


WORKING FOR RESOURCE EFFICIENCY

SUSTAINABILITY REPORT 2015



 Sustainable use of
Earth's natural resources

Outotec

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WORKING FOR RESOURCE EFFICIENCY

With a mission of 'Sustainable use of Earth's natural resources', Outotec provides resource efficient technologies and life-cycle solutions for customers all over the world, creating a significant positive handprint. We work hard to maximize this transformative potential, and help our customers reduce the ecological footprint of their operations. As leaders in the field, we strive to ensure that sustainability is demonstrated in everything we do.

Outotec's core competences across the minerals and metals processing value chains have been built up over more than 100 years of continuous business operation. We have further expanded our handprint by developing innovative applications for renewable energy, water management and recycling. In this report we showcase some of the ways in which our technology has made a difference for our customers and the communities where they work.



PRODUCTIVITY AND PROFITABILITY IN THE CIRCULAR ECONOMY



2015 was a year of both progress and challenges. On the one hand, a significant milestone in global climate negotiations was reached in Paris. The resulting agreement is expected to reshape the playing field for businesses and promote effective emission cuts. The United Nations also built a global consensus behind the 2030 Agenda for Sustainable Development.

These developments are good news for Outotec. As our expertise is in resource-efficient technologies and services that enable the sustainable use of Earth's natural resources, these initiatives will generate new business opportunities for us.

The success or failure of sustainable development, however, continues to depend on the daily performance of people and organizations. The collapse of a mining tailings dam in Brazil in November resulted in unacceptable fatalities, as well as severe environmental damage to soil and waters downstream. This accident illustrates how essential it is to minimize environmental and safety risks.

The capacity of our planet limits all human activity. We are already excessively exploiting many critical resources, and it is necessary to decouple economic growth from harmful environmental impacts. To do this we must both minimize the footprint of primary production of raw materials such as metals, and maximize the recycling of such non-renewable resources. Through our technologies we at Outotec contribute to the sustainable primary production of materials, and support the creation of a circular economy by providing solutions that reduce water and energy consumption, while also minimizing waste by maximizing the recovery, reuse and recycling of metals and other materials.

RESOURCE EFFICIENCY INCREASINGLY IN FOCUS

2015 was a mixed and challenging year for us. Prevalent economic trends had negative impacts in the industry sectors we serve. Productivity and profitability are the number one priorities both for our customers and for ourselves. The way forward, and new growth, must be characterized by the more sustainable utilization of resources. We aim to help our customers improve their profitability by providing solutions that are environmentally safe and sound, but also economical due to the lower total cost of ownership. Our modern waste-to-energy solutions provide a good example of how technology can take us towards a circular economy by easing two major environmental problems: the landfilling of wastes, and the consumption of fossil fuels. We also offer solutions for recovering metals from residues, scrap and used products. Our customers are increasingly putting environmental sustainability high on their agenda.

A balanced sustainability approach must also benefit shareholders. We did not succeed well in generating shareholder val-

ue for our owners in 2015. To adapt to the difficult market environment, we took several actions to improve profitability. A new operating model was introduced, and we were compelled to reduce our workforce. But at the same time we kept on investing in the development of new products, while also securing strong competencies and best-in-class process technology know-how.

Feedback from our own people indicates that we all see a need to be more agile and responsive in serving our customers, and to work better internally across organizational boundaries – very important in our truly global business. I have been highly motivated by our employees' comments relating to our mission. Even in these tough times, people want to make sure we can keep on working on our mission to promote the sustainable use of the Earth's natural resources. That is exactly what we are doing. I want to personally thank every Outotec employee for their devotion and contributions.

PRIDE IN OUR HANDPRINT

We are committed to the United Nations' Global Compact principles on human rights, environment, labor and anti-corruption, and enhancing our governance is a continuous task. Although we have most of the required practices in place, maintaining compliance and building further improvements nevertheless remain daily tasks for everyone at Outotec.

We strive to work constantly in line with our "handprint" approach. We can proudly say that our handprint is larger than our footprint – meaning that the positive impacts of our products and services on the environment are demonstrably greater than the negative impacts generated by our operations and our supply chain.

We were selected for the third consecutive year for the Dow Jones Sustainability Europe Index – and early in 2016 Outotec was again ranked the world's third most sustainable company on the Global 100 Index of Corporate Knights.

I strongly believe in the power of co-creation. Our Sustainability Council, whose members represent our key stakeholder groups, is a vital channel for fruitful dialogue. We particularly asked council members to share their views on three cases examined in this report, and you can read their views in this report.

We are also keen to hear from you. Whenever you meet anyone from Outotec, we would be pleased to learn about your views on crucial issues such as the circular economy and sustainable growth.

Pertti Korhonen
President and CEO



THIS IS OUTOTEC

Outotec designs and delivers sustainable technology and service solutions for processing minerals and metals, for water treatment, and for producing energy from biomass and wastes. Outotec's unique position at the forefront of these industries is founded on a century of scientific knowledge and operational experience, which have resulted in a wide range of applications, particularly for processing virtually all types of ores and minerals. Outotec has a strong position along the entire value chain from ores to metals.

Outotec's customers include businesses who are investing in new processing plants or modernizing their existing plants to increase the profitability of their operations, improve their resource efficiency, or reduce their emissions, energy consumption or fresh water use. In line with our mission targeting the sustainable use of Earth's natural resources, Outotec works to optimize customers' return on investment with minimal ecological impact. Innovative research at our in-house R&D centers and continuous development work realized together with our customers have made us the leading developer of technology in the mineral processing and metallurgical industry.

Outotec operates globally, with offices or operative units in 32 countries, including our headquarters in Finland. We sell

products and services to over 80 countries. Our regional organizations provide full support for our customers' businesses – both in the everyday running of their operations and when they make new investments. Our two business units – Minerals Processing; and Metals, Energy & Water – are dedicated to the creation of sustainable technology solutions and life-cycle services for our customers.

In 2015 Outotec acquired the aluminum technology and service businesses of Kempe Engineering, Biomin's BIOX® bio-oxidation technology, Kovit Engineering's tailings management business, and Sinter Plant Services in South Africa. Approximately 54 percent of Outotec's sales were generated in emerging markets.

Outotec has been listed on the NASDAQ Helsinki since 2006. Due to declined share price and market capitalization, Outotec's category was changed from Large Cap to Mid Cap companies in 2015. There was no major change in the ownership of the company in 2015.

90% of our order intake consisted of environmental goods and services



Read about Outotec's financial performance, legal entities and shareholders in our **Financial Statements 2015** at www.outotec.com/investors.

Key figures	2015	2014	2013
Sales, EUR million	1,201.2	1,402.6	1,911.5
Reported operating profit, EUR million	-12.3	10.4	141.9
Research and development expenses, EUR million	61.2	56.9*)	48.7
Priority applications	93	62	101
Average number of employees	4,855	4,845	4,927
Employee engagement index	56%	-	69%
Wages and salaries, EUR million	353.4	362.8	385.8
Share of environmental goods and services in order intake	90%	90%	87%
Greenhouse gas emissions avoided through the use of Outotec technologies, thousand tonnes of CO ₂ -e	6,600	5,900	5,400
Lost time injury rate (LTIR) per 1 million working hours	2.8	1.5	1.9
Total greenhouse gas emissions, tonnes of CO ₂ per EUR 1 million sales	28.2	24.8	23.7
Total energy consumption, TJ	164.5	152.9	156.8

*) Restated figure

SUSTAINABILITY HIGHLIGHTS IN 2015



Jan 15 First meeting of Outotec's new Sustainability Advisory Council

Jan 22 Outotec ranked the world's 12th most sustainable company on the Global 100 index of Corporate Knights

Feb 25 Safety milestone of 11 million accident-free hours worked reached at the Cristal ilmenite smelter site

Mar 27 Publication of Maximizing our handprint - Outotec's sustainability report 2014

Apr 9 Outotec and the China Nonferrous Metals Industry Association co-hosted the Nonferrous Metal Metallurgy Mercury Capture & Gas Cleaning Technology Seminar in Xiamen, China

May Milestone of 1 million hours worked with zero lost time reached in the Anglo American Barro Alto shutdown project

Jun 9 Students from Central South University in China granted awards by Outotec in a sustainability contest

Jun 18 New Outotec pilot plant enabling renewable energy generation from bio-waste unveiled in Skellefteå, Sweden

Jun 26 Students from Finland's Aalto University presented a review of the future of mining work to Outotec

Jun 26 Outotec became a founding member of the Sustainability Board of Aprimin, the association of Chilean mining industry suppliers

Q4

Q3

Jul 1

Customer seminar on sustainable mining and metallurgy hosted by Outotec in Mongolia

Aug 6

Outotec's Sustainability Advisory Council met for the second time

Aug 13

Canadian company Kovit Engineering acquired to complement Outotec's tailings management solutions

Sep 2

Bi-annual O'People employee engagement survey completed

Sep 8

Outotec's new Dewatering Technology Center inaugurated in Lappeenranta, Finland

Sep 10

Outotec recognized again in the Dow Jones Sustainability Index

Sep 17

Supplier Day event hosted by Outotec in Finland

Nov 12

Outotec Chile received an annual industrial safety award

Nov 20

Seminar on the Green Economy jointly organized by WWF and Outotec in Helsinki, Finland

Nov 20

EUR 70 million program initiated to adapt Outotec's cost structure to the weakened market situation

Nov 25

Outotec's sustainability report chosen as the best in Finland by representatives of the media and NGOs

Nov 25

Ondundu Primary School in Namibia started using a new dining hall funded by Outotec

Nov 27

Technology Awards presented to employees at Outotec Technology Days

Dec 9

Outotec's sulfate removal process nominated for the GreenTec Awards 2016

Dec 18

Milestone of two years without lost time injuries reached at Outotec's Turku manufacturing facility

Dec 21

Alunorte in Brazil awarded Outotec for safety performance and leadership in environment, health and safety

OUR STRATEGY

Outotec's mission, 'sustainable use of Earth's natural resources', defines the purpose of our company along with our core value – commitment to sustainability. These are the two vital elements that embed sustainability in everything we do, and lay the foundation for our strategy. While optimizing life-cycle performance and return on our customers' investments, we also aim to create shared value and return for our shareholders. Our long-term target is to grow faster than the market, and to generate a healthy operating profit margin each year.

Outotec's strategy is to provide the best life-cycle performance for our customers. We do this by helping our customers improve the productivity of their operations, and by ensuring the best return on their equipment and plant investments.

Because of the slowing growth in demand for metals, the resulting overcapacity in many minerals and metals, and low metals prices, our customers are mainly focusing on improving their existing operations instead of making large greenfield investments. We offer the best life-cycle performance for customers' production assets, which helps customers achieve their targets and cope in the tough market environment. This strategy opens growth opportunities for Outotec in service business, which has the potential to reduce volatility and improve Outotec's profitability.

In mineral and metal processing, Outotec has long been an industry leader, developing innovative technologies for nearly a century, and offering solutions that minimize our customers' ecological footprint and support their license to operate. Our aim is to also in the future lead in process technology, complemented by digital solutions, and have strong

local and global service competences. In addition, we continuously improve the cost-competitiveness of our products and increase internal efficiency. This strong base makes Outotec well positioned to help customers improve their productivity and the life-cycle performance of their assets.

We are continuously strengthening our technology and service portfolio for the entire value chain, from ore to metals, through in-house research and development as well as through acquisitions. In 2015 we launched several new products and acquired four companies or businesses.

