chemistry 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 increased to EUR 184 million (160) due to sale of electricity assets.

Stakeholder	Economic value, EUR million (cash flow based)	2016	2015	2014	2013	2012
	Direct economic value generated					
Customers	Income received from customers on the basis of products and services sold, and financial income	2,386	2,350	2,100	2,268	2,312
	Direct economic value distributed					
Suppliers	Payments to suppliers of raw materials, goods and services	1,701	1,709	1,684	1,686	1,737
Employees	Employee wages and benefits paid	364	356	283	327	340
Investors & lenders	Dividends, interests paid and financial expenses paid	114	113	112	113	114
Government & Public sector	Corporate income taxes paid	23	12	33	27	30
	Economic value retained	184	160	-12	115	91

Community investments were EUR 0.32 million in 2016 through sponsorships and donations.

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 by three 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 2016.

OUR APPROACH TO TAX
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Business rationale: We are a responsible corporate citizen in all our operating countries. Kemira's tax approach supports responsible business performance. Our tax approach is based on our values, corporate strategy, the Kemira Code of Conduct and our tax policies. We target upfront certainty on our tax positions. We do not operate in tax haven countries for tax reasons.

Compliance: Our principle is to strictly comply and pay taxes in accordance with all relevant tax laws and regulations as well as international best practices in all jurisdictions where we operate. In addition to corporate income taxes, Kemira pays other taxes, including e.g. payroll taxes, social security contributions, property taxes, with holding taxes, value added taxes, and customs duties.

Transparency and relationships with tax authorities: Transparency is an inherent part of our tax strategy. We are committed to high quality tax declarations and reporting by observing applicable disclosure, documentation and reporting requirements such as IFRS. We seek to develop and maintain good working relationships with the tax authorities. We aim at open and constructive dialogue with them to ensure effective cooperation.

ECONOMIC VALUE DISTRIBUTED BY REGIONS

REVENUE BY CUSTOMER LOCATION
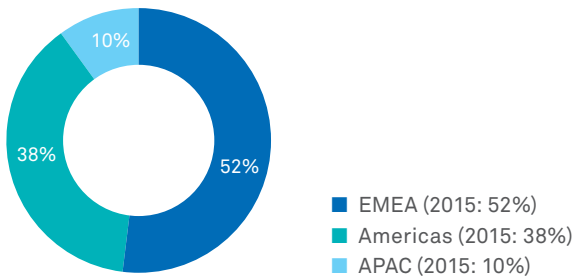
10%
38%
52%

- EMEA (2015: 52%)
- Americas (2015: 38%)
- APAC (2015: 10%)

PAYMENTS TO SUPPLIERS OF RAW MATERIALS, GOODS AND SERVICES

10%
39%
51%

- EMEA (2015: 53%)
- Americas (2015: 38%)
- APAC (2015: 9%)

EMPLOYEE WAGES AND BENEFITS

7%
39%
54%

- EMEA (2015: 54%)
- Americas (2015: 39%)
- APAC (2015: 7%)
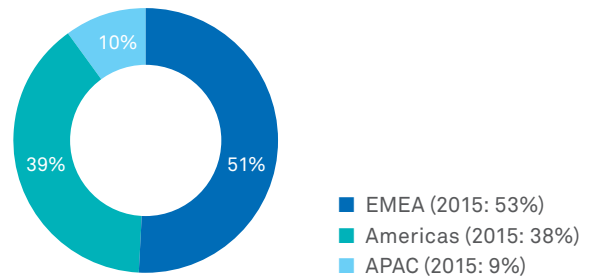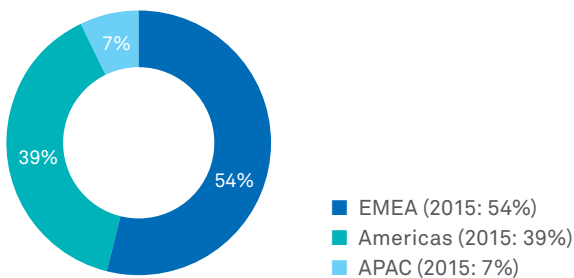
CORPORATE INCOME TAXES, MILLION EUR

- 2016
- 2015
- 2014
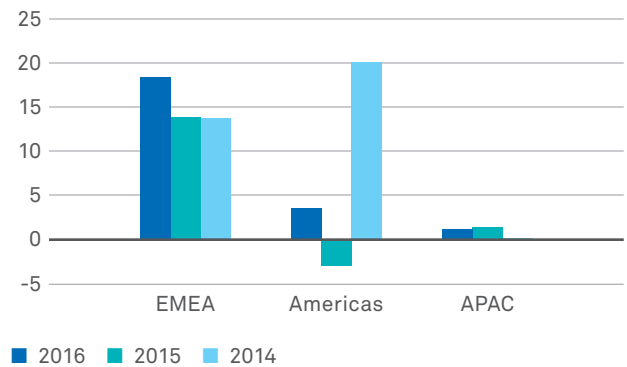
In 2015, Americas was refunded the overpaid taxes of 2014

Transfer pricing: Kemira applies the arm's length principle in intra-group transactions and targets an appropriate remuneration of activities amongst related parties in accordance with internationally accepted standards, such as the OECD Transfer Pricing Guidelines.

Our OECD BEPS action plan: Kemira follows closely and is committed to comply with the OECD BEPS (Base Erosion and Profit Shifting) requirements and related legislative changes. Kemira has evolved its documentation and compliance processes to fulfill new transfer pricing documentation and Country-by-Country Reporting requirements.

G4-EC3: COVERAGE OF THE ORGANIZATION'S DEFINED BENEFIT PLAN OBLIGATIONS

The coverage of Kemira's defined benefit plans are reported in the Notes to the Consolidated Financial Statements: Note 22 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.

G4-EC4: FINANCIAL ASSISTANCE RECEIVED FROM GOVERNMENT

Financial assistance received from governments is reported in the Notes to the Consolidated Financial Statements: Note 4 Operating expenses. Kemira received EUR 0.8 million (EUR 1.2 million) in government grants for R&D in 2016 in Finland.

3.2 ENVIRONMENTAL PERFORMANCE INDICATORS

MATERIAL ASPECT: MATERIALS
G4-EN1: MATERIALS USED BY WEIGHT OR VOLUME
—

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

G4-EN1: MATERIALS USED BY WEIGHT, 1,000 tonnes	2016	2015	2014	2013
Total materials purchased	3,536	3,293	3,276	3,521
Non-renewable materials	3,458	3,222	3,217	3,462
Renewable materials	78	71	59	59
Share of renewable materials, %	2.2%	2.2%	1.8%	1.7%

G4-EN2: PERCENTAGE OF MATERIALS USED THAT ARE RECYCLED INPUT MATERIALS
—

In 2016, approximately 27% of raw materials across all Kemira business segments were recycled input materials (secondary raw materials) which were recycled materials and industrial by-products mainly from smelters, as well as steel and metal manufacturing. The secondary raw materials used included inorganic materials such as scrap iron, ferrous sulphate and pickling liquor bath; and organic materials such as tall oil and by-product fatty alcohols. In the production of inorganic coagulants (the product group used in water treatment), secondary raw materials were accounted for approximately 80% of all raw materials used.

G4-EN2: RECYCLED INPUT MATERIALS, 1,000 tonnes	2016	2015	2014	2013
Total materials purchased	3,536	3,293	3,276	3,521
Industrial by-products and recycled material from external partners	945	904	897	911
Share of by-product and recycled materials, %	26.7%	27.5%	27.4%	25.9%

ENERGY AND EMISSIONS

SUMMARY OF OUR ENERGY CONSUMPTION AND EMISSIONS

ENERGY BALANCE IN 2016
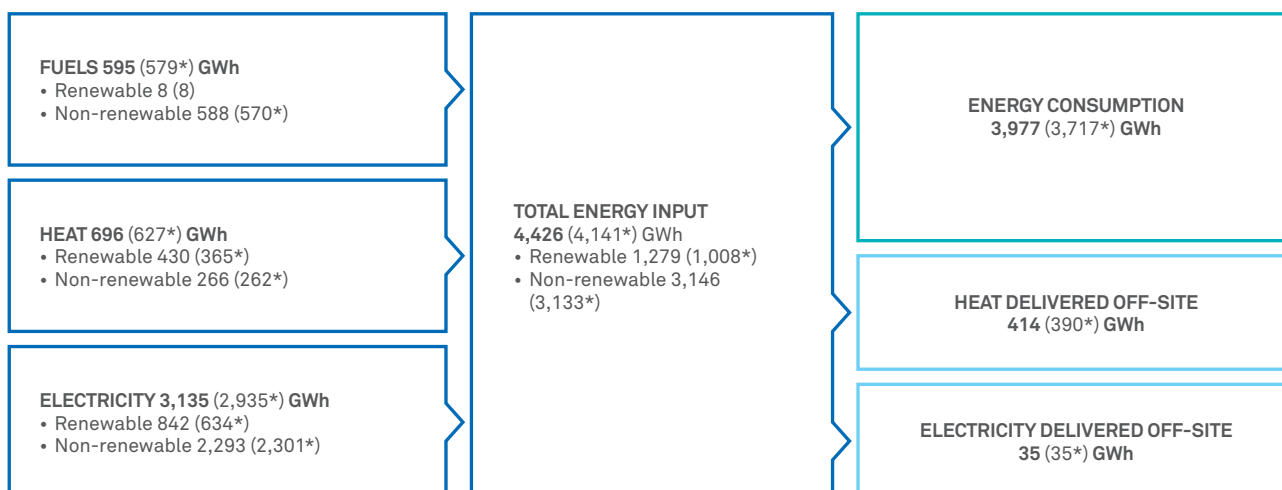
FUELS 595 (579*) **GWh**
• Renewable 8 (8)
• Non-renewable 588 (570*)

HEAT 696 (627*) **GWh**
• Renewable 430 (365*)
• Non-renewable 266 (262*)

ELECTRICITY 3,135 (2,935*) **GWh**
• Renewable 842 (634*)
• Non-renewable 2,293 (2,301*)

TOTAL ENERGY INPUT
4,426 (4,141*) GWh
• Renewable 1,279 (1,008*)
• Non-renewable 3,146 (3,133*)

ENERGY CONSUMPTION
3,977 (3,717*) **GWh**

HEAT DELIVERED OFF-SITE
414 (390*) **GWh**

ELECTRICITY DELIVERED OFF-SITE
35 (35*) **GWh**

* More accurate information on usage of fuel and electricity at few sites.