We also aim to grow our renewable energy and waste-to-energy businesses by offering innovative solutions based on fluidized bed technology, which can reduce waste to landfill while also providing clean energy. In 2015, Outotec sold seven waste-to-energy or renewable energy plants in the United Kingdom and Canada.

In order to adapt to the further weakened market situation, Outotec launched a new 70-million-euro cost structure program in November 2015 to streamline our organization and achieve further

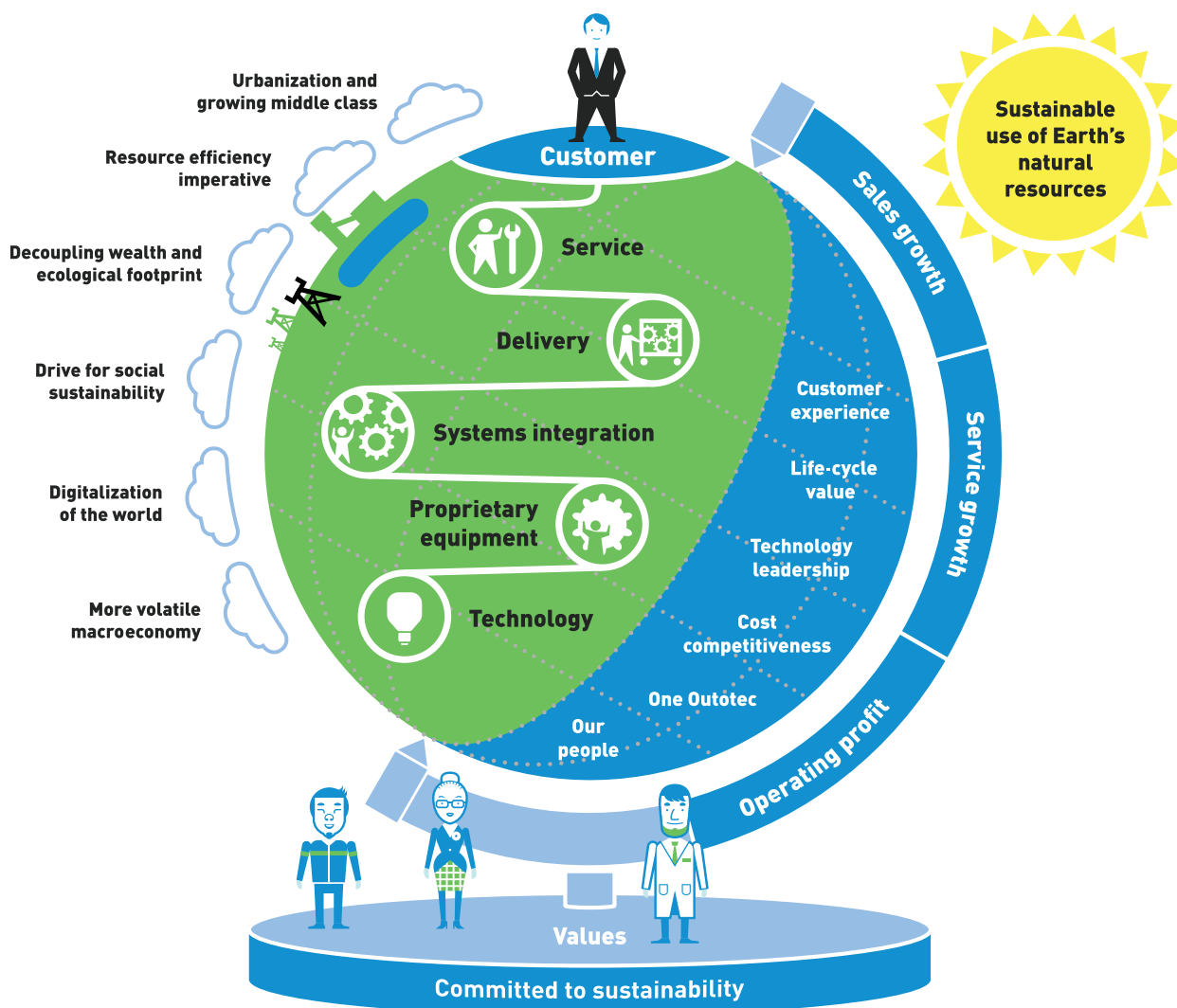
savings in fixed costs. The strategic programs carried out during the year aimed to enhance customer focus in sales, improve growth and profitability in the service business, boost product competitiveness, emphasize delivery excellence, and further develop our operating model and common business processes and tools in line with the 'One Outotec' approach. In 2016, the strategic programs will be addressing service growth and profitability, product cost competitiveness, digitalization and cost structure improvement.

Our mission, this strategy and our materiality analysis all steer our sustainability work.

SUSTAINABILITY CRITERIA CONSIDERED IN MERGERS AND ACQUISITIONS

Acquisitions support Outotec's long-term growth strategy. We take environmental, economic and social aspects into consideration when assessing potential acquisition targets. We also carry out environmental due diligence if there are environmental considerations relating to the acquisition.

In 2015 Outotec made four acquisitions: Kempe Engineering's aluminum



technology and service businesses; Biomin's BIOX® bio-oxidation technology; Kovit Engineering's tailings management business in Canada; and Sinter Plant Services, who provide maintenance services for South African ferrochrome plants.

The acquisition of Kovit Engineering was particularly based on sustainability reasons. The effective and safe disposal of mining wastes can be technically and environmentally challenging, but this acquisition will further strengthen Outotec's position as a provider of sustainable

and water-efficient tailings management solutions to the mining industry.

By combining our newly acquired BIOX® bio-oxidation expertise with our existing engineering capabilities and proprietary equipment, such as grinding mills, reactors, cooling towers and thickeners, we can provide gold producers with complete plant solutions including life-cycle services.

The integration of acquired companies is done according to well-defined processes, templates and tools. An integration team involving members of

both companies is nominated for each case, and their work is coordinated by Outotec's Strategy and M&A function. Acquired businesses are normally integrated into Outotec's operating model and brand in line with our 'One Outotec' principle.



MEGATRENDS

DRIVING OUR

BUSINESS

Three billion new middle-class consumers will need vital resources such as metals and water in the coming decades. This makes it essential to optimize resource usage and build a circular economy. Greater production capacity and more resource-efficient technologies will be needed. We must also decouple economic growth from harmful ecological impacts by enhancing processing technologies to reduce pollution, by increasing energy and material efficiency, and by increasingly recycling metals and reprocessing tailings and wastes.




Outotec's management annually evaluates the global megatrends that impact Outotec's business, examining related risks and opportunities to create the basis for our strategic planning. Sustainability-related risks and opportunities are addressed in Outotec's routine risk management processes.

The six megatrends with the greatest impact on Outotec today are the same as those listed in our 2014 evaluation. Three of these megatrends - urbanization and the growing middle class, the resource efficiency imperative, and decoupling wealth and ecological footprint - relate to the growing demand for metals

and minerals, and the excessive resource use that causes some of the world's most serious problems, such as climate change. Other megatrends identified as impacting Outotec's business are: the drive for social sustainability, the digitalization of the world, and the more volatile macroeconomy.

Overall, these global megatrends appear to bring Outotec more opportunities than threats. The six megatrends are described in the following table together with the related opportunities, risks and mitigation actions.

OPPORTUNITIES, RISKS AND THEIR MITIGATION

Opportunities for Outotec	Risks for Outotec	Mitigation
URBANIZATION AND THE GROWING MIDDLE CLASS		
 <p>Growing demand for minerals and metals to satisfy the needs of the new middle class requires greater processing capacity and more resource-efficient methods.</p>	<p>Outotec's cost structure may be too high for some emerging countries. If we fail to keep our portfolio competitive, we may lose business.</p>	<p>Outotec's technologies enable efficient ore processing and higher yields, thanks to advanced process control. We have developed modular products and we are increasing the use of local suppliers and best-cost-country sourcing to increase our cost-competitiveness.</p>
RESOURCE EFFICIENCY IMPERATIVE		
 <p>Valuable metals and minerals must be more effectively recovered, and tailings and waste must be better recycled and processed to promote the efficient use of resources. Our customers will need to replace inefficient processes with new technologies and energy- and water-efficient solutions. Outotec can sell more solutions for the production of metals from secondary materials, such as electronic waste, scrap metal, cabling, and battery paste or scrap.</p> <p>As the concept of the circular economy gains ground, requirements for the efficient use of biomass and waste will increase, providing opportunities for Outotec's waste-to-energy solutions.</p>	<p>Ore grades are declining, and ores are becoming more complex. If we fail to develop new technologies or keep our portfolio competitive, we could lose business.</p> <p>Tighter regulation might cause customers to lose their competitiveness and cease to operate. Customers' operations require sufficient amounts of water, fossil fuels, power and mineral resources. Unfavorable changes in the availability or prices of these commodities may lead to the closure of some operations, also reducing Outotec's business.</p>	<p>Our vast knowledge of mineralogy and process technologies together with our comprehensive R&D facilities enable Outotec to test various raw materials and develop new process solutions for low-grade and complex ores, as well as for industrial water and effluent treatment.</p> <p>Outotec's technologies - renowned for their energy efficiency and low CO₂ emissions - can cushion customers against carbon taxes and improve their competitiveness.</p>
DECOUPLING WEALTH AND ECOLOGICAL FOOTPRINT		
 <p>Due to stricter regulation and increased environmental awareness in local communities, the demand for environmentally sound solutions, water treatment and recycling is growing, creating opportunities for Outotec's clean technologies.</p>	<p>Stricter laws and regulation may make certain operations unprofitable or lead to customers losing their license to operate if they cannot meet the tougher requirements. This would reduce Outotec's opportunities to offer technologies and services to these operations. If environmental regulations tighten to the degree that new mining projects are not allowed, or become economically unfeasible, Outotec will lose business.</p>	<p>Metals and other materials can be produced sustainably using modern technologies. Outotec offers sealed processes including gas cleaning, sulfur capture and minimized energy consumption, as well as effluent and water treatment. Such solutions enable high yields and recycling rates. Outotec's tailings management solutions help mining companies to solve their environmental challenges. Outotec also offers waste-to-energy solutions that significantly reduce landfill while producing clean energy.</p>

Opportunities for Outotec

Risks for Outotec

Mitigation

DRIVE FOR SOCIAL SUSTAINABILITY



To maintain their social license to operate our customers are paying more attention to health, safety and social responsibility with regard to their employees and local communities. Outotec's strong track record as a responsible partner and a sustainability leader, and our inclusion in the Dow Jones Sustainability Index and other recognitions, all help customers to get financing and social acceptance for their projects. The World Bank, for example, has set sustainability standards for investments in mining operations.

If customers do not gain social acceptance or duly comply with regulations, they may be forced to close down their operations, reducing Outotec's business.

The metals industry emits SO₂, which has significant local impacts to the environment. Fine particulate matter emissions to air and heavy metals in hazardous dusts and fumes cause health problems. Eco-toxic substances from metallurgical operations impact air quality, water, and soils. If not appropriately used or maintained, Outotec's own products also have the potential to harm employees, our customers' employees or third parties or the environment.

Outotec has set long-term objectives, and we are continuously enhancing our sustainability performance, governance and sustainable offering. Our advanced technologies and services fulfil financiers' criteria, enabling our customers to run environmentally sound operations and maintain their social license to operate. Outotec has a globally integrated QEHS management system and an excellent track record in safety performance when providing processes and plants for our customers. We also collaborate with our customers and suppliers in developing countries to contribute to the well-being of local communities.