ENVIRONMENTAL PERFORMANCE INDICATORS

ENERGY CONSUMPTION BY GEOGRAPHY IN 2016

- Finland 40%
- USA 33%
- Other countries 26%
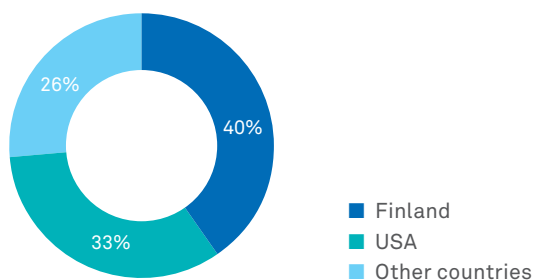
EMISSIONS BY GEOGRAPHY IN 2016

Scope 1 and Scope 2, market-based

- Finland 27%
- USA 46%
- Other countries 27%
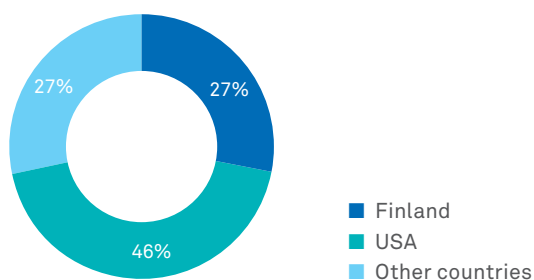
MATERIAL ASPECT: ENERGY

G4-EN3: ENERGY CONSUMPTION WITHIN THE ORGANIZATION
G4-EN5: ENERGY INTENSITY
G4-EN6: REDUCTION OF ENERGY CONSUMPTION
———

Energy balance, GWh	GRI-G4 indicator	2016	2015	2014	2013	2012
TOTAL ENERGY CONSUMPTION [1]	G4-EN3e	**3,977**	3,717	3,711	4,127	3,999*
Change in total energy consumption [2]	G4-EN6	260	6	-416	128*	-433*
Production volume, 1,000 tonnes		5,028	4,840	4,587	4,809	4,765
Energy intensity, GWh per 1,000 tonnes of production [3]	G4-EN5	0.79	0.77	0.81	0.86	0.84
Total energy purchased	G4-EN3c	**4,426**	4,141*	4,107	4,555	4,449
Consumed fuel as energy source	G4-EN3a-b	595	579*	542	491	563
Non-renewable		588	570*	542	491	563
Renewable		8	8	0	0	0
Purchased electricity	G4-EN3c	3,135	2,935*	2,820	2,799	2,672
Non-renewable		2,293	2,301*	2,282*	2,249*	2,288*
Renewable		842	634*	539	550	384
Purchased heat	G4-EN3c	696	627*	745	1265	1213
Non-renewable		266	262*	148	1048	992
Renewable		430	365*	596	217	221
Total energy sold	G4-EN3d	**449**	424*	396	429	450
Heat sold off-site		414	390*	366	384	422
Electricity sold off-site		35	35*	31	44	28

*   More accurate information on usage of fuel and electricity at few sites
[1]   The amount of fuel consumed plus purchased electricity and heat minus heat and eletricity sold. Main reason for the increase is the increased production volume.
[2]   The basis for the energy reduction is energy consumption in one year compared to the previous year values.
[3]   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, as the energy intensity of Kemira's production tonnes varies from 0,2 to 6,0 GWh/1,000 tonnes.

The calculations have been made according to GRI G4 reporting guidelines. The source for conversion factors used is the International Energy Agency (IEA). Where specific information has not been published on production efficiencies by an energy source, estimates have been made based on engineering judgment and historical data.

MATERIAL ASPECT: EMISSIONS
TREND OF OUR GREENHOUSE GAS (GHG) EMISSIONS
___

Kemira's greenhouse gas 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. Scope 1 emissions in 2016 were consistent with 2015 emissions despite an increase in production in 2016. Kemira maintained emissions at the 2015 levels through the use of less carbon intensive fuels where possible. Scope 2 emissions also remained consistent with 2015 levels due to improvements in energy efficiency and a higher share of purchased energy with lower GHG emissions levels. Scope 3 emissions are consistent each year within the level of accuracy associated with the calculation methodology.

GREENHOUSE GAS EMISSIONS, CO_2 EQ, 1,000 TONNES

■ Scope 1
■ Scope 2
■ Scope 3
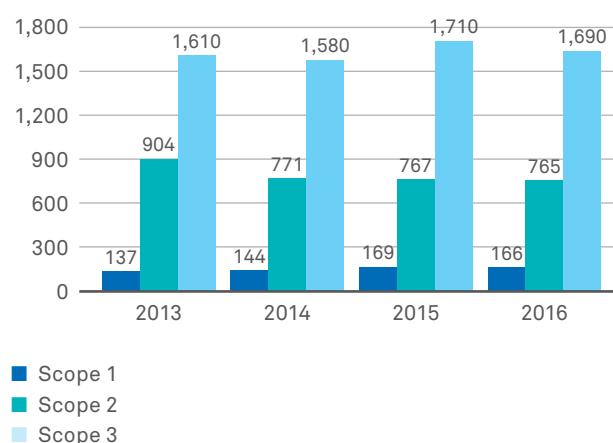
MATERIAL ASPECT: EMISSIONS
G4-EN15: DIRECT GREENHOUSE GAS (GHG) EMISSIONS (SCOPE 1)
G4-EN16: INDIRECT GREENHOUSE GAS (GHG) EMISSIONS (SCOPE 2)
G4-EN17: OTHER INDIRECT GREENHOUSE GAS (GHG) EMISSIONS (SCOPE 3)
G4-EN18: GREENHOUSE GAS (GHG) EMISSIONS INTENSITY
G4-EN19: REDUCTION OF GREENHOUSE GAS (GHG) EMISSIONS
___

GREENHOUSE GAS EMISSIONS, CO_2eq 1,000 tonnes	GRI-G4 indicator	2016	2015	2014	2013	2012
TOTAL EMISSIONS [1]		2,621	2,646*	2,496	2,651	2,692
Change in total emissions	G4-EN19	-25	150	-155	-41	N/A
Production volume, 1,000 tonnes		5,028	4,840	4,587	4,809	4,765
Emissions intensity[2]	G4-EN18	0.52	0.55	0.54	0.55	0.56
Direct emissions: Scope 1 [3]	G4-EN15	166	169	144	137	147
Change		-3	25	7	-10	-33
Indirect emissions: Scope 2 market-based [4a]	G4-EN16	765	767*	771	904	950
Change		-2	-4	-133	-46	-104
Indirect emissions: Scope 2 location-based [4b]		1,002	988*			
Change		14				
Other indirect emissions: Scope 3 [5]	G4-EN17	1,690	1,710	1,581	1,609	1,594
Change		-20	129	-28	15	N/A

Since 2013, GHGs are reported as CO_2eq. In previous years, only CO_2 emissions were reported.

* More accurate information on usage of fuel and electricity at few sites.

[1] Scope1 + Scope 2 market-based + Scope 3.

[2] 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) and other indirect GHG emissions (Scope 3) are included. Energy intensity is strongly dependent on the types of production mix, as the energy intensity of Kemira's production tonnes varies from 0,2 to 6,0 GWh/1,000tonnes.

[3] GHG emissions from sources that are owned or controlled by Kemira (Scope 1 of the WRI/WBCSD GHG Protocol). Data covers all of Kemira's production sites according to Kemira consolidation rules. GHG emission are calculated as CO_2 equivalents which includes CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, NF_3.

[4a] 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 emission are calculated as CO_2 equivalents 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. As many utility companies often publish their specific emissions factors during Q2 or Q3 of each reporting year, previous years' factors have been used. Data covers all of Kemira's production sites according to Kemira consolidation rules.

[4b] Location based Scope 2 emissions were calculated first time in 2015.

[5] GHG emissions from Kemira's value chain (Scope 3 of WRI/ WBCSD GHG Protocol). Major changes have occurred for all years as a more detailed calculation was carried out for this report and among others, end-of-life treatment of sold products changed significantly and previous years' data was corrected. The calculation is based on the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard and a supporting guidance document Guidance for Accounting & Reporting Corporate GHG Emissions in the Chemical Sector Value Chain. Scope 3 emissions have been calculated since 2012. GHG emission are calculated as CO_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. CEFIC = The European Chemical Industry Council; ECTA=The European Chemical Transport Association.

ENVIRONMENTAL PERFORMANCE INDICATORS

G4-EN17: SCOPE 3 EMISSIONS BY CATEGORIES

Purchased goods and services cover 50% (51%), and upstream and downstream emssions 33% (32%) of our Scope 3 emissions.

SCOPE 3 EMISSIONS BY CATEGORIES, CO_2eq, 1,000 tonnes	2016	2015	2014	2013	2012
TOTAL SCOPE 3 EMISSIONS	1,690	1,710	1,580	1,610	1,590
1. Purchased goods and services	840	870	760	770	770
2. Capital goods*	*	*	*	*	*
3. Fuel and energy related activities	230	230	240	220	220
4. Upstream transportation and distribution	220	200	200	220	210
5. Waste generated in operations	40	20	20	20	20
6. Business travel	10	10	10	10	10
7. Employee commuting	10	10	10	10	10
8. Upstream leased assets (leased offices)	10	10	10	10	20
9. Downstream transportation and distribution	330	350	330	340	340
11. Use of sold products	0	0	0	0	0
12. End-of-life treatment of sold products	0	0	0	0	0

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

Scope 3 was restated in 2015 due to more accurate information available. Major changes occurred for years 2012–2014 as a more detailed calculation was carried out. **Category 12** End-of-life treatment of sold products changed significantly. Category 12 covers all products sold. If a product is not known to have a new lifecycle, it is classified as waste. **Category 11** emissions were estimated to be zero or close to zero, as Kemira does not sell combustible fuels, products that form GHG emissions during use, or products that contain GHG.

The calculation is based on the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard and a supporting guidance document Guidance for Accounting & Reporting Corporate GHG Emissions in the Chemical Sector Value Chain. Scope 3 emissions have been calculated since 2012. GHG emission are calculated as CO_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 +/- 20%.

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

G4-EN20: EMISSIONS OF OZONE-DEPLETING SUBSTANCES (ODS)

RELEASES INTO AIR, tonnes	2016	2015	2014	2013	2012
Ozone-depleting substances	0	0	0	0	-

The data collection on ozone-depleting substances (ODS) from Kemira's sites was made for the first time for the year 2013. A value of zero represents emissions equal to or greater than 0 and less than 0.5 tonnes.

G4-EN21: NO$_X$, SO$_X$, AND OTHER SIGNIFICANT AIR EMISSIONS

RELEASES INTO AIR, tonnes	2016	2015	2014	2013	2012
Nitrogen oxides (NO_2) [1]	152	194	206	185	190
Sulphur dioxide (SO_2) [2]	84	83	86	122	116
Volatile organic compounds (VOC) [3]	799*	430	661	682	742
Volatile inorganic compounds (VIC) [4]	164*	36	59	65	94
Particulates	11	14	16	16	21

The figures presented are based on data collected directly from Kemira's sites.

* VOC and VIC emissions increases are primarily associated with the site that is the largest emitter of VOC and VIC in Kemira. The site's production rate increased in 2016, and the site improved the accuracy of the emissions calculation methodology for VOC and VIC.

[1] The sum of nitric oxide and nitrogen dioxide calculated as NO_2.
[2] All sulphur compounds are calculated as SO_2.
[3] VOC is a sum of volatile organic compounds as defined in EU Directive 1999/13/EC.
[4] Sum of ammonia, hydrogen chloride and six other simple inorganic compounds.

MATERIAL ASPECTS: WATER AND EFFLUENTS
G4-EN8: TOTAL WATER WITHDRAWAL BY SOURCE
G4-EN10: PERCENTAGE AND TOTAL VOLUME OF WATER RECYCLED AND REUSED
G4-EN22: TOTAL WATER DISCHARGE BY DESTINATION

WATER BALANCE, million m³	GRI-G4 indicator	2016	2015	2014	2013	2012
TOTAL WATER WITHDRAWAL	G4-EN8	**102**	**98***	**104**	**157**	**144**
Sources of process water		8.7	8.4	7.5	6.3	6.7
Surface water		4.4	4.2	3.7	1.5	1.8
Ground water		1.1	1.3	1.1	0.4	0.8
Rainwater		0.1	0.0	0.0	0.1	0.0
Waste water from another organization		0.0	0.0	0.0	0.1	0.0
Municipal water suppliers		2.4	2.4	2.2	2.2	3.5
Other		0.8	0.5	0.5	2.0	0.6
Sources of cooling water		93.5	89.4*	96.7	151	138
Surface water		88.0	83.6	93.3	146	131
Ground water		1.6	2.3*	0.3	2.0	3.0
Rainwater		0.0	0.0	0.0	0.0	0.0
Waste water from another organization		0.0	0.0	0.0	0.0	0.0
Municipal water suppliers		0.1	0.2	0.2	1.0	0.0
Other		3.7	3.3	2.9	3.0	4.0
TOTAL WATER RECYCLED AND REUSED, million m³	G4-EN10a	**20.4**	**16.9**	**25.9**	**74.6**	**59.6**
Share of total water recycled and reused, % [1]	G4-EN10b	20%	17%	25%	47%	41%
Water recycled back in the same process		17.2	13.8	23.0	74.5	59.5
Water recycled in a different process, but within the same facility		2.8	3.1	2.9	0.1	0.1
Water reused in another facility		0.4	0.1	0.0	0.0	0.1
TOTAL WATER DISCHARGES	G4-EN22a	**75.2**	**72.8**	**73.1**	**2.1**	**2.4**
External treatment of waste water		1.5	1.5	1.6	1.7	1.8
Own treatment of waste water		0.6	0.5	0.5	0.4	0.6
Discharged with no treatment e.g., cooling water		73.2	70.8	70.9	**N/A	**N/A
Unspecified water losses [2]		6.5	8.1*	5.3		

The calculations have been made according to GRI G4 reporting guidelines. The figures presented are based on data collected from Kemira's sites.
* Numbers corrected due to more accurate data collection.
** 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 reported under Indicator G4-EN8.
[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 minimum 90% accuracy on the water balance.

G4-EN22B: TOTAL WATER DISCHARGES BY QUALITY

RELEASES INTO WATER, tonnes	2016	2015	2014	2013	2012
Chemical Oxygen Demand (COD)	34	16	15	16	21
Biological Oxygen Demand (BOD)	0	1	2	1	6
Nitrogen (N)	3	2	2	2	2
Phosphorus (P)	1	1	0.5	0.5	0.7
Suspended solids	1	2	5.3	1.8	7
Other*	308	9	1	1	1

The calculations have been made according to GRI G4 reporting guidelines. The figures presented are based on data collected from Kemira's sites. Data covers all of Kemira's production sites according to Kemira consolidation rules.

* 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.

MATERIAL ASPECT: WASTE

G4-EN23: TOTAL WEIGHT OF WASTE BY TYPE AND DISPOSAL METHOD

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The weight data of disposed waste is based on internal company records.

WASTE, 1,000 tonnes	2016	2015	2014	2013	2012
TOTAL WASTE DISPOSAL	**82.3**	**110.6**	**69.4**	**67.9**	**80.2**
Hazardous wastes, total	**51.2**	**75.2**	**41.7**	**41.3**	**48.4**
Off-site landfill	3.4	1.3	1.2	1.4	1.0
Off-site incineration	5.0	2.6	1.7	3.9	1.9
Off-site recycling	7.3	9.6	6.6	3.0	2.7
Other off-site treatment	35.4	61.7	31.7	33.0	42.8
On-site incineration	0.1	0.0	0.5	0.0	0.0
On-site landfill	0.0	0.0	0.0	0.0	0.0
Non-hazardous wastes, total	**31.1**	**35.4**	**27.7**	**26.6**	**31.8**
Off-site landfill	12.1	10.6	11.6	13.7	11.1
Off-site incineration	1.6	1.3	0.8	5.7	1.5
Off-site recycling	7.4	14.9	11.8	4.6	14.3
Other off-site treatment	9.7	8.2	3.1	2.5	2.4
On-site incineration	<0.0	0.0	0.4	0.0	0.0
On-site landfill	0.3	0.3	0.0	0.1	2.4

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.

G4-EN24: TOTAL NUMBER AND VOLUME OF SIGNIFICANT SPILLS

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In 2016, Kemira enahanced the focus on the reporting, investigating and analysis of incidents, including spills. This resulted in more spills being reported compared to previous years (our treshold for reporting is 1 l), as well as the development of improved root cause analysis and corrective actions post-incident to provide lessons learned and opportunities for improvement for the site and the entire company. For example, the increased focus led to the development of the Spill Prevention Standard.

Kemira definition to Major spills are those greater than 1 tonne that reach the environment (i.e., those spills that are not physically contained or othrewise captured at the location of the spill) or an incident that requires reporting to a government agency. Kemira used these critiera to identify the number and volume of significant spills for the purposes of this indicator.
In 2016, there were 10 significant spills.

Transportation incidents (including related loading and unloading activities) accounted for seven significant spills. The total volume of the tranportation incidents was approximately 74 tonnes. Three significant spills were associated with activities at manufacturing plants. The total volume of the significant spills at manufacturing plant was approximately 24 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.

G4-EN25: WEIGHT OF TRANSPORTED, IMPORTED, EXPORTED, OR TREATED WASTE DEEMED HAZARDOUS UNDER THE TERMS OF THE BASEL CONVENTION (2) ANNEX I, II, III, AND VIII, AND PERCENTAGE OF TRANSPORTED WASTE SHIPPED INTERNATIONALLY

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In 2016, approximately 51.1 tonnes (51.8 tonnes) of hazardous waste were transported by or on behalf of Kemira to external suppliers not owned by Kemira. Kemira facilities did not treat or import hazardous waste in 2016.

Two of the hazardous wastes generated at Kemira's facility in Fray Bentos, Uruguay do not have a treatment or disposal option within the country. Therefore, it must be shipped to EU for incineration. In 2016, there were no exports of hazardous waste from the Fray Bentos facility. Therefore, 0% (0% in 2015) of the hazardous waste generated in 2016 by Kemira was shipped internationally.

MATERIAL ASPECT: PRODUCTS AND SERVICES

G4-EN27: EXTENT OF IMPACT MITIGATION OF ENVIRONMENTAL IMPACTS OF PRODUCTS AND SERVICES

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Kemira's business purpose is to enable our customers to improve their water, energy and raw material efficiency. 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 few cases, namely in paper and packaging board and in waste water sludge, our products are part of the end-product.

The extent of the environmental impacts of our products is mitigated by developing products that enable our customers to reduce their environmental impacts. We apply sustainability checks at every stage of our New Product Development (NPD) process. We apply the principles of Product Stewardship, i.e., 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.

For more details on product stewardship see the Chapter Sustainable products and solutions and the performance indicators PR1-PR4, PR6 and PR9. For transportation safety, see indicator EN30.

Our products aimed for water treatment have positive environmental impacts by preventing and reducing eutrophication and pollution of water bodies. The volume of water purified with Kemira's water treatment chemicals for public and industrial purposes is significant. In 2016, the volume equals the annual need of pure water to 320 million people.

WATER PURIFIED WITH KEMIRA PRODUCTS, 1000 million m³
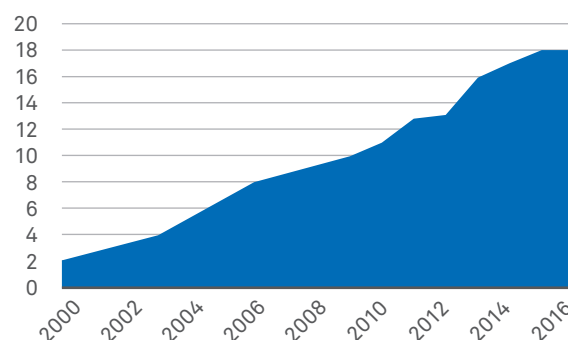
The volume of water purified with Kemira products is based on the share of product sales to water purification applications and using an experience based average chemicals dosage. It is assumed that in Europe the average water consumption is about 155 liters per day per person.

G4-EN28: PERCENTAGE OF PRODUCTS SOLD AND THEIR PACKAGING MATERIALS THAT ARE RECLAIMED BY CATEGORY

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Kemira does not reclaim any sold products. However, we reclaim packaging material when possible. Kemira's liquid products are mainly transported in bulk units, i.e., ISO-tank containers, tank trucks, and tank railroad wagons, which are owned by logistics service providers or leased by Kemira. When small volume packaging is used we work to optimize packaging where it saves packaging and transportations cost and also reclaim packaging materials when possible. When plastic or other reusable material is used in packaging, Kemira strives to reclaim the material. We are also using a third party service provider to return packaging from the customers' sites for reuse. Packaging that is returned to Kemira or to a third party is either reused or processed for recycling.

The primary reclaimed packaging materials are Reconditioned Intermediate Bulk Container (IBCs).

RECLAIMED PACKAGING MATERIALS	2016	2015	2014	2013	2012
Reconditioned IBCs	16%	12%	12%	20%	22%
Total recycled liquid packages incl. IBCs	7%*	4%	3%	5%	4%

Calculated from the total amount of the respective packaging category
* More recycling but less volume

MATERIAL ASPECT: ENVIRONMENTAL COMPLIANCE
G4-EN29: MONETARY VALUE OF SIGNIFICANT FINES AND TOTAL NUMBER OF NON-MONETARY SANCTIONS FOR NON-COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS
—

There were no significant fines or non-compliance with environmental laws or regulations in 2016. There were no non-monetary sanctions in 2016.

MATERIAL ASPECT: TRANSPORT
G4-EN30: SIGNIFICANT ENVIRONMENTAL IMPACTS OF TRANSPORTING PRODUCTS AND OTHER GOODS AND MATERIALS FOR THE ORGANIZATION'S OPERATIONS, AND TRANSPORTING MEMBERS OF THE WORKFORCE
—

Our management approach to mitigate the environmental impacts of transporting products is based on reducing the GHG emissions from transportation activities and improving transportation safety management to minimize incidents and accidents.

AVOIDING SCOPE 3 EMISSIONS FROM TRANSPORTATION
Emissions from the downstream and upstream transportation of materials and goods are about 33% of our total Scope 3 emissions, while emissions from business travel and employee commuting are non-significant (<1%). See indicator G4-EN17 for more details. Our approach in reducing Scope 3 GHG emissions is based on disciplined management of logistics activities. Our key measures include logistics and load optimization and commitment to logistics service providers that use vehicles compliant with latest emission standards.

Kemira uses train and ocean modes in longer transports or multimodal transports in shorter distances to avoid emissions compared to the level of road transport. Load optimization and full truck loads are means to optimize transportation cost but also leading to lower emissions. Furthermore, our tendering process guides the logistics service providers to look for backhaul arrangements.

Guidelines for reducing the environmental impact from business travel are defined in the Kemira travel policy. Internal traveling between Kemira locations has reduced through the use of online meeting and collaboration tools.

IMPROVING TRANSPORTATION SAFETY
Transportation incidents stayed at the same level as 2015. Kemira is fully committed to develop transportation safety culture to prevent incidents and chemical leakages into environment. Our revised EHS Transportation Standard defines that each region has to develop their own transportation safety programs. All facilities need to comply with the requirements of the regional program, but each region also with any local/regional regulations as applicable. Employees involved in the handling and carriage of dangerous goods are trained regularly. Our logistics service providers are expected to commit to the Kemira Code of Conduct for Suppliers, Distributors and Agents. We hold regular safety discussions with logistic operators and drivers handling and transporting our products.

Our regional EHSQ team is responsibe for the training and monitoring of the implementation of the transportation standard, while our logistics services and plant operations are responsible for the safety program implementation and performance monitoring. Every transportation incident is analyzed for root causes and actions are taken to prevent re-occurrence.

MATERIAL ASPECT: ENVIRONMENTAL EXPENDITURES AND INVESTMENTS
G4-EN31: TOTAL ENVIRONMENTAL PROTECTION EXPENDITURES AND INVESTMENTS BY TYPE
—

In 2016, our main investments were made in air and water treatment units, spill prevention and control measures, and process equipment upgrades.

ENVIRONMENTAL PROTECTION COST, EUR million	2016	2015	2014	2013	2012
Total environmental protection cost	**29.1**	**19.8***	**14.1**	**13.2**	**17.6**
Environmental capital expenditure	11.2	4.8	2.4	1.4	3.4
Environmental operating costs	17.9	15.0*	11.7	11.8	14.2
Environmental protection cost, % of net sales	1.2%	0.8%	0.7%	0.6%	0.8%

* Numbers corrected due to more accurate data collection.

3.3 SOCIAL PERFORMANCE INDICATORS

3.3.1 LABOR PRACTICES AND DECENT WORK

GENERIC DISCLOSURES: EMPLOYMENT STRUCTURE
G4-10: STRUCTURE OF EMPLOYMENT

At the end of 2016, Kemira employed 4,818 people (4,685).
The employee distribution by region shows that 54% (55%) of Kemira's total workforce are employed in EMEA, and 32% (35%) in Americas. The number of employees has increased by 133 (compared to increase by 437 during 2015), of which 115 in APAC. The growth has happened organically, only three employees joined through acquisitions. Workers who are legally recognized as self-employed, or individuals other than the ones in Kemira payroll are not counted on these numbers.