DIGITALIZATION OF THE WORLD



Digitalization, automation and systems integration offer new possibilities to capture value with Outotec's unique process technologies. Such developments also enable low-cost, flexible and highly responsive interactive partnership models. The full automation of product life-cycles opens up new opportunities for developing sustainable products, systems and services. Advanced ICT systems can bring business benefits including enhanced cost efficiency.

If Outotec's own development of software, remote monitoring, diagnostics or automation systems is not fast enough, we could lose business to competitors. Our business is highly dependent on well-functioning ICT infrastructure, so any disruptions may affect our business.

Digitalization forms part of product development in all of Outotec's product lines. We are continuously developing our software, remote monitoring and diagnostics, as well as process design modeling, simulation and control. Our worldwide network of experts and our advanced master data management and ICT infrastructure help us to ensure data quality, consistency across all business applications, and applicability in global operations.

MORE VOLATILE MACROECONOMY



86% of Outotec's business comes from the cyclical mining and metals industry. Overall investment activity rates, global GDP growth, consumption of metals, the balance or imbalance in supply and demand for metals, capacity utilization rates, and metal prices all greatly influence Outotec's business. Our business opportunities increase substantially during economic upswings. Changes in the global economy may boost Outotec's businesses in some parts of the world and increase the demand for certain technologies or services including upgrades and modernization.

During downturns, customers tend to minimize their investments in new processing capacity. Significant changes in commodity prices, currency rates or the availability of financing may make customers postpone orders or cancel projects. The lack of large customer projects can significantly reduce Outotec's sales and yearly or quarterly financial results. A volatile macroeconomy also hampers resource planning due to unpredictability.

Outotec operates globally and offers solutions for virtually all types of minerals and metals, which reduces our dependence on any single commodity or geographical market. We are strongly developing our service business and expanding our waste-to-energy and water management businesses to balance the cyclical nature of the mining industry.

OUR SUSTAINABILITY AGENDA

We have defined clear and transparent targets for ourselves, and we measure the success of our sustainability work in the long run in five areas that are most relevant to our stakeholders and Outotec's business: Safety; Sustainable offering for our customers; Responsible business practices; Sustainable supply chain; and Development of our people. Annual targets are based on short-term priorities defined to help us work towards our long-term goals.

We reviewed our Sustainability Agenda and long-term goals after a materiality assessment based on the G4 guidelines of the Global Reporting Initiative (GRI) was approved by the Executive Board in January 2015. The revised Sustainability Agenda comprises long-term goals for each of the five most material areas: safety, our offering, business practices, supply chain, and our people. We set annual targets that are linked to achieving these long-term goals and relate to nine material themes.

DEVELOPMENT WORK DRIVEN BY LONG-TERM GOALS

Safety arose as the most material theme in our recent materiality analysis, partly as a result of deeper stakeholder dialogue, and partly because our top management saw a need to improve our safety performance and culture. Zero accidents was set as the ultimate high-level target for our development work, even though this is a very ambitious target and seldom achieved by any company. Outotec's management believes that this level of commitment to a safe working environment is a necessity in the challenging project circumstances in which

our employees, customers and suppliers work.

Our technologies and R&D have a central role in our operations, since they represent the key means of reducing the environmental impacts of our customers' operations. For this reason, developing sustainable offering for our customers is also at the core of our sustainability work. Our second long-term goal relates to providing customers with even more sustainable technologies and services by 2020, to help them reduce their ecological footprint through our positive contribution. The base line year for our long-term technology-related targets is 2012.

We expanded our third long-term goal, previously related to governance, to cover responsible business practices. In this area we aim to develop strong common values and a robust Code of Conduct as well as a solid governance structure. A more specific long-term goal and related roadmap will be discussed during 2016.

Because the majority of Outotec's manufacturing is outsourced, sustainability along our supply chain is highly important to us. Global supply chain

management has been a prioritized development area for Outotec since 2010. In 2015, we defined a new long-term goal for our supply chain. By 2020, all our major suppliers should be committed to Outotec's Supplier Policy.

Outotec's business is dependent on our people, and especially on the way our experts think ahead. We want to make Outotec the most desirable place to work in our industry, and keep great talent with us. This means that we need to offer opportunities for continuous professional growth through job and task rotation. The key motivation for many experts today is a sense of fulfillment. As an enabling and engaging culture is a key differentiating factor for Outotec, we aim to achieve a five percent improvement in the employee engagement and performance enablement indices calculated on the basis of our employee surveys by 2020, compared with results from 2013. In the base year 2013, our employee engagement index was 69 percent, and our performance enablement index was 67 percent.

We see engagement as a combination of perceptions that have a positive impact on behavior, such as satisfac-

SUSTAINABILITY AGENDA 2020

tion, commitment, pride, loyalty, a strong sense of personal responsibility, and a willingness to be an advocate for the organization. Another key element is performance enablement, which focuses on customer service and quality, involvement, training and teamwork. Performance enablement is a good predictor of customer satisfaction and business performance in the form of sales growth, market share, productivity, and profitability. These parameters are measured at least every second year in our employee surveys.

LONG-TERM FINANCIAL TARGETS

In addition to the long-term goals related to our Sustainability Agenda, Outotec aims to achieve continuous profitable growth. Outotec's Board of Directors set the following long-term financial targets in November 2014:

- Sales growing faster than the market
- Annual average service sales growth of 10-20%
- EBITA margin (excl. one-time costs) of 10% in 3-5 years time
- Dividends averaging 40% of annual net income
- Gearing at maximum 50%

MEASURING OUR SUCCESS AGAINST ANNUAL TARGETS

The annual targets set for 2016 are linked to our efforts to work towards our long-term goals for the five areas defined as most material. We have annual targets for eight of the nine identified material themes, and we plan to discuss and define a roadmap and an annual target for equal opportunities and diversity during 2016.

SAFETY

- Zero accidents

SUSTAINABLE OFFERING FOR CUSTOMERS

- Share of Environmental Goods and Services in our order intake permanently over 90%
- Customers generate 20% less CO₂ by using Outotec's metals-related technologies
- 50% reduction in fresh make-up water/tonne of ore in non-ferrous metals concentrators using Outotec's solutions
- Double the energy produced through our waste-to-energy solutions compared to 2013

RESPONSIBLE BUSINESS PRACTICES

- Strong common values, a robust Code of Conduct, and solid governance structure

SUSTAINABLE SUPPLY CHAIN

- All major suppliers committed to Outotec's Supplier Policy

DEVELOPMENT OF OUR PEOPLE

- 5% improvement in employee engagement and performance enablement indices compared to 2013

FINANCIAL PERFORMANCE

- Continuous profitable growth

ANNUAL TARGETS

● Achieved ● Partially achieved ○ Not achieved

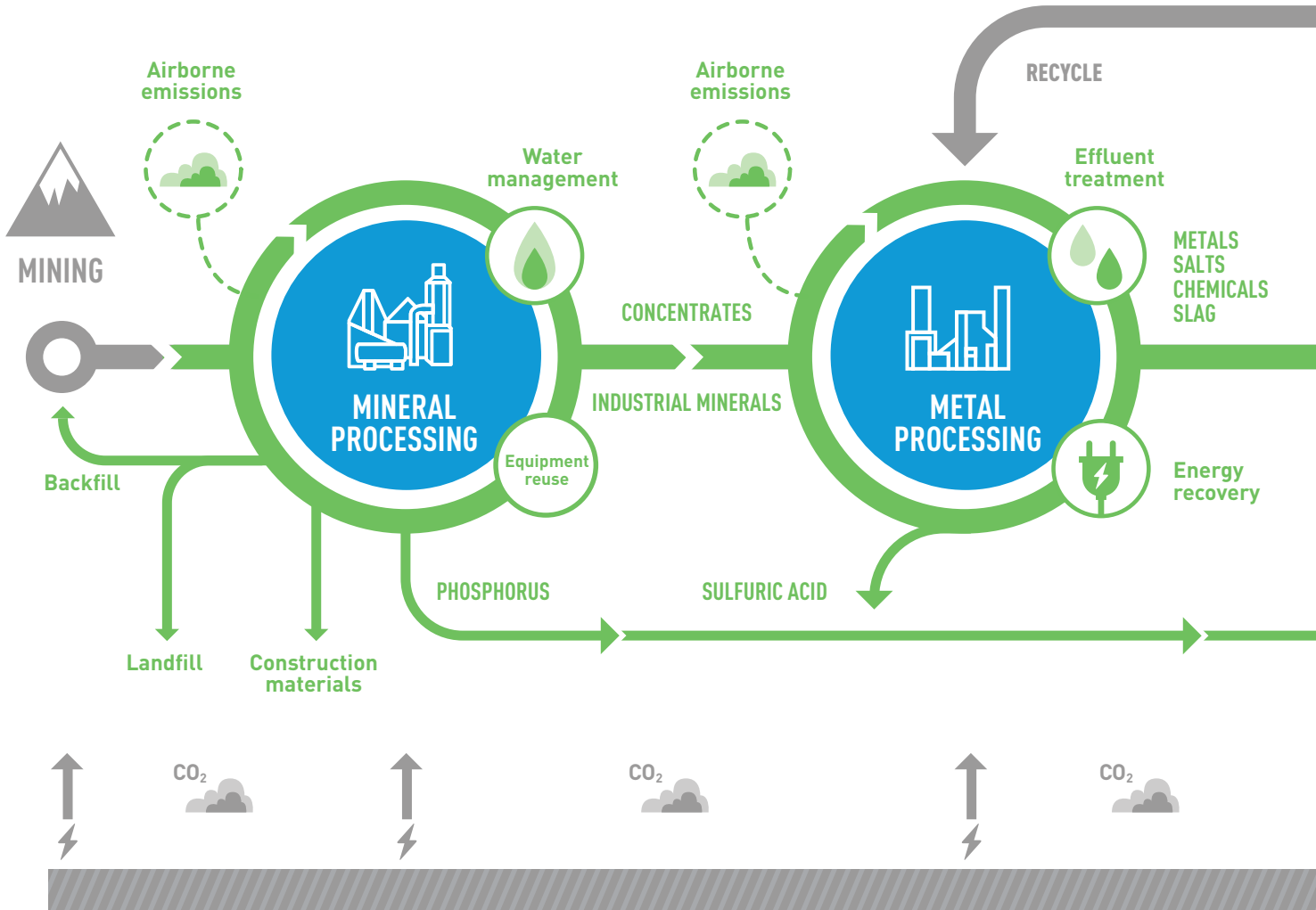
Target for 2015		Performance in 2015	Target for 2016	GRI indicator
1. SAFETY				
4,000 completed EHS e-learning courses	●	8,245 e-learning courses completed	New lost time incident management system implemented globally in major locations (NEW)	G4-LA6
Harmonized product compliance management procedures in use globally	●	Approx. 60% coverage in harmonized product compliance management procedures	Harmonized product compliance management procedures in use globally	G4-PR1
2. SUSTAINABLE OFFERING FOR CUSTOMERS				
		EGS/order intake 90%	EGS/order intake over 90% (NEW)	G4-EN27
		30% less CO ₂ emissions through the use of Outotec's metals-related technologies	20% less CO ₂ emissions through the use of Outotec's metals-related technologies compared to industry average (NEW)	G4-EN27
		Alternative methods for water recycling have been studied	Implement the developed water recycling concepts and start their commercialization (NEW)	G4-EN27
		7 additional waste-to-energy plants were sold, with a total generation capacity of over 100 MWe	Reduction in use of fossil fuels by Outotec waste-to-energy plants that equal 60 MWe and steam boilers that equal 60 MWth (NEW)	G4-EN27
3. RESPONSIBLE BUSINESS PRACTICES				
Code of Conduct implementation: 80% of personnel trained by the end of 2015	●	73% of employees have been trained, with training continuing as part of normal business practices.	Review Outotec's Code of Conduct including coverage and human rights perspective (NEW)	G4-SO4
4. SUSTAINABLE SUPPLY CHAIN				
95% of major suppliers committed to Outotec's Supplier policy	●	92% of major suppliers were committed to our Supplier policy.	95% of major suppliers committed to Outotec's Supplier policy	G4-EC9 G4-HR10