TOTAL NUMBER OF EMPLOYEES BY REGION 2016

Americas 1,558
APAC 651
EMEA 2,609
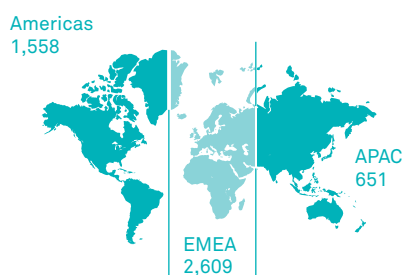
EMPLOYEES BY GENDER
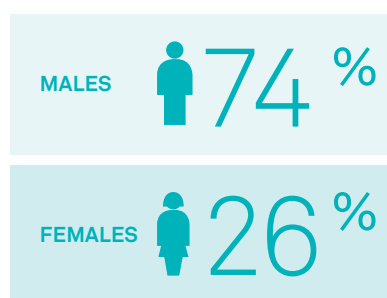
MALES 74 %
FEMALES 26 %

EMPLOYEES BY AGE GROUP 2016

<30   12 %
30–50 58%
>50   30%
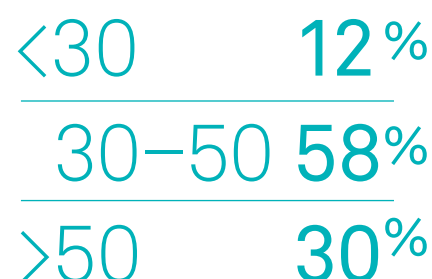
G4-10: TOTAL NUMBER OF EMPLOYEES

	2016	2015	2014	2013	2012
Total number of employees*	4,818	4,685	4,248	4,453	4,857
Females, %	26%	26%	26%	26%	25%
Males, %	74%	74%	74%	74%	75%
White collar, %	61%	62%	58%	58%	N/A
Blue collar; %	39%	38%	42%	42%	N/A

* at year end

G4-10A: TOTAL NUMBER OF EMPLOYEES BY EMPLOYMENT CONTRACT AND GENDER

	2016	2015	2014	%,2016	%, 2015	%, 2014
Total number of employees	4,818	4,685	4,248			
Total permanent	4,715	4,559	4,133	98%	97%	97%
Total fixed-term	103	126	115	2%	3%	3%
Females total	1,259	1,220	1,110			
Permanent	1,227	1,171	1,064	97%	96%	96%
Fixed term	32	49	46	3%	4%	4%
Males total	3,559	3,465	3,138			
Permanent	3,488	3,388	3,069	98%	98%	98%
Fixed term	71	77	69	2%	2%	2%

G4-10B: TOTAL NUMBER OF PERMANENT EMPLOYEES BY EMPLOYMENT TYPE AND GENDER

	2016	2015	2014	%, 2016	%, 2015	%, 2014
Total permanent employees	4,818	4,559	4,133			
Total full-time	4,747	4,481	4,099	98%	98%	99%
Total part-time	71	78	34	2%	2%	1%
Females total permanent	1,259	1,171	1,064			
Full-time	1,208	1,106	1,037	96%	94%	97%
Part-time	51	65	27	4%	6%	3%
Males total permanent	3,559	3,388	3,069			
Full-time	3,539	3,375	3,062	99%	100%	100%
Part-time	20	13	7	1%	0%	0%

G4-10D: TOTAL NUMBER OF EMPLOYEES BY REGION AND GENDER

	2016	2015	2014	%, 2016	%, 2015	%, 2014
Total number of employees	4,818	4,685	4,248			
Americas	1,558	1,578	1,483	32%	34%	35%
Asia Pacific	651	536	352	14%	11%	8%
EMEA	2,609	2,571	2,413	54%	55%	57%
Females total	1,259	1,220	1,110			
Americas	340	338	324	27%	28%	29%
Asia Pacific	175	146	99	14%	12%	9%
EMEA	744	736	687	59%	60%	62%
Males total	3,559	3,465	3,138			
Americas	1,218	1,240	1,159	34%	36%	37%
Asia Pacific	476	390	253	13%	11%	8%
EMEA	1,865	1,835	1,726	52%	53%	55%

G4-11: EMPLOYEES COVERED BY BARGAINING AGREEMENTS

The percentage of employees covered by collective bargaining agreements by 'significant locations of operation' varies widely between regions, being lowest in North America (USA 4%, Canada 12%), which is characteristic to the region.

In APAC, collective bargaining agreements are a practice in the chemical industry only in few countries, Indonesia and Korea having 100% of employees covered with 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 38%), and for example in Poland 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 20 or more employees, and which counted together 98% of all employees. In Kemira's case there are 22 countries with 20 or more employees.

SPECIFIC DISCLOSURES: LABOR PRACTICES AND DECENT WORK

MATERIAL ASPECT: EMPLOYMENT

G4-LA1: TOTAL NUMBER AND RATES OF NEW EMPLOYEE HIRES AND EMPLOYEE TURNOVER BY AGE GROUP, GENDER AND REGION

Total number of new hires in 2016 was 695 (673), out of which 31% (31%) were female and 69% (69%) male. The new hires include summer trainee and other temporary positions, and insourcing of contract workers (98) in two manufacturing sites in China. Kemira's new hiring reflects the similar degree of diversity as in previous years.

Kemira is reporting the employee turnover rate by total and voluntary turnover.

The total turnover rate was 9.2% in 2016 compared to 10.5% in 2015. The total turnover is based on permanent workforce.

The turnover rates in APAC was 8.1% (10.4%) which was lowest of the regions continuing to decrease over years. The highest turnover rate was in Americas 11.2% (13.2%), and EMEA had a turnover of 8.2% (8.8%)

The voluntary turnover rate was 5.6% (5.5%) in 2016 being highest at the age group 30–50 years 11.0% (6.3%) and females 7.8% (8.2%).

G4-LA1A: NEW EMPLOYEE HIRES W/O AQUISITIONS BY AGE GROUP, GENDER AND REGION

	Number of new hires			% of total new hires		
	2016	2015	2014	2016	2015	2014
Total new hires	695	673	710	100%	100%	100%
New hires by age group						
<30	284	293	291	41%	44%	41%
30–50	358	312	348	52%	46%	49%
>50	53	68	71	8%	10%	10%
New hires by gender						
Females	218	208	236	31%	31%	33%
Males	477	465	474	69%	69%	67%
New hires by region						
APAC	173	60	60	25%	9%	8%
EMEA	364	373	418	52%	55%	59%
Americas	158	240	232	23%	36%	33%

G4-LA1B: TOTAL TURNOVER BY AGE GROUP, GENDER AND REGION

	Turnover			Turnover, %		
	2016	2015	2014	2016	2015	2014
Total turnover	441	490	736	9.2%	10.5%	17.3%
Turnover by age group						
<30	72	78	96	12.4%	13.6%	18.6%
30–50	228	263	428	8.2%	9.8%	17.6%
>50	141	149	212	9.6%	10.4%	16.3%
Turnover by gender						
Females	136	144	242	10.8%	11.8%	21.8%
Males	305	346	494	8.6%	10.0%	15.7%
Turnover by region						
APAC	53	56	44	8.1%	10.4%	12.5%
EMEA	214	225	464	8.2%	8.8%	19.2%
Americas	174	209	228	11.2%	13.2%	15.4%

G4-LA1C: VOLUNTARY TURNOVER BY AGE GROUP, GENDER AND REGION

	Voluntary turnover			Voluntary turnover, %		
	2016	2015	2014	2016	2015	2014
Total voluntary turnover	268	258	218	5.6%	5.5%	5.1%
Voluntary turnover by age group						
<30	56	62	42	9.7%	10.8%	8.2%
30–50	162	168	144	11.0%	6.3%	5.9%
>50	50	28	32	1.8%	1.9%	2.5%
Voluntary turnover by gender						
Females	98	100	79	7.8%	8.2%	7.1%
Males	170	158	139	4.8%	4.6%	4.4%
Voluntary turnover by region						
APAC	44	39	34	6.8%	7.3%	9.7%
EMEA	146	139	101	5.6%	5.4%	4.2%
Americas	78	80	83	5.0%	5.1%	5.6%

G4-LA2: BENEFITS PROVIDED TO FULL-TIME EMPLOYEES THAT ARE NOT PROVIDED TO TEMPORARY OR PART-TIME EMPLOYEES, BY SIGNIFICANT LOCATIONS OF OPERATION

———

Benefit programs in Kemira differ depending on regional and country specific practices, and there are 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 certain length. Benefit practices are country specific and typically do not vary between locations and operations. Some exceptions apply, for example the sickness fund in Finland is available to full-time employees with more than a one year contract, and some countries offer broader insurance and/or retirement benefits for permanent full-time employees. In North America, the eligibility for benefits varies, in USA employees are eligible if they work at minimum 20 hours per week.

MATERIAL ASPECT: LABOR/MANAGEMENT RELATIONS
G4-LA4: MINIMUM NOTICE PERIODS REGARDING OPERATIONAL CHANGES, INCLUDING WHETHER THESE ARE SPECIFIED IN COLLECTIVE AGREEMENTS

———

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. Notice periods and 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.

MATERIAL ASPECT: OCCUPATIONAL HEALTH AND SAFETY
G4-LA6: TYPE OF INJURY AND RATES OF INJURY, OCCUPATIONAL DISEASES, LOST DAYS, AND ABSENTEEISM, AND TOTAL NUMBER OF WORK-RELATED FATALITIES, BY REGION AND BY GENDER

———

One of our top priorities during 2016 has been to develop our health and safety culture to prevent incidents and mitigate health and safety risks. Time and efforts have been invested on visible management commitment, employee engagement and better visibility of health and safety related matters in our internal communication.

Our health and safety performance has significantly improved in 2016 compared to earlier years. Kemira reports occupational health and safety as Total Recordable Injuries (TRI) which includes fatalities, lost time injuries, 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.

In 2016, TRIF decreased to 3.4 from 7.2 in 2015. Near misses reporting on events that may threaten safety, increased due to higher attention on safety culture.

TRIF	2016	2015	2014	2013	2012
Global	3.4	7.2	5.8	7.1	8.5
By region					
APAC	0.9	0.6	0	0	N/A
EMEA	3.4	10.6	6.1	9.2	N/A
Americas	4.8	5.7	6.4	5.1	N/A

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

The number of people involved in accidents (TRI) was 45 which was 42% less than in 2015.

TRI	2016	2015
Total	45	77
Kemira employees	31	56
Contractors working at Kemira site	14	21

Majority of our accidents happened at our production sites and for male employees.

The severity of accidents included in our TRI severity rate has decreased. No fatalities have been associated with Kemira employees since 2005. Significant increase in near misses reporting is due to efforts in 2016 to identify and report these events.

Unfortunately there was one fatal off-site hauler road transport accident when transporting Kemira products (off-site incidents are excluded from our TRI definition).
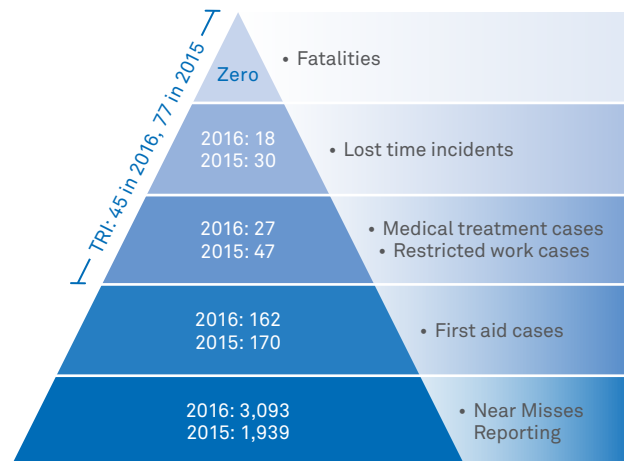
Information regarding absenteeism is collected locally and not consolidated on Group level.

MATERIAL ASPECT: TRAINING AND EDUCATION

G4-LA9: AVERAGE HOURS OF TRAINING PER YEAR PER EMPLOYEE BY GENDER, AND BY EMPLOYEE CATEGORY

——

A global Learning Management System including a training register has been rolled out to all Kemira countries and functional areas during 2016. Some of the countries have taken the system in use during last months of the year, so training register does not yet cover the full year for all parts of the organization. In 2016, approximately 48,600 (36,100) training hours were registered in the learning management system, which now covers eLearnings, global training programs, and part of the local trainings. During 2017 we will continue to ensure also recording of external trainings and trainings in the sites. Training hours for biggest countries currently registered in the system are e.g. Finland 6,600 (6,800) hrs, UK 5,300 (5,800) hrs, Sweden 5,700 (9,500) hrs, USA 8,100 (4,800) hrs, Netherlands 3,300 (4,000) hrs, China 3,700 and Poland 5,500. The average hours of training for white collar employees do not differ by gender.

G4-LA10: PROGRAMS FOR SKILLS MANAGEMENT AND LIFELONG LEARNING THAT SUPPORT THE CONTINUED EMPLOYABILITY OF EMPLOYEES AND ASSIST THEM IN MANAGING CAREER ENDINGS

——

Kemira provides each employee with access to the relevant competence development programs and structured learning opportunities to support and assist their continued employability through on the job learning programs (including onboarding and job specific competence development), buddy programs/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 enroll and complete the self-paced learning programs available through our LMS (Learning Management System).

We had a strong leadership development portfolio offering and rate of participation in 2016. Examples of other global and regional programs offered during 2016 are listed below:
- Code of conduct, ethics and compliance programs delivered mainly through eLearning
- Numerous EHSQ related programs including Chemical handling, PPE and a new behavioral based safety leadership program, and a new Energy Management program
- Project management program for project managers and project sponsors
- Onboarding / induction for new hires
- Professional selling program
- Manufacturing and product training and awareness programs
- English language courses
- Various Finance, IT systems and tools training – F&A, Excel and PowerPoint IT skills which are mainly available as eLearning

G4-LA11: PERCENTAGE OF EMPLOYEES RECEIVING REGULAR PERFORMANCE AND CAREER DEVELOPMENT REVIEWS, BY GENDER AND BY EMPLOYEE CATEGORY

——

All permanent employees, who are not absent for an extended time period because of leaves, 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.

G4-LA11: PERCENTAGE OF EMPLOYEES RECEIVING REGULAR PERFORMANCE AND CAREER REVIEWS BY GENDER AND BY EMPLOYEE CATEGORY

Performance and Development Discussion (PDD)	Employees				PDD coverage, %			
	2016	2015	2014	2013	2016	2015	2014	2013
Total permanent employees not absent *	4,590	4,440	4,019	4,281				
PDD's by gender								
Employees covered in global PDD process	4,009	4,147	3,803	2,382	87%	93%	95%	56%
Females covered in global PDD process	1,116	1,030	977	816	93%	96%	95%	77%
Males covered in global PDD process	2,893	3,117	2,826	1,566	85%	93%	94%	49%
PDD's by employee category								
White collars covered in global PDD process	2,702	2,730	2,317	N/A	98%	97%	98%	N/A
Blue collars covered in global PDD process	1,307	1,417	1,486	N/A	72%	88%	89%	N/A

* All permanent employees, who are not absent for an extended time period, are covered by global performance and development discussion process. Employees who started employment after July 1st, 2016 are not included in the PDD process.

MATERIAL ASPECT: DIVERSITY AND EQUAL OPPORTUNITY
G4-LA12 COMPOSITION OF GOVERNANCE BODIES AND BREAKDOWN OF EMPLOYEES PER EMPLOYEE CATEGORY ACCORDING TO GENDER, AGE GROUP, MINORITY GROUP MEMBERSHIP, AND OTHER INDICATORS OF DIVERSITY
—

The number of females in the Board of Directors has increased by one in 2016. The percentage share of females (26%) in the total number of employees has remained the same in 2016 as in 2015. The number of females in executive positions (Directors and above) has also remained at the same level (22% vs. 22% in 2015).

G4-LA12A: COMPOSITION OF GOVERNANCE BODIES BY GENDER AND AGE GROUP

	Total				%			
	2016	2015	2014	2013	**2016**	2015	2014	2013
Management Board								
Total	10	9	9	11				
Females	2	2	2	2	20%	22%	22%	18%
Males	8	7	7	9	80%	78%	78%	82%
By age group								
<30	0	0	0	0	0%	0%	0%	0%
30−50	2	5	6	5	20%	56%	67%	45%
>50	8	4	3	6	80%	44%	33%	55%
Board of Directors								
Total	7	6	6	5				
Females	3	2	2	2	43%	33%	33%	40%
Males	4	4	4	3	57%	67%	67%	60%
By age group								
<30	0	0	0	0	0%	0%	0%	0%
30−50	1	0	0	0	14%	0%	0%	0%
>50	6	6	6	5	86%	100%	100%	100%

EQUAL OPPORTUNITY

Women in executive and other positions	**2016**	2015	2014
Management Board	20%	22%	22%
Executive positions excluding Management Board*	22%	22%	21%
White collars	39%	39%	37%
Blue collars	7%	5%	11%
Total employees	26%	26%	26%

* Positions from Director to Senior Vice-President

G4-LA12B: BREAKDOWN OF EMPLOYEES BY GENDER AND AGE GROUP

	Total				%			
	2016	2015	2014	2013	**2016**	2015	2014	2013
Total employees	4,818	4,685	4,248	4,453	100%	100%	100%	100%
<30	579	575	515	646	12%	12%	12%	15%
30−50	2,772	2,672	2,435	2,453	58%	57%	57%	55%
>50	1,467	1,438	1,298	1,354	30%	31%	31%	30%
Females in total	**1,259**	**1,220**	**1,110**	**1,164**	**26%**	**26%**	**26%**	**26%**
<30	179	188	172	205	14%	15%	15%	18%
30−50	823	773	705	710	65%	63%	64%	61%
>50	257	259	233	249	20%	21%	21%	21%
Males in total	**3,559**	**3,465**	**3,138**	**3,289**	**74%**	**74%**	**74%**	**74%**
<30	400	387	343	441	11%	11%	11%	13%
30−50	1,949	1,899	1,730	1,743	55%	55%	55%	53%
>50	1,210	1,179	1,065	1,105	34%	34%	34%	34%

**MATERIAL ASPECT: EQUAL REMUNERATION
FOR WOMEN AND MEN**
G4-LA13: RATIO OF BASIC SALARY AND
REMUNERATION OF WOMEN TO MEN BY
EMPLOYEE CATEGORY, BY SIGNIFICANT
LOCATIONS OF OPERATION
⎯⎯

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. Factors impacting salary increases include country-specific salary budgets, the position of an employee in the salary range and employee performance evaluated as part of the performance management process. Incentive payouts are based on measured achievement for pre-defined targets on the company, unit and individual levels.

The job grade and salary data information allows Kemira to evaluate, analyse and implement equal remuneration.

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

Country	2016	2015	2014
Finland	91%	93%	93%
USA	88%	91%	94%
Sweden	99%	96%	103%
Poland	92%	91%	93%
Canada	88%	86%	94%
UK	96%	96%	96%
China	94%	94%	93%
Netherlands	96%	97%	N/A
Germany	98%	N/A	N/A

SOCIAL PERFORMANCE INDICATORS

3.4 HUMAN RIGHTS

MATERIAL ASPECT: NON-DISCRIMINATION
G4-HR3: TOTAL NUMBER OF INCIDENTS OF DISCRIMINATION AND CORRECTIVE ACTIONS TAKEN

There were no confirmed incidents of discrimination in 2016.

MATERIAL ASPECT: FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING
G4-HR4: OPERATIONS AND SUPPLIERS IDENTIFIED IN WHICH THE RIGHT TO EXERCISE FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING MAY BE VIOLATED OR AT SIGNIFICANT RISK, AND MEASURES TAKEN TO SUPPORT THESE RIGHTS

Kemira respects the right of all personnel to establish or join trade unions and other representative organizations, and we comply with the International Labour Organization's Declaration on Fundamental Principles and Rights at Work, as stated in our Code of Conduct. Kemira is also a signatory of the United Nations Global Compact, through which we respect the principle that businesses should uphold freedom of association and recognise the right to collective bargaining.

We expect our suppliers to respect these same principles and commit to the Kemira Code of Conduct for Suppliers, Agents and Distributors when conducting business with us.

To increase Kemira employees' awareness of their rights regarding freedom of association and collective bargaining, we review and update the Code of Conduct, and provide regular training. All Kemira employees are given a personal copy of the Code of Conduct.

In 2016, Kemira did not identify any violations of freedom of association or collective bargaining in our own operations. Sinced 2014 we have conducted 117 sustainability assessments of our key suppliers, representing approximately 25% of our total spend, and no evidence has been found to indicate that suppliers would be restricting their employees' opportunities to exercise freedom of association and collective bargaining.

As no risks relating to violations were identified either within Kemira or in our supply chain, no specific support measures were taken. 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 G4-11.

MATERIAL ASPECT: ASSESSMENT
G4-HR9: TOTAL NUMBER AND PERCENTAGE OF 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. Based on the results, no evidence of infringments of human rights was found. The results indicated there are a few potential high risk areas of human rights impacts where we should develop our management approach, which are:
• Unsafe handling of hazardous substances may have potential impacts on health and workplace safety
• Upstream and downstream business relationships
• Business expansion in emerging markets.

To address the health and workplace safety issues, we further develop our product stewardship management to ensure the safe use of our products in our value chain, and continuously develop our workplace safety culture. During 2016, we have focused on enhancing and implementing our management process for priority substances, and developing our safety culture through target setting, training and communications measures. For more information see indicators G4-PR1 for product stewardship and G4-LA6 for workplace safety.

To address the area of business relationships, in 2016, we made a decision to initate 3rd 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.

We have also organized 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. By the end of 2016, 75% of the targeted employees had completed the training (80% by the end of 2015). Human rights training is also a compulsory part of the induction training given to all new employees in the target group. Kemira also provides all employees training on the importance of our Code of Conduct to enhance awareness of compliance issues including human rights.

3.5 SOCIETY

MATERIAL ASPECT: LOCAL COMMUNITIES
G4-SO1: PERCENTAGE OF OPERATIONS WITH IMPLEMENTED LOCAL COMMUNITY ENGAGEMENT, IMPACT ASSESSMENTS, AND DEVELOPMENT PROGRAMS
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Our dialogue with local communities is aimed to understand and implement activities that respond to local needs, concerns and expectations, and to provide opportunities for our own employees to participate in local community initiatives.

OUR LOCAL COMMUNITY ENGAGEMENT AND DEVELOPMENT PROGRAMS
We encourage initiatives that support positive interaction with the communities where we operate. Our global guidance is to focus our sponsorships and donations to education related programs in chemistry and technology, mainly addressed to children and youth. In 2016, the largest sponsorships and donations included a EUR 200,000 donation to Åbo Akademi University (Finland), and a sponsorship of the Gadolin Chemistrylab at Helsinki University (Finland) aimed to support the positive image of chemistry for pupils and students aged from 7 to 20. We also have collaboration and partnerships with universities, for example with the Georgia Institute of Technology in the US. Locally we engage with communities in many ways, for example we support education related to water and chemistry, charity work with selected target group or arrange open-house events to the neigborhoods. In 2016, Kemira organized approximately 40 local community activities.