Target for 2015		Performance in 2015	Target for 2016	GRI indicator
5. DEVELOPMENT OF OUR PEOPLE				
1% improvement in employee engagement and performance enablement indices compared with 2013	○	Employee engagement index declined by 19% and performance enablement index declined by 6%.	1% improvement in employee engagement and performance enablement indices compared with 2013	G4-26
Outotec Experience program delivered in all market areas	ⓘ	The program was delivered in 7 out of 8 market areas, but then cut short for cost saving reasons.		G4-26
Value-based performance targets set for 75% of employees. 100% of employees conduct performance development dialogues (PDD)	ⓘ	The concept was developed and trainings started, but the implementation of value based performance targets was postponed. Over 95% of employees conducted PDD.	100% of employees conduct PDD	G4-LA11
6. EQUAL OPPORTUNITIES AND DIVERSITY				
7. COMMUNITY INVOLVEMENT				
			One new community project started (NEW)	G4-S01
8. STAKEHOLDER DIALOGUE				
		Customer satisfaction and loyalty survey conducted.	Based on customer feedback, realize corrective actions and communicate those with customers, while also communicating successes through customer cases (NEW)	G4-PR5
9. MINIMIZING OUR OWN ENVIRONMENTAL IMPACT				
Execution of energy audits at 5 locations with the highest energy consumption to identify energy-saving opportunities	●	Energy audits were executed and opportunities identified.	New energy-saving concept implemented in 5 locations (NEW)	G4-EN6
5% decrease in tonnes of CO ₂ emissions from flights per EUR 1 million sales, through increased virtual ways of working	○	Total Scope 3 emissions decreased, however, the relative emissions increased by 12% as sales declined by 14%.	A 5% decrease in tonnes of CO ₂ emissions from flights per EUR 1 million sales through increased virtual ways of working	G4-EN19

OUR CONTRIBUTION TO THE CIRCULAR ECONOMY

RESOURCE EXTRACTION

PRIMARY AND SECONDARY PRODUCTION



● The green flow arrows represent Outotec's contributions to the circular economy.

Outotec's greatest contribution to the circular economy involves providing resource-efficient solutions for the production of minerals, metals and energy.

Resource efficiency is a vital building block of the circular economy. It means using the Earth's limited resources sparingly and sustainably while minimizing environmental impacts. This requires a deep understanding of technology, thermodynamics, chemistry, physics, economics, and all the flows of materials that occur from mines to refined metals and complex products – as well as in subsequent recycling.

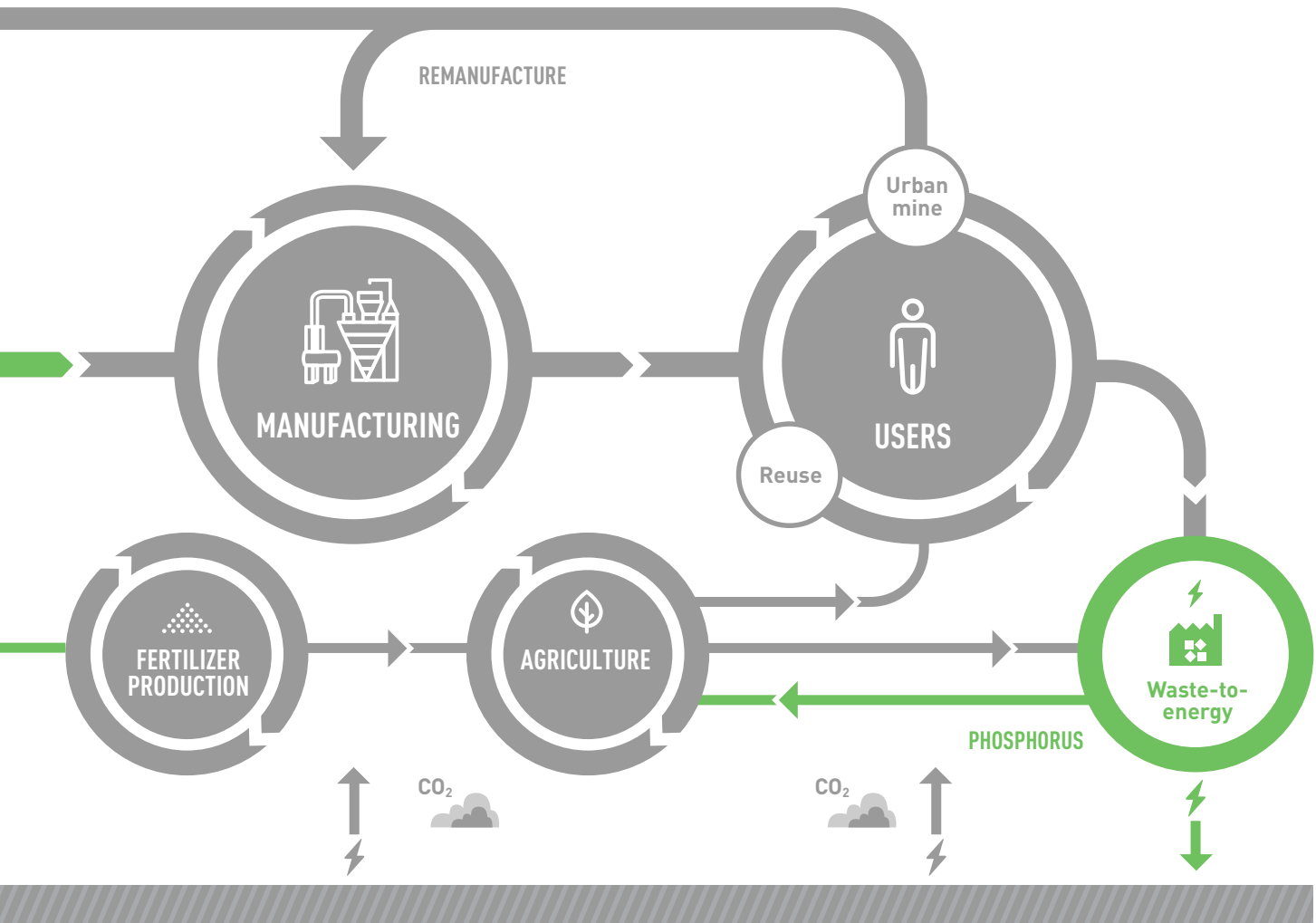
Resource efficiency essentially means capturing all materials in economically recoverable recyclates or designer wastes. This is a rather complex task, requiring the kind of expertise that Outotec excels in.

Starting from resource extraction, we use our expertise to select the most suitable process for each ore type, aiming to maximize metal yields while minimizing energy and water consumption, waste and landfill. In primary metal processing, we focus on methods enabling high recovery of valuable metals, energy recovery, the effective processing of impurities, effluents and by-products, and minimized emissions.

We also offer viable solutions for recovering metals from residues, scrap and used products.

Our modern waste-to-energy solutions can also take us towards a circular economy by easing two major environmental problems: the landfilling of wastes, and the consumption of fossil fuels.

RECYCLING



OUTOTEC STANDS FOR RESOURCE EFFICIENCY

Precious resources can be expected to become scarce as the global population grows and material living standards rise. Creating a circular economy will reduce our dependence on virgin non-renewable resources such as mined metals. It will also help us to decouple economic growth from resource depletion and environmental degradation.

Outotec supports the creation of a circular economy by providing resource-efficient solutions for the producers of industrial minerals, concentrates, metals, chemicals and energy. Outotec cooperated with students from Aalto University during 2014 and 2015 to analyze opportunities for us to contribute to the growth of the circular economy.

Technology will be a key driver in the transition to a circular economy. Outotec develops and offers favorable solutions for resource extraction, primary production, the processing of secondary raw materials, waste-to-energy schemes, and renewable energy production. Our greatest impact comes from providing resource-efficient solutions for our customers. We believe that the future success of the mining and metals industry will depend on resource efficiency, and the reuse and processing of secondary raw materials and wastes.

RESOURCE SCARCITY

Ore grades are becoming more complex and more difficult to process. Increasing exploitation of a non-renewable resource

may lead to depletion of the resource. Our advanced technologies, which involve digitalization, automation, closed material loops, efficient water management and paste backfill solutions, can help our customers to maximize metal yields from the available resources and use secondary raw materials for metals production.

RESOURCE EFFICIENCY

Our technologies ensure the efficient use of mineral resources, while minimizing the consumption of water and energy, and the generation of waste. By-products from metallurgical processes, such as acids, salts, chemicals and slag, are processed to create saleable products that can be used as raw materials in other industries. Heat generated in processes is recovered and used in other processing phases. Thanks to efficient effluent treatment technologies, releases of toxic materials from processes are carefully controlled.

Outotec has developed products, processes and entire plants with modular design, which makes them easier to reuse, remanufacture and recycle. Sim-

plified design and modularization gives products a longer life-cycle and higher end-of-life value, since modules can be easily maintained and replaced, meaning there is no need to buy a whole new product. Entire plants can also be easily transferred to another location. Outotec introduced the first modular plant for hydrometallurgical copper extraction in 2013, and for flotation in 2015.

Digitalization and remote control combined with our operational and maintenance services significantly improve our customers' asset performance.

CITIES AS FUTURE MINES

Urban mining involves collecting materials from urban elements such as used products, buildings and waste. Cities and their buildings contain substantial amounts of metals, and people living in cities use large quantities of resources. Discarded mobile phones and electronic equipment, used cars, and municipal, industrial and construction waste can all be considered as sources of valuable materials. When more efficient methods and infrastructure are established for





collecting, sorting and processing these materials, this will create new business opportunities for Outotec and other actors ready to contribute to the circular economy. We currently offer technologies that can be used for smelting scrap that contains metals, zinc-bearing residues and various other waste materials. In combination with our integrated process control and holistic service concepts, these technologies will enable the effective recycling of metals and improve our customers' environmental performance.

TURNING FARMERS INTO ENERGY PRODUCERS

Outotec's gasification and combustion technologies are used in waste-to-energy plants to generate electric energy or heat from a wide variety of fuels such as biomass, sludge, agricultural and industrial by-products, and sorted municipal waste. In 2015, Outotec sold seven renewable energy or waste-to-energy plants to customers in the United Kingdom and Canada.

Our fluidized bed technology combined with ash decontamination or phos-

phorus recovery can effectively process waste materials with high heavy metal content. The process closes critical metal and nutrient cycles by turning waste ash into a raw material or even a ready product such as phosphate or fertilizer.