OUR ENVIRONMENTAL IMPACT ASSESSMENTS
Most of Kemira's manufacturing sites are located in industrial parks that are designed for the purpose of industrial development, and only a few sites are located close to residential areas. Environmental impact assessments and systematic process risk assessment of our operations are conducted at every manufacturing site in alignment of our EHSQ management system. We conduct assessments at every manufacturing site, as defined in regulatory requirements, the ISO 14001 management system and our own internal standards.

- Each Kemira site is classified for hazard risks of operations based on the results of process risk evaluation. Our internal requirements for the degree of environmental and process safety management and audit frequency for each site are based on the hazard ranking level: higher ranking meaning higher requirements. In 2016, 15 out of 66 manufacturing sites (operating during 2016) were classified as high-hazard sites.

- Each Kemira site has a program and contingency plan in place to ensure the safety of surrounding communities. This is done in close cooperation with local environmental authorities. To enhance the safe use of chemicals, Kemira works in close cooperation with many local chemical agencies.

For complementary information, see chapter Responsibility towards local communities.

G4-SO2: OPERATIONS WITH SIGNIFICANT ACTUAL AND POTENTIAL NEGATIVE IMPACTS ON LOCAL COMMUNITIES
——

Oil spill at the Joutseno site, Finland. In May, 2016, an oil spill occurred during maintenance operations at the FC Power hydrogen power plant located in the Kemira's industrial site in Joutseno, Finland. The FC Power hydrogen plant is owned by Leppäkosken sähkö (66%) and Kemira (34%). Approximately 1,000 liters of lubricant oil leaked in to the lake Saimaa. Most of the oil was collected and the possible environmental impact was evaluated to be low. The evaluation was conducted together with the local fire and rescue department and environmental authorities. The authorities continue to follow the possible effects on the lake´s ecosystem, and we are supporting their work. There have been a few inquiries about compensation for the damages, and those will be handled by FC Power. The root cause analysis has been conducted and review of similar locations has been done to avoid same type of incident to happen again in our operations.

Fire at the Äetsä site, Finland. In April 2016, a fire started in our sodium chlorate site in Äetsä in one of the three chlorate production lines. Our employees quickly brought the fire under control in record time together with the local fire department. There were no reported personnel injuries or environmental damage. All the fire fighting water and other contaminants were successfully collected from the damaged area to a safe location.

MATERIAL ASPECT: ANTI-CORRUPTION
G4-SO3: TOTAL NUMBER AND PERCENTAGE OF OPERATIONS ASSESSED FOR RISKS RELATED TO CORRUPTION AND THE SIGNIFICANT RISKS IDENTIFIED
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In 2016, Kemira conducted an ethics & compliance risk assessment, consisting of internal survey, key management interviews and workshops covering key business operations and functions in all regions. In addition, corruption risk has also been one element in the interviews conducted with key management as part of developing the Kemira internal audit plan for 2017. Based on the revenue generated in locations subject to internal audit in 2016, approximately 90% of the legal entities were audited, including certain risks related to corruption. No significant risks related to corruption were identified through ethics & compliance risk assessment, management interviews or internal audits in 2016.

G4-SO4: COMMUNICATION AND TRAINING ON ANTI-CORRUPTION POLICIES AND PROCEDURES

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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 intranet, and the Code of Conduct is also publicly available at www.kemira.com.

We expect our suppliers and other business partners to conduct their business with integrity and commit to Kemira 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.

Kemira provides mandatory Anti-Bribery training to the selected personnel groups, who need to have comprehensive understanding on Kemira's anti-corruption principles. Employee awareness of anti-corruption matters is also employed through our Code of Conduct training, which is mandatory to all of our employees. Anti-corruption principles are also elaborated in the face-to-face compliance training sessions, which are organized in selected locations.

G4-SO5: CONFIRMED INCIDENTS OF CORRUPTION AND ACTIONS TAKEN

———

There were no confirmed incidents of corruption or public legal cases regarding corruption in 2016.

MATERIAL ASPECT: PUBLIC POLICY

G4-SO6: TOTAL VALUE OF POLITICAL CONTRIBUTIONS BY COUNTRY AND RECIPIENT/ BENEFICIARY

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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 2016.

MATERIAL ASPECT: ANTI-COMPETITIVE BEHAVIOR

G4-SO7: TOTAL NUMBER OF LEGAL ACTIONS FOR ANTI-COMPETITIVE BEHAVIOR, ANTITRUST, AND MONOPOLY PRACTICES AND THEIR OUTCOMES

Kemira was a defendant in two legal proceedings in which damages were sought for violations of competition law, on the basis of events which occurred before year 2000. These proceedings are described in the Note 29 to the Consolidated Financial Statements: Commitments and contingent liabilities, under heading Litigation.

Several class action suits have been filed 2015–16 in the United States based on alleged violation of antitrust laws relating to sale of certain water treatment chemicals. In some of those claims, Kemira has been named as a defendant among other defendants. According to Kemira's assessment, these law suits against Kemira lack merit.

In 2016, Kemira had no other pending or completed legal actions initiated under national or international laws designed for regulating anti-competitive behavior, antitrust, or monopoly practices.

MATERIAL ASPECT: COMPLIANCE

G4-SO8: MONETARY VALUE OF SIGNIFICANT FINES AND TOTAL NUMBER OF NON-MONETARYSANCTIONS FOR NON-COMPLIANCE WITH LAWS AND REGULATIONS

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No significant fines or non-monetary sanctions for non-compliance with laws and regulations came to Kemira's attention in 2016. This is based on the information available through our Group legal department, Group Finance and Administration and the Environmental, Health, Safety and Quality organization.

MATERIAL ASPECT: GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY

G4-SO11: NUMBER OF GRIEVANCES ABOUT IMPACTS ON SOCIETY FILED, ADDRESSED, AND RESOLVED THROUGH FORMAL GRIEVANCE MECHANISMS

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There were no grievances about impacts on society filed through formal grievance mechanisms in 2016, nor grievances filed prior and resolved in 2016.

3.6 PRODUCT RESPONSIBILITY

MATERIAL ASPECT: CUSTOMER HEALTH AND SAFETY
G4-PR1: PERCENTAGE OF SIGNIFICANT PRODUCT AND SERVICE CATEGORIES FOR WHICH HEALTH AND SAFETY IMPACTS ARE ASSESSED FOR IMPROVEMENT
———

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 processes. Our New Product Development (NPD) process also involves regular sustainability, product safety and regulatory compliance reviews at every stage of the process, as well as a final review before market launch.

PRODUCT STEWARDSHIP AS PART OF OUR PRODUCT LIFECYCLE MANAGEMENT
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Product stewardship is the key pillar in the Responsible Care program, a voluntary initiative undertaken by the global chemical industry (through the International Council of Chemical Associations, ICCA), which Kemira is committed to. Product stewardship goes beyond regulatory compliance, which itself sets tight controls on the manufacture and sale of chemicals. Product stewardship in practice means proactive management to ensure that chemicals are used safely, to protect the environment and human health. This is a fundamental pre-requisite for conducting our business. Product stewardship provides a platform that helps us to identify risks at an early stage and manage those risks along the value chain. This also helps us to focus our product and process development efforts in areas where our positive impacts on safety and sustainability along the value chain will be greatest.

   Kemira's Product Stewardship Policy was approved by the Management Board during 2016, defining 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 operations, the implementation of our strategy, and our long-term strategic development. Key activities for implementing the policy include the identification of priority substances and the preparation of management plans for each of these substances.

Priority substance management is a key process in our proactive management of safe use of chemicals
- **Priority substances** include substances with especially harmful / hazardous properties, substances that are included in selected regulatory schemes with the anticipation of stricter regulation in the future, and substances which are otherwise controversial or the focus of stakeholders' concern.
- **Kemira priority substance list** contains substances from our product portfolio which we have proactively identified and prioritized since they may pose a risk in our value chain. We identify and follow relevant regulatory schemes and the requirements of non-regulatory stakeholders. We screen the long list of substances against available raw material compositions and sales product compositions, and then prioritize the substances by revenue or raw material spend, assigning experts to evaluate the validity of potential concerns.
- **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 may include substitution, replacement or changes in the product information provided for users in our value chain.

PRODUCT REGULATORY COMPLIANCE
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The manufacturing and sale of chemicals are widely regulated around the world. Chemicals are regulated at multiple levels, including:
1) Regional and country-specific inventories and substance registrations, such as the Toxic Substances Control Act (TSCA) in the USA, the China Existing Chemical Inventory (IECSC), and the EU's REACH Regulation (Registration, Evaluation, Authorization and Restriction of Chemicals).
2) Regulations related to hazard communication, including chemical classification, labeling and safety data sheet requirements.
3) End use or application-specific regulations such as food contact regulations, biocide regulations and off-shore chemicals notification schemes.
4) Operational and site-specific requirements related to rules and procedures such as environmental permits for specific operations, and workplace health and safety regulations.

Key activities relating to regulatory compliance conducted in 2016:
- We have continued to prepare for the remaining REACH registrations in the EU, in order to meet our obligations before the third and final transitional registration deadline in 2018.
- We are preparing to register our chemicals so as to comply also with Korea's REACH requirements.
- We have started to make substance registrations and continued to prepare registrations required under the EU Biocidal Products Regulation.

- Actions have been taken in relation to the United Nations' Globally Harmonized System (GHS) for classification and labeling of chemicals, including the due implementation of new classifications with new safety data sheets and labels in Canada, in advance of the deadline of 31st May 2017.
- Product regulatory compliance audits are conducted regularly at our manufacturing sites.

G4-PR2: TOTAL NUMBER OF INCIDENTS OF NON-COMPLIANCE WITH REGULATIONS AND VOLUNTARY CODES CONCERNING THE HEALTH AND SAFETY IMPACTS OF PRODUCTS AND SERVICES DURING THEIR LIFE CYCLE, BY TYPE OF OUTCOMES

In 2016, Kemira did not record any cases of non-compliance with regulations and voluntary codes resulting in any fine, penalty or warning.

MATERIAL ASPECT: PRODUCT AND SERVICE LABELING
G4-PR3: TYPE OF PRODUCT AND SERVICE INFORMATION REQUIRED BY THE ORGANIZATION'S PROCEDURES FOR PRODUCT AND SERVICE INFORMATION AND LABELING, AND PERCENTAGE OF SIGNIFICANT PRODUCT AND SERVICE CATEGORIES SUBJECT TO SUCH INFORMATION REQUIREMENTS

Kemira's product portfolio contains 7 major product lines and approximately 2,400 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 for all products, although in most jurisdictions Safety Data Sheets are mandatory only for hazardous products. 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 2016, the Kemira Product Stewardship & Regulatory Affairs team responded to approximately 7,700 (8,770 in 2015 and 5,400 in 2014) requests concerning product safety and/or regulatory compliance from customers around the world.

G4-PR3: PRODUCT AND SERVICE INFORMATION PROVIDED

Topic	Product and service information provided
Sourcing of components of the product or service	Only if requested by customers
Content, particularly with regard to substances that might have environmental or social impacts	As required by law, always in Safety Data Sheets (SDS) and on product labels. Additional information compiled about chemicals in our products for voluntary certification/compliance schemes such as ecolabeling is also provided to customers on request, when applicable.
Safe use of the product or service	Details of how to use a product or service safely are provided in SDS's and on product labels. Additional information about usage, dosage and applications is provided to customers when applicable.
Disposal of the product and environmental/social impacts	Whenever legally required, information on the disposal of a product and the related environmental/social impacts is provided in the SDS's and on product labels.

G4-PR4: TOTAL NUMBER OF INCIDENTS OF NON-COMPLIANCE WITH REGULATIONS AND VOLUNTARY CODES CONCERNING PRODUCT AND SERVICE INFORMATION AND LABELING, BY TYPE OF OUTCOMES

Customer complaints, claims and non-conformities are actively monitored, evaluated and corrected as required by the quality management system in use at Kemira.

During 2016, a total of 93 (72) customer complaints were recorded relating to labeling, of which 63 cases were in the EMEA region, 23 in the Americas, and 7 in the APAC region. Wrong label or wrong information on label was the most frequent reason for a customer complaint. Corrective actions planned for 14 cases were underway at the year end.