In cooperation with Stuttgart University and KIC InnoEnergy, we have invented an innovative drying-and-gasification process that converts waste sludge and slurry into gas that can be combusted to produce electricity. The process has an additional advantage since it also generates a nutrient-rich residue as a by-product, which can be used as fertilizer. We have built a pilot plant in Sweden to demonstrate how biomass can be efficiently used to generate green energy and facilitate nutrient recovery.

ASSESSING RESOURCE EFFICIENCY

Outotec has introduced a new method based on life-cycle assessment (LCA) to quantify the environmental potential of our solutions in the context of the circular economy. Outotec's HSC thermochemical software, which applies versatile flowsheet simulation modules, has

been paired with GaBi's leading LCA software to forecast environmental impacts. This combination enables us to make rigorous analyses of the direct and indirect environmental impacts of Outotec's solutions with regard to our customers' needs. It also allows us to assess resource efficiency and the flows of raw materials, water, energy and wastes in the context of the circular economy and related targets.

Outotec is a member of many international organizations working to create initiatives that can replace 'end-of-pipe' solutions with more systemic processes promoting clean technologies and progress towards the circular economy.



Read more about life-cycle assessment of Outotec's technologies on page 37.



Read about our commitment to external initiatives at www.outotec.com/sustainability

ACTIVE STAKEHOLDER DIALOGUE

Stakeholder dialogue is identified as one of the material themes in our materiality analysis. In continuous dialogues with key stakeholders we particularly aim to enhance transparency. Our key stakeholders include customers, employees, investors and financiers, suppliers, the media, NGOs and local communities. We also consider our planet and future generations as stakeholders when evaluating whether Outotec's offering and operations are future-proof.

We have set targets related to customer surveys and local community engagement initiatives to measure our success in engaging with stakeholders.

SUSTAINABILITY ADVISORY COUNCIL

Our new Sustainability Advisory Council, inaugurated on January 15, 2015, aims to fuel more intense stakeholder dialogue. The Council is not part of Outotec's formal governance, or a decision-making body as such. However, it plays a key role in defining materiality and consulting with regard to our sustainability strategy. Council members serve two-year terms, and may be reappointed twice.

The Council provides advice to Outotec regarding sustainability trends, strategies, products, services and reporting, while also communicating stakeholders' views on the economic, social and envi-

ronmental impacts of our decisions. The members of the Council represent many of our important stakeholders, though its first lineup does not include representatives of our employees, the authorities, the media or the scientific community.

In 2015 the council met face-to-face twice: in January and in August. In August Katarina Hammar, who oversees responsible investment and governance at Nordea Bank, replaced Antti Savilaakso, who resigned from the Council after taking a new position. In September 2015, Adam Roscoe informed us that he will leave his position as Group SVP and Head of Sustainability at ABB, and therefore

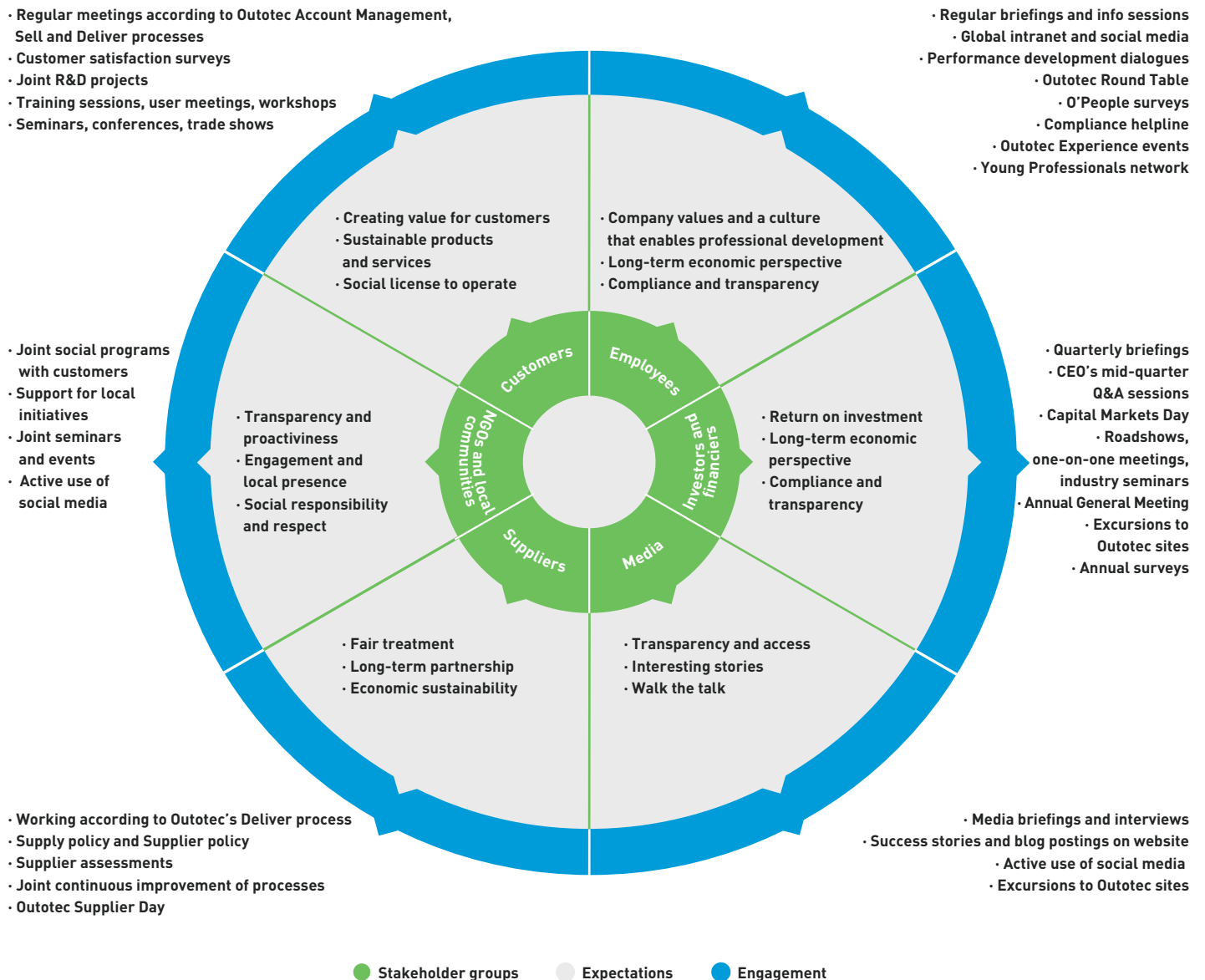


The six Council members represent stakeholder groups with diverse interests and expectations regarding Outotec's sustainability work. Council members from left to right: Caitlin Glynn-Morris, Corporate Manager, Community Relations and Development, First Quantum Minerals; Katarina Hammar, Responsible Investment & Governance, Nordea Bank; Liisa Rohweder, General Secretary, WWF Finland; John Hasyn, Director, Corporate Social Responsibility, Dundee Precious Metals; Anders H. Nordstrom, Group Head of Environment, ABB; Chair, Kellie A. McElhane, Professor and Faculty Director of the Center for Responsible Business at the University of California at Berkeley's Haas School of Business.



Read the reflections of
members of our Sustainability
Advisory Council on
pages 40, 43 and 47

STAKEHOLDERS' EXPECTATIONS AND OUR ENGAGEMENT TOOLS





Representatives from Outotec and CNIA met at the annual meeting of the Chinese-Finnish Joint Working Group for the Nonferrous Metals Industry in November 2015 to discuss achievements and common targets for coming years. It was concluded that the current downturn of the metallurgical industry has opened up opportunities for companies providing sustainable and resource-efficient solutions.

Anders Norström, Group Head of Environment, was nominated ABB's representative in the Advisory Council.

FOCUSING ON CUSTOMERS' NEEDS

In 2015 Outotec devised a new way to measure and manage customer satisfaction and loyalty globally. The first survey was conducted in the first half of 2015, with a 48 percent response rate from 170 customers. The survey findings indicate that customers rate Outotec's performance most favorably in health and security measures, high ethical integrity, the quality of Outotec technology, and the quality of the equipment delivered. The lowest survey scores relate to being proactive in solving problems, and final project documentation. Corrective actions designed in response to the feedback have already been taken, and further planning is ongoing.

ENGAGING WITH EMPLOYEES

The year 2015 continued to be challenging in terms of employee relations, as reflected in the findings of the bi-annual Outotec employee engagement survey O'People conducted in August-September 2015. The 79 percent response rate was extraordinarily high, but the results were less favorable than those of the previous survey, reflecting

the decisions and major restructuring that had to be realized in our organization in response to subdued market activity.

Outotec's headcount totaled 4,948 in September 2014 when the EUR 45 million cost saving program started. Through the program the total number of employees was reduced by 586. In addition, the cost structure program started in November 2015 is expected to reduce headcount by 650 employees in 2016. Outotec offered monetary support to those affected, depending on the length of their employment, as well as training programs and coaching designed to help them find new employment or consider entrepreneurship.

Even in the current very challenging market environment – and perhaps especially in such a situation – Outotec emphasizes the importance of a unified company culture, shared values, established business processes, and the full understanding of our strategy and business environment. To deliver these messages, a two-day Outotec Experience program was run globally with 581 employees participating in 17 events. We originally aimed to roll-out this program to all market areas during 2015, but the cost structure program also put the Outotec Experience on hold.

We have continued the practice of having quarterly live internal webcasts where the CEO presents our financial performance and other topical issues. Employees may directly ask the CEO questions through the webcasts, and this has become a popular way to drive discussions on important issues. Video clips, blogs and video meetings are all regularly and increasingly used in our internal communications to promote dialogue within our organization.

Our internal development agenda for engaging employees during 2015 included new collaboration tools. This project was rolled out globally to promote efficient collaboration across Outotec and with our partners. By the year-end, 84 percent of the targeted employees were using the new tools.

Our global intranet serves as a platform for day-to-day information sharing, and our new corporate social media also provide new channels for communication, encouraging open dialogue.

The Outotec Round Table event with 21 personnel representatives was held once in 2015. The topics discussed included our strategy, acquisitions, rewards, organizational change, and internal development programs.

Many of Outotec's employees are also part-owners of the company. Our em-



On September 15, 2015 Outotec's Supplier Day event brought together around 50 representatives from our key suppliers, and 30 of our own employees. The event was run to initiate a long-term process aiming to improve competitiveness jointly with Outotec's suppliers.

employee share savings plan, the O'Share program, was launched in 2013, recognizing that competent and motivated personnel are central to the company's success. O'Share is a reward system that particularly rewards employees for long-term commitment to the company through thick and thin. Twenty-seven percent of employees participated in the program in 2015 (2014: 34%).

BUILDING LONG-TERM PARTNERSHIPS WITH SELECTED SUPPLIERS

Outotec is determined to develop long-term relationships with selected suppliers. We have established common global procedures for supplier qualification, quality assurance, continuous monitoring and the joint improvement of processes and practices.

Two policies serve as the basis for Outotec's collaboration with suppliers. Our Supply Policy defines how supply activities in the company should be steered

to enhance quality, and provides guidelines for all employees involved in supply-related activities. Outotec's Supplier Policy imposes high-level requirements for Outotec's suppliers, and sets principles on ethical conduct, compliance with laws and regulations, the environment, health and safety, labor, intellectual property and improper benefits. We expect our suppliers to comply with this policy in their dealings with Outotec, their own employees, their suppliers, and other third parties. Our suppliers are also expected to identify deviations and manage corrective actions transparently, aided by systematic communications.

Outotec screened 70 new suppliers in 2015 prior to selection, through a documented process that applies a set of performance criteria. All of the companies that were screened were eventually approved as suppliers. We also organized a Supplier Day event to improve competitiveness jointly with suppliers.



Read more about our Sustainable supply chain on page 55, and supplier data on page 69.

REGULAR DIALOGUE WITH INVESTORS AND FINANCIERS

Outotec's approach to investor relations and communicating with the financial markets is based on Finnish law, EU directives, and our policies on corporate governance and disclosure, as well as stock exchange rules and regulations.

At the end of 2015, Outotec had 33,830 (2014: 32,408) shareholders. Shares held in 11 nominee registers accounted for 27 percent (Dec 2014: 28%) of all Outotec shares, while private Finnish investors held 21 percent (2014: 19%). Nineteen analysts conducted research focusing on Outotec.

In addition to interim reports and annual financial statements, the CEO's



A group of South African and Chilean researchers visited Outotec in June to discuss sustainability, R&D and innovation in the mining industry.

Q&A sessions continued to be an important channel for maintaining dialogue in between interim reviews, and to ensure compliance with fair disclosure. These audio casts aim to further clarify information already made public. In order to serve the capital market efficiently, to ensure equal access to company-related information, and to comply with disclosure requirements, the audio casts are recorded and available on demand for future reference.

Outotec also publishes a quarterly bulletin on investor relations highlights, compiling information on published orders, news and events.

In September we were included in the Dow Jones Sustainability Europe Index for the third consecutive year.



Read more about Outotec as an investment at www.outotec.com/investors.

COLLABORATION WITH THE MEDIA

We interact with media representatives both locally and globally to publicize our sustainability work. Our CEO's quarterly briefings provide basic information about Outotec's performance. We also organize management interviews for journalists to discuss our goals, new products and newsworthy events. We publish stories and blog postings on our website for the media and aim to organize press trips to Outotec's R&D centers or our reference plants at customers' sites to show concrete examples of our work to journalists.

Our experts additionally meet trade press representatives at exhibitions and conferences, and share the latest product news with them.

WORKING WITH NGOS AND LOCAL COMMUNITIES

Outotec contributes to community well-being by paying taxes, providing direct and indirect employment, and co-

operating with educational institutions. We also participate in local initiatives to increase welfare in the countries where we operate.

Outotec aims to support local projects that benefit communities where our major customers operate. These community projects are based on local needs, and defined through dialogue with the local community. We aim to realize community projects in collaboration with our customers, using joint financing. Projects are selected taking Outotec's own know-how into account, and utilizing it to the furthest possible extent. We aim to integrate voluntary work into community projects – both during and outside working hours. All community projects must bring measurable benefits to the local community.

2015 marked the second year of a partnership between Outotec and WWF Finland, focusing on promoting the green economy and the sustainable use of nat-

ural resources. This cooperation particularly focused on Finland, although Outotec addresses the same issues globally. Outotec considers the planet Earth as one of its stakeholders, and WWF is an organization that can represent the voice of the Earth exceptionally well.

As part of this partnership, Outotec and WWF organized the second national seminar on the green economy in November 2015 in Helsinki. The topical seminar attracted high-level panelists and a significant audience to discuss concrete proposals that can help to realize a green economy. Outotec CEO Pertti Korhonen was one of the panelists.

The green economy and the Agenda 2030 for Sustainable Development were the topics addressed by a round table discussion headed by WWF Finland and Outotec in December 2015 – also involving 14 representatives of other companies, ministries, investors and institutions.

According to our Donations Policy, Outotec can provide donations to global charitable projects that aim to improve sustainable development and/or quality of life. In 2015, the Board of Directors of Outotec authorized donations amounting to a total of EUR 70,000 to various charitable causes. The biggest donation was EUR 50,000 granted to WWF Finland. Outotec also continued to support the Baltic Sea Action Group's initiatives for the rehabilitation of the Baltic Sea, and the work of organizations including the Finnish Metals and Engineering Competence Cluster (FIMECC), additionally sponsoring the Millennium Technology Prize.

Outotec does not give donations to individuals, political parties or pressure groups, religious organizations or any organizations showing or encouraging any type of prejudice regarding race, sex, religion or other factors.

Outotec CEO Pertti Korhonen continued to serve as Chairman of the Board of Finland's Climate Leadership Council. Outotec is a founding member of the Council, which aims to boost the competitiveness of Finland's business sector and research organizations, by helping them prepare for the threats posed by



Together with our customer Dundee Precious Metals, Outotec funded the newly built dining hall at Ondudu Primary School in Namibia, and equipped its kitchen. The dining hall was inaugurated in November by the Honorable Ester Anna Nghipondoka, Namibia's Deputy Minister of Education, Arts and Culture. School meals can make a real difference to the lives of children in impoverished rural areas, and may even give them a decisive reason to come to school.

climate change and dwindling natural resources, while priming them to benefit from related business opportunities.

In many countries we closely cooperate with local universities and students, often organizing events and activities that benefit our potential future employees.

In 2015, 23 percent (2014: 37%) of our operations ran local community engagement programs. These activities were reduced due to the weakened financial performance of the company.

CONSIDERING PLANET EARTH AND FUTURE GENERATIONS

In addition to the key stakeholders described above, we also consider the planet Earth and future generations as our stakeholders.

A project initiated by Outotec in 2014 at Finland's Aalto University continued during 2015, involving students from diverse academic backgrounds ranging from engineering and metallurgy to business and the arts. We facilitated a workshop in January, and in June students presented a comprehensive picture of the future of mining, using a "Four Worlds"

concept to describe a vision for the year 2050. The project tried to envision responsible and resource-efficient mining, minerals and metals processing and recycling, aiming to encourage debate within Outotec, and to provide a starting point for Outotec's own, more detailed strategic planning for the future.

Outotec has established several sustainability prizes to encourage students to apply their ideas to create practical and sustainable innovations. At Central South University in China, Outotec awarded the ten best projects promoting sustainable design, in an annual competition run for the third time in 2015. We also sponsored sustainability prizes awarded at the University of Melbourne, Australia, and the South African Institute of Mining and Metallurgy's Mineral Processing Symposium.



Read also about our memberships and commitment to external initiatives at www.outotec.com/sustainability.

TOPICS THAT MATTER MOST

Based on ongoing dialogue with our key stakeholders, and considering the economic, environmental, and social impacts of our operations, we have defined nine sustainability topics that are particularly important for Outotec either from a risk management or a value creation point of view.

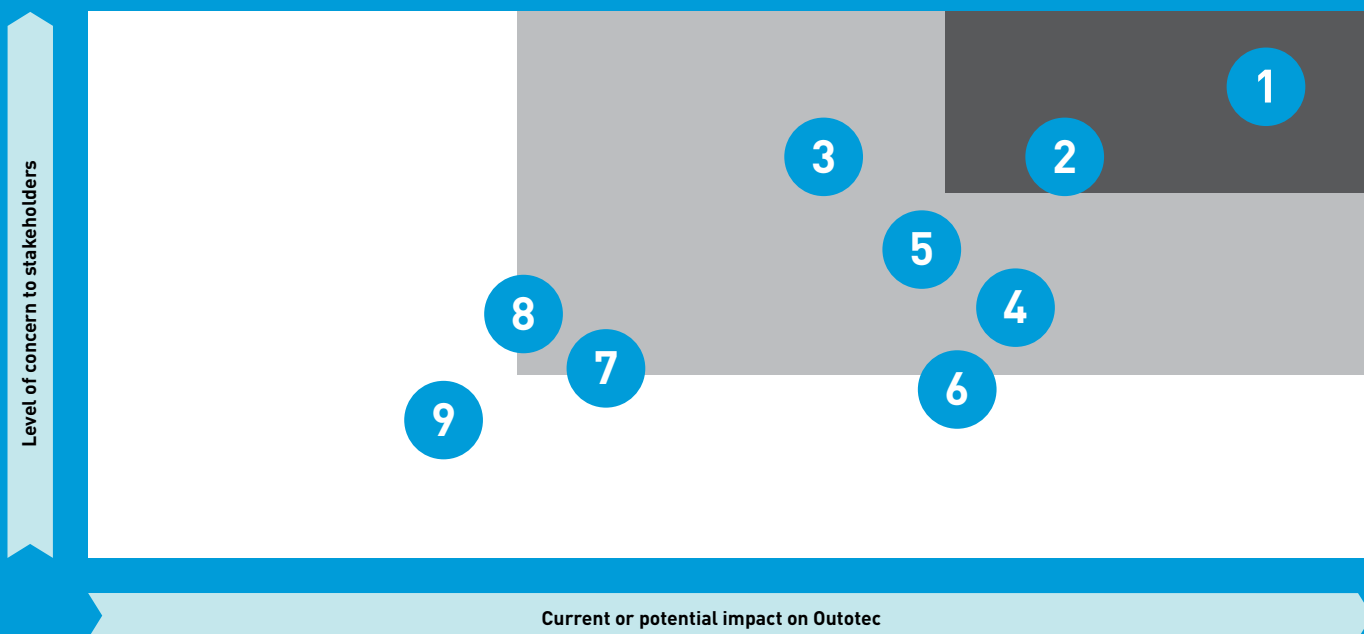
Outotec conducted a review of material sustainability topics in 2014. Potential topics were identified together with an external partner based on a previous materiality assessment in 2011, as well as management interviews, a review of sustainability trends impacting the industry, and stakeholder feedback. We mapped all of the relevant economic, environmental and social impacts that can influence stakeholders' perceptions of Outotec.

The identified aspects were initially prioritized in a Sustainability Working Group workshop, and then validated in the Outotec Leaders' Forum, where about 100 of Outotec's leaders shared their views on the topics. Finally, the results of the materiality assessment were reviewed and verified by external advisors representing our stakeholders in Outotec's Sustainability Advisory Council.

The scope and aspect boundaries for the material topics were then evaluated, and relevant GRI indicators were chosen by Outotec's sustainability specialists. The results of the materiality assessment were validated by Outotec's Executive Board in January 2015. Based on the materiality assessment, the topics that matter most for Outotec are:

- 1 Safety
- 2 Sustainable offering for customers
- 3 Responsible business practices
- 4 Sustainable supply chain
- 5 Development of our people
- 6 Equal opportunities and diversity
- 7 Stakeholder dialogue
- 8 Community involvement
- 9 Minimizing our own environmental impact

The first five of the nine material themes, and eleven G4 aspects identified as material, were chosen as the most significant issues for Outotec's business. These issues are all reviewed in detail in this report.



Material theme	G4 material aspects	Aspect boundaries
1 Safety	Occupational health and safety, Customer health and safety, Training and education	Outotec's employees Subcontractors at project sites
2 Sustainable offering for customers	Energy and emissions, Customer health and safety, Compliance	Customers' operations Outotec's operations
3 Responsible business practices	Compliance, Environmental grievance mechanisms, Occupational health and safety, Customer health and safety, Grievance mechanisms for impact on society, Non-discrimination, Anti-corruption, Local communities	Outotec's operations and products Suppliers
4 Sustainable supply chain	Environmental grievance mechanisms, Occupational health and safety, Grievance mechanisms for impact on society, Anti-corruption, Emissions	Subcontractors at project sites Suppliers
5 Development of our people	Training and education	Outotec's employees Subcontractors at project sites
6 Equal opportunities and diversity	Non-discrimination, Compliance	Outotec's employees Suppliers
7 Stakeholder dialogue	Local communities	Outotec's key stakeholders
8 Community involvement	Local communities, Grievance mechanisms for impact on society	Outotec's local offices and project sites
9 Minimizing our own environmental impact	Energy and emissions, Environmental grievance mechanisms	Outotec's operations

SAFETY

Safety arose as the most material theme in Outotec's materiality analysis, partly as a result of deeper stakeholder dialogue, and partly because our top management saw a need to improve our safety performance and culture. Zero accidents is the ultimate target for Outotec's occupational health and safety and product safety work. Outotec enables all employees and subcontractors working under our responsibility to work safely, by providing all the necessary procedures, instructions and training.