In late 2016, a total of 3 (4) incidents related to non-compliance with regulations were reported. The handling of all cases was ongoing by the year end.

During 2016, no incidents of non-compliance with regulations resulting in any fine, penalty or warning were reported within Kemira's operations.

MATERIAL ASPECT: MARKETING COMMUNICATIONS
G4-PR6: SALE OF BANNED OR DISPUTED PRODUCTS

As stated in our Code of conduct, Kemira complies with law, including chemical laws and regulations, and we do 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. See also indicator G4-PR1.

MATERIAL ASPECT: PRODUCT COMPLIANCE
G4-PR9: MONETARY VALUE OF SIGNIFICANT FINES FOR NON-COMPLIANCE WITH LAWS AND REGULATIONS CONCERNING THE PROVISION AND USE OF PRODUCTS AND SERVICES

During 2016, Kemira was not accused of any regulatory non-compliances resulting in fines.

4 REPORTING PRINCIPLES

4.1 REPORTING FRAMEWORK AND DISCLOSURES

The GRI disclosures are part of the Kemira Annual Report 2016, and is prepared in accordance with the Core option of the Global Reporting Initiative (GRI) G4 Guidelines. Some of the General Standard Disclosures or Specific Standard Disclosures according to the GRI G4 Guidelines are reported in other sections of Kemira's Annual Report 2016: i.e. in its Business Overview, Corporate Governance Statement or Financial Statement.

- The requirements of the EU Directive 2014/95/EU disclosure of non-financial and diversity information by large public-interest entities are partially reflected in Kemira's GRI disclosures 2016.
- Communication on Progress (COP) in relation to the UN Global Compact's Ten Principles is included in the Business Overview and this GRI disclosures.

The GRI Content Index refers both to the GRI-G4 indicators for actions to implement the UN Global Compact, and to the disclosure requirements of EU Directive 2014/95/EU.

Kemira's Board of Directors reviewed and approved the contents of our Business Overview and GRI disclosures in February 2017. Deloitte & Touche Oy has independently assured the contents related to our economic, environmental and social performance against the GRI principles for report content and quality.

4.2 REPORTING SCOPE

G4-13: SIGNIFICANT CHANGES DURING THE REPORTING PERIOD
—

At the end of 2016, Kemira operated 63 (64 in 2015) manufacturing sites. During 2016, Kemira closed 2 manufacturing sites, Zaramillo in Spain and Ottawa in Canada. A smaller site Flix in Spain is integrated into Tarragona site. Ortigueira manufacturing site in Brazil was started in April. Our environmental reporting scope included 66 (67) manufacturing sites owned by Kemira Oyj and subsidiaries. See the Consolidated Financial statements, note 32.

There were no significant changes in our company size, structure or ownership or along our supply chains in terms of the locations of material and service suppliers, or our selection or termination of suppliers. A decision was made to outsource external road transportation management activities to Odyssey, starting in 2017.

G4-17: ENTITIES INCLUDED IN THE ORGANIZATION'S CONSOLIDATED FINANCIAL STATEMENTS
—

The reporting boundaries mainly follow the reporting boundaries of Kemira's Consolidated Financial Statements. The reporting boundaries and the completeness of the information is provided in the table Reporting scope (G4-19, G4-20, and G4-21). The entities included in Kemira's Consolidated Financial Statements are listed in the Consolidated Financial Statement: Note 33; Group companies.

G4-18: PROCESS FOR DEFINING GRI REPORT CONTENT AND ASPECT BOUNDARIES
—

The selection of material aspects reported in the section Performance disclosures was carried out in accordance with the GRI G4 Principles for defining report content.

1. IDENTIFICATION OF MATERIAL ASPECTS
Material aspects relevant to Kemira have been identified on the basis of the topics and concerns raised by our stakeholders. Our stakeholder expectations were most recently reviewed in 2015.

2. PRIORITIZATION OF MATERIAL ASPECTS
The identified topics were matched against 46 material aspects in the GRI subject list and were prioritized with reference to their relative importance to stakeholders, and to their relevance to Kemira's strategy and business model, as well as the relevance of sustainability topics to the global chemical sector as a whole. The procedure identified 36 material aspects as duly meeting these criteria, and which were selected for our reporting purposes.

3. VALIDATION
Data collection practices for the selected material aspects were reviewed and defined. These aspects are listed together with the respective aspect boundaries and data collection practices in table G4-19–21. Aspect boundaries for the selected material aspects were defined to reflect whether the impacts occur within or outside of entities owned by Kemira. According to Kemira's consolidation rules, all entities owned by the company during the reporting year are included.

The identified material aspects provide a balanced representation of Kemira's corporate responsibility focus areas, which are: Responsible business practices; Sustainable products and solutions; Responsibility towards our employees; Responsibility in our supply chain; Responsible manufacturing; and Responsibility towards the local communities we operate in.

4. REVIEW
Our Management Board annually discusses and approves our corporate responsibility performance and targets.

G4-19–21 IDENTIFIED MATERIAL ASPECTS AND ASPECT BOUNDARIES

G4-19: Identified material aspects	G4-20: Aspect boundaries within Kemira	G4-21: Aspect boundaries outside Kemira	Data collection practices
CATEGORY: ECONOMIC			
• Economic performance	Kemira's operations*		Data is extracted from Kemira's Enterprise Resource Planning (ERP) system and collected from Kemira consolidated companies. Consolidation on the Group level.
CATEGORY: ENVIRONMENT			
• Materials • Products and services • Transport	Kemira's operations as covered by our ERP**		Data is extracted from Kemira's ERP system and from our R&D and New Product Development process documentation.
• Energy (Scopes 1 and 2) • Water • Emissions (Scopes 1 and 2) • Effluents and waste • Compliance • Environmental expenses and investments	Kemira's manufacturing sites***		Data is collected from each production site and consolidated on the Group level.
• Emissions (Scope 3)		Kemira value chain from suppliers to customers	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 Greenhouse Gas Emissions in the Chemical Sector Value Chain.
• Supplier Environmental Assessments		Suppliers	Harmony Contract Management Tool used to track suppliers' signing of our Code of Conduct for Suppliers, Agents and Distributors. Ecovadis database for supplier sustainability assessment.
• Environmental Grievance Mechanism	Kemira's operations*	External stakeholders	Kemira's Compliance and Ethics Hotline. External notifications collected from responsibility@kemira.com.
CATEGORY: SOCIAL			
Labor practices and decent work			
• Employment • Labor/management relations • Occupational health and safety**** • Training and education • Diversity and equal opportunity • Equal remuneration for women and men	Kemira's operations*		HR data management system. To some extent Kemira uses workers and employees who are supervised by our contractors, but the related information is managed locally at respective sites, and not collected and consolidated globally.
• Supplier Assessments for Labor Practices		Suppliers	Harmony Contract Management Tool used to track suppliers' signing of our Code of Conduct for Suppliers, Agents and Distributors.
• Labor Practices Grievance Mechanism	Kemira's operations*	External stakeholders	Kemira's Compliance and Ethics Hotline.
Human rights			
• Non-discrimination • Freedom of association and collective bargaining • Human Rights Assessments	Kemira's operations*		Notifications through Compliance & Ethics Hotline and responsibility@kemira.com.
• Supplier Human Rights Assessments		Suppliers	Harmony Contract Management Tool used to track suppliers' signing of our Code of Conduct for Suppliers, Agents and Distributors.
• Human Rights Grievance Mechanism	Kemira's operations*	External stakeholders	Kemira's Compliance and Ethics Hotline. External notifications collected from responsibility@kemira.com.
Society			
• Local communities • Anti-corruption • Public policy • Anti-competitive behavior • Compliance	Kemira's operations*		Data is collected from each region, from Kemira's legal archive, and through notifications from Kemira's Compliance and Ethics Hotline.
• Supplier Assessment for Impacts on Society		Suppliers	Harmony Contract Management Tool used to track suppliers' signing of Code of Conduct for Suppliers, Agents and Distributors.
• Grievance Mechanism for Impacts on Society	Kemira's operations*	External stakeholders	Kemira's Compliance and Ethics Hotline. External notifications collected from responsibility@Kemira.com.
Product responsibility			
• Customer health and safety • Product and service labeling • Marketing communication • Compliance	Kemira's operations covered by ERP		Data is extracted from Kemira's ERP system, from R&D and New Product Development process documentation, and from Kemira's legal archives.

*   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.

**** Occupational health & safety: total recordable incident (TRI) figures also cover contractors working at Kemira sites.

G4-22: EFFECTS OF ANY RESTATEMENTS OF INFORMATION PROVIDED IN PREVIOUS REPORTS, AND THE REASONS FOR SUCH RESTATEMENTS.

In 2016 report, there were no major restatements of information provided in previous reports.

G4-23: SIGNIFICANT CHANGES FROM PREVIOUS REPORTING PERIODS IN THE SCOPE AND ASPECT BOUNDARIES

There are no significant changes from previous reporting periods in the reporting scope and aspect boundaries.

4.3 REPORT PROFILE

G4-28: REPORTING PERIOD

The reporting period is from 1 January to 31 December 2016.

G4-29: DATE OF THE MOST RECENT PREVIOUS REPORT

Kemira's previous Corporate Responsibility Report 2015 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.

G4-30: 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.

G4-31: CONTACT POINT FOR QUESTIONS REGARDING THE REPORT

If you have any questions regarding this report or its contents, please contact Kemira Communications and Corporate Responsibility. Contact details are available at www.kemira.com.

5   ASSURANCE REPORT

INDEPENDENT LIMITED ASSURANCE REPORT

G4-33: POLICY AND CURRENT PRACTICE WITH REGARD TO SEEKING EXTERNAL ASSURANCE FOR THE REPORT

Information on the organization's policy and current practice with regard to external assurance can be found in the Assurance statement.

TO THE BOARD OF DIRECTORS 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, 2016 to December 31, 2016. The information subject to the assurance engagement is the Kemira GRI 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 principles on pages 43–45 of the GRI report and the Sustainability Reporting Guidelines (G4 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 San Giorgio in Italy and Nanjing in China 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 Guidelines (G4 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 & Touche 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 Guidelines (G4 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 8.2.2017
Deloitte & Touche Oy

Jukka Vattulainen
Authorized Public
Accountant

Lasse Ingström
Authorized Public
Accountant

6 GRI CONTENT INDEX

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

• The report is prepared in accordance with the GRI-G4 Core option.
• Communication on Progress (COP) of the UN Global Compact at Global Compact Active level using the GRI G4 reporting principles.