MATERIAL THEMES

The five most material themes are presented in detail on the following pages. Equal opportunities and diversity are described in the section Development of our people. Stakeholder dialogue and Community involvement are reported in the About Outotec section. Minimizing our own environmental impact is reported in Environmental performance in the GRI and data section on page 70.

- 1 Safety
- 2 Sustainable offering for customers
- 3 Responsible business practices
- 4 Sustainable supply chain
- 5 Development of our people



WORKING TO ACHIEVE ZERO ACCIDENTS

Outotec's occupational health and safety principles are defined in our Code of Conduct and Quality, Environment, Health and Safety (QEHS) Policy. Outotec's management is committed to continuously enhance our safety performance.

Outotec's certified, globally harmonized QEHS management system covers 38 locations (2014: 34). It defines the procedures, work instructions and form templates to be used in our global business processes. Key elements in the management system include: compliance with legislation, ISO 9001, ISO 14001 and BS OHSAS 18001; identifying and minimizing health and safety risks; preventing incidents; recording and investigating occurred incidents; personnel training; and the continuous improvement of our QEHS performance.

In 2015, Outotec's Executive Board decided that the long-term target for our safety work will be zero accidents. We primarily measure our safety performance by the Lost Time Injury Rate (LTIR), though we also collect data on near misses.

Our EHS reporting covers Outotec employees and any of our contractors' and partners' employees who work under Outotec's direct supervision at Outotec premises and at those customers' premises that have been contractually agreed to be under Outotec's responsibility during delivery projects, operation and maintenance work and process and equipment tests. Furthermore, our reporting covers Outotec products and services delivered by us during their entire lifetime, including demolition.

To respond to the obvious need for people to improve their safety behavior, act according to our globally defined procedures, and use Outotec's health and safety templates, our work in 2015 focused on the training of our employees. Altogether 8,245 EHS e-learning courses were completed by our employees globally. These courses covered EHS risk assessment, EHS reporting, and different types of high risk work. We also started to regularly report on our safety performance as part of our CEO's quarterly internal webcasts.

We will continue EHS training, and our target for 2016 is to implement a new Incident Management System in our major locations globally. Any of our employees may report incidents by filling in a form in our intranet. Local QEHS managers facilitate incident investigations and follow up to ensure the resulting actions are completed.

A global QEHS committee was established to discuss and agree on our annual targets and development agenda, to follow up implementation, and to act as a link to our top management. The QEHS committee has representatives for quality, environmental and safety management, product compliance, operational excellence, communications and human resources, as well as an employee representative. The committee held its first meeting in August 2015.

Our local health and safety committees monitor actions, collect feedback, and discuss health and safety issues in their respective locations or projects.

SAFE PRODUCTS FOR OUR CUSTOMERS

Outotec has a mandatory Product Compliance Management process to ensure that all products engineered and delivered by the company meet the applicable safety standards during each phase of their life cycle.

Compliance with legal requirements is the prime concern in Outotec's product compliance management. Outotec maintains an extensive database of product compliance procedures and documents used during business processes including the development, sales and delivery of our products and services. We measure our performance by calculating the percentage of our products and services covered by health and safety impact assessments.

Outotec's products include equipment, processes, entire plants and services. Equipment and services delivered by Outotec fulfill safety-related industrial standards such as ISO 12100 and IEC 62061 for the safety of machinery, and all the European directives relevant for safe process plants (e.g. 1997/23/EC, 2009/105/EC, 2006/42/EC, 94/9/EC (ATEX), 2004/108/EC, 2006/95/EC, IEC 61508 and IEC 61511). Procedures for detecting hazards such as explosion, fire, and lightning, and subsequent IEC 61882 HAZOP studies and SIL Allocation Assessments, are mandatory at Outotec. In equipment design all our engineers use the SafExpert risk assessment tool to ensure that the equipment fulfills all relevant safety standards.

No fines were imposed in relation to non-compliance with laws and regulations regarding the use of Outotec products in 2015.

We provide relevant information to our customers about the impacts of our products and services, including their energy consumption, emissions, metal recovery, and water usage, as well as safety information provided according to industry standards. Safety issues form an integral part of our operational manuals for industrial processes. Outotec manuals cover the entire life-cycles of the products delivered, in line with the IEC 82079-1 standard. This means they contain information on transport, installation, operation, maintenance and decommissioning. In addition, we offer our customers maintenance services as part of a wider package. We also routinely provide safety training for our customers as part of our product training services.

By the end of 2014, more than 90 percent of Outotec's managers were involved in the product compliance training program and in 2015 we continued with the training of our product line managers. The majority of our offices use harmonized product compliance management procedures.

SAFETY IN FIELD OPERATIONS

The safety of our employees and contractors is an important aspect of Outotec's field operations at customers' sites. Outotec's project managers are responsible for the site activities of Outotec and our sub-contractors, including the management of environmental issues, safety, systematic practices, and

cleanliness. All Outotec's project and service specialists follow our customers' safety regulations when working on site. From the occupational safety standpoint, the greatest risks are associated with assignments in countries where awareness of safe working practices is low and occupational safety culture is underdeveloped. In such countries our employees are instructed to follow Outotec's own occupational safety principles.

Employees whose work involves installation, commissioning, maintenance, or general site operations related to plants, equipment or services delivered by Outotec, are trained regularly in health and safety matters and the use of protective equipment. The objective of this training is to induct employees in hazard identification, risk assessment and required control actions, to prevent any harm, and to improve practical collaboration between the customer's and supplier's organizations on shared sites.

During 2015 Outotec audited the safety practices and performance of the service sites acquired with Kempe Engineering in Mozambique, the United Arab Emirates and Qatar. Safety performance was found to be very good at the audited sites, with the exception of small deficiencies in documentation. The Maputo site in Mozambique recently reached one million LTI-free working hours. The new sites will take Outotec's safety procedures in use, and the full QEHS system will be implemented in 2016.

Outotec's employees often travel in challenging circumstances and high risk countries. Outotec has a medical and security services agreement with the global service provider International SOS to ensure the security and well-being of our employees. This 24/7 service covers all Outotec employees and service providers for emergencies that occur during business trips. Through the related Medical Alerts and Travel Security Online service, our employees can also find information about disease risks and other health, safety and security issues, as well as high risk countries. The rule is that employees should check before their trips the risk level and required security and health mitigative actions. In 2016 we plan to compile global statistics on the numbers of employees visiting and working in high risk countries.

NEW LOST TIME INCIDENT MANAGEMENT SYSTEM

To enable efficient health and safety reporting, Outotec developed a new Lost Time Incident Management System in 2015. This system enables incidents to be reported utilizing an easy-to-use web tool. The system then documents incident investigations and the actions required to remove the root causes of the incidents. This makes it easier to follow up corrective and preventive actions.

The new Lost Time Incident Management System was successfully piloted in Germany, Sweden and the Turula manufacturing unit in Finland. Since the system enables the reporting of near misses and unsafe situations, it will facilitate the planning and follow-up of many improvement actions. We now plan to take the system into wider use in 2016.

AWARDS FOR OUR WORK WITH CUSTOMERS

Outotec has a good track record of QEHS performance in large customer projects, and the company has received several awards from customers related to safety. This reflects our commitment to enhance safety performance and culture.

Together with the multiple subcontractors under our control we achieved a milestone of eleven million safe and accident free work hours at Cristal's

ilmenite smelter construction site in Saudi Arabia. This excellent safety record in challenging circumstances stretches back to the day Outotec first started to work in this desert site two and a half years ago.

The Aprimin Association of Mining Suppliers in Chile granted Outotec its Safety Award 2015, after we reached one million hours with zero accidents. This is the third consecutive year Outotec has received such recognition in Chile.



Read more about our health and safety performance on page 69.



SUSTAINABLE OFFERING FOR CUSTOMERS

Our contribution towards overcoming the world's environmental challenges is made through our products and services, which enable our customers to run environmentally sound, profitable and socially acceptable businesses. In this sense our handprint – or our positive effect in terms of sustainability – is bigger than our footprint. Our solutions utilize primary resources efficiently and minimize ecological impacts by reducing energy and water consumption, and producing less waste and emissions – while also cutting operating costs. We additionally offer solutions for processing secondary resources.

Outotec's world-class technologies and services for entire value chains for processing ore into refined metals, for producing renewable energy and waste-to-energy, and for industrial water treatment, allow our customers to make the best possible use of limited raw materials. Customers are increasingly looking for safe solutions to produce more with less, reduce costs, manage their water and effluents, recover energy, minimize emissions and waste to landfill, and turn their side streams into saleable products.

With our broad technology and service portfolio, as well as long expertise in designing and delivering plants, processes and special equipment for the world's major resource companies, we can offer sustainable solutions to meet our customers' specific needs.

Our long-term targets relate closely to our handprint – we aim to offer more sustainable technologies and services to our customers with less harmful impacts on the environment by 2020. We measure our success through four indicators:

1. The share of Environmental Goods and Services (OECD definition) in our order intake, which we aim to keep permanently at over 90 percent. According to our self-assessment, as much as 90 percent (2014: 90%) of our order intake in 2015 qualified as Environmental Goods and Services.
2. The emissions avoided by our customers through the use of five Outotec technologies. We aim that the CO₂ emissions of customers using our solutions should be at least 20 percent less than the industry average. Emission reductions are directly proportional to energy savings.
3. The amount of fresh make-up water/tonne of ore in non-ferrous metals concentrators. We aim to achieve a reduction of at least 50 percent from 2013 levels through our solutions.
4. The amount of energy produced through our waste-to-energy solutions, which we aim to double compared to 2013 levels.



[Read about how we calculate our handprint on page 44.](#)

PRIMARY PRODUCTION OF MINERALS AND METALS

Although metals and minerals, once extracted, have a very long usage life-cycle and are close to 100 percent recyclable, their production is often linked to negative impacts on the environment. As a provider of technologies and services for these industries, we see our role as an essential contributor to positive change.

Outotec's technological developments have the potential to reduce the environmental impacts of a large number of industrial operations worldwide. However, even if customers use Outotec's best available technologies in mineral and metal processing, they may have improper operational practices or less sustainable technologies in use at the same time. Industry investments have a lifetime of decades. Outotec also provides machinery, spare parts and services to old industrial plants that may, despite modernization initiatives, still have a significant negative impact on the environment and human health. Therefore, through our customers' operations Outotec may indirectly be involved in environmental damage, including the contamination of soil or water, or public health effects. To reduce the industry's negative impacts, Outotec also offers solutions for equipment upgrades and plant modernization, as well as performance and long-term operation and maintenance services. Outotec's advanced tailings management solutions and mine backfilling technologies help customers to rehabilitate mine sites.