GENERAL STANDARD DISCLOSURES

	Standard disclosures	Location in the Annual Report (pp)	UN Global Compact Principles
STRATEGY AND ANALYSIS			
G4-1	Statement from the most senior decision maker of the organization about relevance of sustainability to the organization and its strategy	BO 4–7	Commitement to GC
G4-2	Key impacts, risks and opportunities	BO 32–33 GRI 15–17	
ORGANIZATIONAL PROFILE			
G4-3	Name of the reporting organization	Kemira Oyj	
G4-4	Primary brands, products and services	BO 20–31	
G4-5	Location of organization's headquarters	Helsinki, Finland	
G4-6	Countries of operation	BO 2–3, 19	
G4-7	Nature of ownership and legal form	BO 1	
G4-8	Markets served with geographic breakdown	BO 2–3, 19	
G4-9	Scale of the reporting organization	BO 2–3, FS 33	
G4-10	Workforce structure by emplyment type, gender and region	GRI 31–32	Principle 6
G4-11	Employees covered by collective bargaining agreements	GRI 32	Principle 3
G4-12	Description of organization's supply chain	GRI 10–11	
G4-13	Significant changes during the reporting period	GRI 43, FS note 32	
G4-14	Position regarding the precautionary principle and its application	GS, FS	
G4-15	Adherance to charters, principles and other external initiatives	BO 6, GRI 14	
G4-16	Memberships of associations and advocacy organizations	GRI 15	
IDENTIFIED MATERIAL ASPECTS AND BOUNDARIES			
G4-17	Entities included in the organization's consolidated financial statements	FS note 33	
G4-18	Process for determining the report content	GRI 43	
G4-19	Material Aspects identified in the process for defining report content	GRI 44	
G4-20	Boundaries of material aspects outside the organization	GRI 44	
G4-21	Boundaries of material aspects within the organization	GRI 44	
G4-22	Effect of any restatements of information provided in previous reports, and the reasons for such restatements.	GRI 45	
G4-23	Significant changes from previous reporting periods in the Scope and Aspect Boundaries	GRI 45	

GENERAL STANDARD DISCLOSURES

	Standard disclosures	Location in the Annual Report (pp)	UN Global Compact Principles
STAKEHOLDER ENGAGEMENT			
G4-24	Stakeholder groups engaged by the organization.	GRI 15	
G4-25	Basis for identification and selection of stakeholders	GRI 15	
G4-26	Organization's approach to stakeholder engagement	GRI 15	
G4-27	Key topics and concerns that have been raised through stakeholder engagement and how the organization has responded to those key topics and concerns	GRI 15	
REPORT PROFILE			
G4-28	Reporting period for the information provided	GRI 45	
G4-29	Date of the most recent previous report	GRI 45	
G4-30	Reporting cycle	GRI 45	
G4-31	Contact point for questions regarding the report or its contents	GRI 45	
G4-32	GRI content index. Table identifying the location of the Standard Disclosures in the report	GRI 48	
G4-33	Policy and practice with regard to seeking external assurance for the report	GRI 46	
GOVERNANCE AND ETHICS			
GOVERNANCE (see also Corporate governance statement)			
Governance Structure and Composition			
G4-34	Governance structure of the organization	GRI 20	
G4-36	Executive-level position with responsibility for economic, environmental and social topics	GRI 20	
ETHICS AND INTEGRITY			
G4-56	Organization's values, principles, standards and norms of behavior such as codes of conduct and codes of ethics	GRI 5	
G4-57	Internal and external mechanisms for seeking advice on ethical and lawful behavior, and matters related to organizational integrity, such as helplines or advice lines	GRI 5	
G4-58	Internal and external mechanisms for reporting concerns about unethical or unlawful behavior, and matters related to organizational integrity, such as escalation through line management, whistleblowing mechanisms or hotlines	GRI 5	

SPECIFIC STANDARD DISCLOSURES

GENERIC DISCLOSURES ON MANAGEMENT APPROACH

For Kemira´s Description of Management Approach (DMA), please see:
- Our management approach, GRI pp 14–20
- Focus areas, GRI pp 4–14
- Economic impact, GRI pp 21–22
- Governance, GS; GRI pp 5, 20

SPECIFIC STANDARD DISCLOSURES

Performance indicators		Location in the Annual Report (pp)	UN Global Compact Principles
ECONOMIC PERFORMANCE INDICATORS			
Aspect: Economic Performance			
G4-EC1	Direct economic value generated and distributed	GRI 21–22	
G4-EC3	Coverage of the organization's defined benefit plan obligations	GRI 22	
G4-EC4	Financial assistance received from government	GRI 22	
ENVIRONMENTAL PERFORMANCE INDICATORS			
Aspect: Materials			
G4-EN1	Materials used by weight or volume	GRI 23	Principle 7, 8
G4-EN2	Percentage of materials used that are recycled input materials	GRI 23	Principle 8
Aspect: Energy			
G4-EN3	Energy consumption within the organization	GRI 24	Principle 7, 8
G4-EN5	Energy intensity	GRI 24	Principle 8
G4-EN6	Reduction of energy consumption	GRI 24	Principle 8, 9
Aspect: Water			
G4-EN8	Total water withdrawal by source	GRI 27	Principle 7,8
G4-EN10	Percentage and total volume of water recycled and reused	GRI 27	Principle 8
Aspect: Emissions			
G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1)	GRI 25	Principle 7, 8
G4-EN16	Indirect greenhouse gas (GHG) emissions (Scope 2)	GRI 25	Principle 7, 8
G4-EN17	Other indirect greenhouse gas (GHG) emissions (Scope 3)	GRI 25–26	Principle 7, 8
G4-EN18	Greenhouse gas (GHG) emissions intensity	GRI 25	Principle 8
G4-EN19	Reduction of greenhouse gas (GHG) emissions	GRI 25	Principle 8,9
G4-EN20	Emissions of ozone-depleting substances (ODS)	GRI 26	Principle 7, 8
G4-EN21	NOX, SOX, and other significant air emissions	GRI 26	Principle 7, 8
Aspect: Effluents and Waste			
G4-EN22	Total water discharge by quality and destination	GRI 27	Principle 8
G4-EN23	Total weight of waste by type and disposal method	GRI 28	Principle 8
G4-EN24	Total number and volume of significant spills	GRI 28	Principle 8
G4-EN25	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention (2) Annex I, II, III, and VIII, and percentage of transported waste shipped internationally	GRI 28	Principle 8
Aspect: Products and Services			
G4-EN27	Extent of impact mitigation of environmental impacts of products and services	GRI 29	Principle 7, 8, 9
G4-EN28	Percentage of products sold and their packaging materials that are reclaimed by category	GRI 29	Principle 8
Aspect: Environmental compliance			
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	GRI 30	Principle 8
Aspect: Transport			
G4-EN30	Significant environmental impacts of transporting products and other goods and materials for the organization's operations, and transporting members of the workforce	GRI 30	Principle 8
Aspect: Overall environmental spend			
G4-EN31	Total environmental protection expenditures and investments by type	GRI 30	Principle 7, 8, 9
Aspect: Supplier Environmental Assessment			
G4-EN32	Percentage of new suppliers that were screened using environmental criteria	GRI 10	Principle 8
Aspect: Environmental Grievance Mechanisms			
G4-EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms	GRI 6	Principle 8

SPECIFIC STANDARD DISCLOSURES

Performance indicators		Location in the Annual Report (pp)	UN Global Compact Principles
SOCIAL PERFORMANCE INDICATORS			
LABOR PRACTICES AND DECENT WORK			
Aspect: Employment			
G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region	GRI 32–33	Principle 6
G4-LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation	GRI 34	
Aspect: Labor/Management Relations			
G4-LA4	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements	GRI 34	Principle 3
Aspect:Occupational Health and Safety			
G4-LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender	GRI 36	
Aspect: Training and Education			
G4-LA9	Average hours of training per year per employee by gender, and by employee category	GRI 35	Principle 6
G4-LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	GRI 35	
G4-LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	GRI 35	Principle 6
Aspect: Diversity and Equal Opportunity			
G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	GRI 36	Principle 6
Aspect: Equal Remuneration for Women and Men			
G4-LA13	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	GRI 37	Principle 6
Supplier Assessment for Labor Practices			
G4-LA14	Percentage of new suppliers that were screened using labor practices criteria	GRI 10	
Labor Practices Grievance Mechanisms			
G4-LA16	Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms	GRI 6	
HUMAN RIGHTS			
Aspect: Non-discrimination			
G4-HR3	Total number of incidents of discrimination and corrective actions taken	GRI 38	Principle 6
Aspect: Freedom of Association and Collective Bargaining			
G4-HR4	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights	GRI 38	Principle 3
Aspect: Assessment			
G4-HR9	Total number and percentage of operations that have been subject to human rights reviews or impact assessments	GRI 38	Principle 1
Aspect: Supplier Human Rights Assessment			
G4-HR10	Percentage of new suppliers that were screened using human rights criteria	GRI 10	Principle 2
Aspect: Human Rights Grievance Mechanisms			
G4-HR12	Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms	GRI 6	Principle 1

SPECIFIC STANDARD DISCLOSURES

	Performance indicators	Location in the Annual Report (pp)	UN Global Compact Principles
SOCIETY			
Aspect: Local Communities			
G4-SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs	GRI 39	Principle 1
G4-SO2	Operations with significant actual and potential negative impacts on local communities	GRI 39	Principle 1
Aspect: Anti-corruption			
G4-SO3	Total number and percentage of operations asessed for risks related to corruption and the significant risks identified	GRI 39	Principle 10
G4-SO4	Communication and training on anti-corruption policies and procedures	GRI 40	Principle 10
G4-SO5	Confirmed incidents of corruption and actions taken	GRI 40	Principle 10
Aspect: Public Policy			
G4-SO6	Total value of political contributions by country and recipient/beneficiary	GRI 40	Principle 10
Aspect: Anti-competitive Behavior			
G4-SO7	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes	GRI 40	
Aspect: Compliance			
G4-SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	GRI 40	
Aspect: Supplier Assessment for Impacts on Society			
G4-SO9	Percentage of new suppliers that were screened using criteria for impacts on society	GRI 10	
Aspect: Grievance Mechanisms for Impacts on Society			
G4-SO11	Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms	GRI 6	
PRODUCT RESPONSIBILITY			
Aspect: Customer Health and Safety			
G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement	GRI 11	
G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes	GRI 42	
Aspect: Product and Service Labeling			
G4-PR3	Type of product and service information required by the organization's procedures for product and service information and labeling, and percentage of significant product and service categories subject to such information requirements	GRI 42	
G4-PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes	GRI 42	
Aspect: Marketing Communications			
G4-PR6	Sale of banned or disputed products	GRI 42	
Aspect: Product compliance			
G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	GRI 42	

7 LINKING KEMIRA'S ANNUAL REPORT 2016 AND THE EU DIRECTIVE 2014/95/EU ON NON-FINANCIAL AND DIVERSITY DISCLOSURES

EU Directive Disclosure elements	EU Directive Content of disclosure elements	Kemira Annual Report 2016	
		Policies, outcome of policies, principal related risks (page in BO or GRI)	GRI 4 indicators in GRI disclosures
GENERAL DISCLOSURES			
	Description of business model	BO page 9, GRI page 17	
	External assurance	GRI page 46	
DIVERSITY			
	Description of our diversity policy in relation to our Board of Directors	Diversity Principles of Board of Directors at www.kemira.com	
ENVIRONMENTAL MATTERS			
	Use of materials	GRI 14–20	EN 1–2
	Use of renewable and/or non-renewable energy	GRI 12–20	EN 3, 5, 6
	Greenhouse gas emissions	GRI 12–20	EN 15–19
	Air pollution	GRI 14–20	EN 20
	Water use	GRI 14–20	EN 8, 10
	Land use and biodiversity	GRI 43	Not reported based on the materiality analysis
SOCIAL MATTERS			
	Dialogue with local communities	GRI 14–20	SO 1–2
	Actions taken to ensure the protection and the development of those communities	GRI 14–20	SO 1–2
EMPLOYEE MATTERS			
	Actions taken to ensure gender equality	GRI 8–9, GRI 14–20	LA 12–13
	Implementation of fundamental conventions of the International Labour Organisation	GRI 8–9, GRI 14–20	HR 3–4
	Working conditions	GRI 8–9, GRI 14–20	LA 6, 14, 16
	Social dialogue (stakeholder engagement)	GRI 14–20	24–27
	Respect for the right of workers to be informed and consulted	GRI 8–9, GRI 14–20	LA4
	Respect for trade union rights	GRI 8–9, GRI 14–20	HR 4
	Health and safety at work	GRI 8–9, GRI 14–20	LA 6
	Diversity of competences and views of the members of administrative, management and supervisory bodies, for instance age, gender and educational and professional backgrounds	GRI 8–9, GRI 14–20	LA 12
HUMAN RIGHTS MATTERS			
	Prevention of human rights abuses	GRI 5–6, GRI 14–20	HR 9–10, 12
ANTI-CORRUPTION AND BRIBERY MATTERS			
	Instruments in place to fight corruption and bribery	GRI 5–6, GRI 14–20	SO 3–5, 11

KEMIΓA

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