In mineral and metal processing, energy consumption is the most significant cost item, and the main reason for CO₂ emis-



The Sewage Sludge Incineration Plant in Switzerland designed by Outotec operates as a self-sustained process, without external fuel. It can produce a surplus of electrical power or heat, and complies with all emission standards.

sions. Outotec designs sealed processes that utilize the energy contained within the raw materials. In 2015, the emissions avoided by the metallurgical industry through the use of five Outotec technologies amounted to 6.6 million tonnes of CO₂ equivalent (2014: 5.9 mt CO₂-e). These technologies are our ferrochrome process, copper flash smelting, alumina calcination, ceramic filters, and the co-generation of electricity in the ferrochrome process, where Outotec’s carbon monoxide filter enables the use of process gas in direct electricity generation.



Read about Going for gold - sustainably on page 38.

METALS FROM SECONDARY RESOURCES

Moving towards the circular economy means recovering more metals from residues, scrap and used products. At Outotec we have a technology mix and deep knowledge to tailor-make system solutions to treat a wide range of feed materials, for both primary minerals from geological mines and secondary materials containing minerals sourced from the urban mine. The challenge in using secondary raw materials is the complexity of the raw material, which may include a mixture of alloys in different physical forms, as well as electronics, plastics, oil, fluids, textiles, metals, glass, sand etc. Several different technologies must be smartly integrated to maximize the economically viable recovery of multiple materials and energy.

Outotec’s TSL and Kaldo smelting technologies have the valuable capability that they can recover various metals into different phases, while utilizing the energy content of the non-metallic materials in smelting and/or as reductant. Outotec’s hydrometallurgical solutions can then produce refined metals and materials from these intermediates. Considering the waste

hierarchy, smart product design linked to an economically viable system of physical separation and metallurgical processing will minimize the need to resort to the undesirable landfill option.

Many products that we as consumers eventually abandon are highly important in terms of metals recycling. Outotec aims to provide technologies and optimized systems that can minimize landfill. Landfills will nevertheless remain an important part of the system, since they ensure that materials which cannot be further processed under present economic conditions are contained well to ensure they do not harm the environment.



Read our blog posting about using secondary resources at www.outotec.com/en/About-us/Blogs

WATER MANAGEMENT AND EFFLUENT TREATMENT

Outotec has developed solutions for efficient water management in the mining and metals industry, and we are continuously working to develop new concepts to meet various customer needs.

Water streams in the mining industry are very complex and always site-specific, as the composition of constituents is related to the ore itself and to the processing of the ore. Typical impurities in wastewaters include metals, arsenic, sulfate and chloride. Due to the complexity of wastewater streams and the high concentrations of sometimes toxic impurities, expertise is needed not only in effluent treatment technologies but also in mineral processing technologies. Firstly, the treated water should be of high enough quality that it can be recycled back into the mineral processing facility, and thus reduce fresh water consumption. Secondly, the selected effluent treatment process should be efficient and reliable, so that the mining company can securely meet the requirements of environmental permits.

Outotec's solutions may include the optimization of water management in entire mines, including concentrator sites. This can involve minimizing fresh water consumption and waste generated by water treatment, as well as implementing water reuse and recycling practices. Our paste plant technology for mineral concentrators and effluent treatment of metallurgical processes are proven solutions. In addition, we have developed a process for managing sulfate, which is a common and growing challenge in the industry. The Outotec Ettringite process precipitates sulfate and calcium, thereby lowering the scaling potential and total dissolved solids (TDS) content in the treated water, while also removing many other impurities, such as metals, within the two to three step process. Companies that struggle with sulfate within their processes or in their environmental discharge streams are now able to flexibly control the sulfate content with this new process, and thereby curb the TDS content in their water streams.

RENEWABLE AND WASTE-TO-ENERGY SOLUTIONS

We offer renewable energy and waste-to-energy systems that can treat over 200 different biomass fuels – from waste wood to the lignin sludge generated during bioethanol production.

In addition, we have developed an efficient solution to exploit the energy and nutrient potential of certain farmyard wastes and sewage sludge. This solution combines Outotec's fluidized-bed-based biomass incineration technology and the ASH DEC process, which cleans the ash from biomass/sludge incineration and converts the phosphate into a bio-available fertilizer compound.

Nutrient run-off from large animal farms today represents a major threat to the sea and groundwater reservoirs. Improperly managed manure also results in harmful atmospheric emissions. To address these problems, Outotec cooperated with KIC InnoEnergy and LIFE+ organizations to build a new pilot plant in Sweden in 2015. The plant enables renewable energy to be generated efficiently from human and animal bio-waste, and allows for high recovery of nutrients. Outotec's dryers and gasification technology can now be used for sewage sludge, farmyard manure and biomass slurries in renewable energy applications.

Outotec's bubbling fluidized bed combustion technology is a proven solution for turning waste into energy and disposing of solid or liquid by-products. We can ensure that strict emission limit values set by municipal and federal governments are met, by applying a combination of gas cleaning measures adjusted according to the fuel designated in the overall process design. In 2015 Outotec sold seven such waste-to-energy plants to customers in the United Kingdom and Canada.



Read also [Waste-to-energy technologies in demand, on page 41.](#)

IMPROVING PERFORMANCE THROUGH LIFE-CYCLE SERVICES

A significant impact on a plant's sustainability can be achieved through life-cycle services and technological improvements. Based on a site-specific performance assessment, Outotec identifies improvement areas and offers a solution for optimum plant performance and return on investment. Equipment upgrades and plant modernization, as well as long-term operation and maintenance services ensure that the plant will run smoothly, safely, and efficiently with minimum environmental impact at all times.

OFFERING DEVELOPMENT

Thanks to our vast experience and our in-house research and technology centers in Pori and Lappeenranta in Finland, and Frankfurt in Germany, we have the capability to test and scale up processes designed for varied and increasingly complex raw materials, while also developing new processes and concepts.

In technology development, Outotec focuses on increasing resource efficiency, for example, by reducing energy and water consumption and the environmental impact of products and services. Our key areas of expertise include physical separation, chemistry and thermodynamics including pyro- and hydro-metallurgy, as well as gas-handling technologies. The company also has extensive knowledge of material technology, plant and equipment engineering, equipment and process automation, and the implementation of large international projects. During the bi-annual Outotec Technology Days held in November 2015, Outotec awarded several teams and individuals on their achievements in technology development.

In 2015 Outotec's new Dewatering Technology Center was inaugurated in Lappeenranta, Finland. The center is dedicated to developing new products, processes and services to facilitate solid-liquid separation and raw material reuse during the entire life-cycle of processing plants.

In recent years, Outotec has developed modular plant concepts and launched several new products based on these concepts, such as the modularized VSF@X Plant for copper solvent extraction, a modular hydrometallurgical precious metals process, and the cPlant for flotation of ores. Modular design provides a novel way to create, manufacture, transport, install, operate and maintain a plant with environmentally sound and safe methods, and lower total cost of ownership. In 2015 Outotec's VSF@X plant was selected for the International Mining Technology Hall of Fame for its environmental benefits and innovative design.

COOPERATING WITH UNIVERSITIES, RESEARCH INSTITUTES AND AUTHORITIES

Outotec has been very actively involved in response to the call made by the European Institute of Innovation and Technology



Outotec's new Dewatering Technology Center in Lappeenranta, Finland was inaugurated in September 2015

(EIT) for proposals relating to the Raw Materials Knowledge and Innovation Community. One of six Co-location Centers of the EIT Raw Materials KIC will be on the Otaniemi campus in Espoo, Finland.

Our expert representatives in both the EU's technical working group and an environmental working group of the Federation of Finnish Technology Industries enabled Outotec to contribute to the finalization of BREF best available technique reference documents on non-ferrous metals. BREF documents are created for authorities involved in the implementation of the EU Industrial Emissions Directive, which deals with pollution prevention and control. Outotec also participates actively in the technical secretariat of the EU's Operational Environmental Footprint Sectoral Rules (OEFSR), piloting for copper.

Outotec was also involved with the work of the International Copper Association's Health, Environment and Sustainable Development Steering Committee, and the European Technology Platform – Sustainable Minerals Resources High Level Group.



Read about our commitment to external initiatives at www.outotec.com/sustainability

LIFE-CYCLE ASSESSMENT OF OUTOTEC'S TECHNOLOGIES

As a response to the increasing need to study the quantitative environmental impacts of producing metals, Outotec has conducted life-cycle assessment (LCA) screening studies for several of its technologies. These LCAs evaluate the potential envi-

ronmental impacts of our technologies, and typically cover the extraction of raw materials, as well as the production, use and disposal of the equipment/process/plant in question.

Not having production units of its own has driven Outotec to conduct screening LCAs using design parameters, e.g. from Outotec's HSC Sim process modeling software and basic engineering data. In fact, these data sources allow a fair comparison already in early design phases, which can help customers to choose a more sustainable process option. Furthermore, this mitigates the risky comparison with data from public environmental databases for which the boundary conditions for mining, crushing, location, energy mix and other aspects are not always precisely defined.

Most recently, Outotec carried out a comprehensive LCA for the modular cPlant for the flotation of ores or tailings, aiming to understand and discover ways to minimize the plant's environmental impact. The LCA studied the impacts in terms of global warming, eutrophication, acidification, photochemical ozone depletion and water consumption. The results clearly indicate that the electricity consumption in the use phase of the cPlant is clearly the dominant flow, contributing to more than 90 percent of the plant's overall impact on global warming with given assumptions.

As a service for the customer, Outotec is able to provide either early phase screening LCAs for the basis of making an investment decision based on basic engineering data, or more detailed LCA studies to be conducted later, when the actual process data is available.



GOING FOR GOLD – SUSTAINABLY

Extracting valuable gold from complex ore deposits can be highly costly and challenging, but harmful impacts and resource use can be minimized by carefully applying specially devised technologies.

Gold is one of the most useful metals due to its special properties. It conducts electricity, does not tarnish, is very easy to work, alloys with many other metals, and can be melted and cast into intricate shapes. Gold is increasingly used in the manufacture of electronics and computers, and the aerospace and medical industries, as well as for jewelry.

Demand for gold is sure to increase as society requires more sophisticated and reliable materials. Since few substitutes are available, and supplies are limited, the value and importance of gold can therefore be expected to increase steadily. But can it be produced sustainably?

One of the most challenging issues facing the gold processing industry is to find ways to effectively recover gold while minimizing the consumption of energy and water, and ensuring that residues are sustainably handled. The ore deposits under exploration are increasingly of the more complex 'refractory' type. This means that their gold content can only be extracted through leaching processes after the ore is carefully pre-treated. Rough-

ly 20 percent of the world's current gold projects, and a third of upcoming projects, are seeking to extract gold from complex refractory ores. It is vital to find treatment processes that are both economically viable and environmentally sustainable.

COMPREHENSIVE LIFE-CYCLE SOLUTIONS

"With our recent acquisition of Biomin's BIOX and ASTER technologies, Outotec can now provide all three of the main technologies used to pre-treat gold ore as sustainably as possible: pressure oxidation, roasting and bio-oxidation. In addition, we have technologies for the recovery of gold from anode slimes in copper refineries and secondary materials," explains Mikko Ruonala, responsible for Business Development - Gold.

"Our customers will benefit from our ability to define the most feasible solution for processing gold all the way from the ore to the refined metal. We can supply all necessary technologies under one roof, which reduces costs, and simplifies the engineering and procurement phase. By combining our pro-



cess expertise with our engineering capabilities and proprietary equipment, such as grinding mills, reactors and thickeners, we can provide gold producers with complete, sustainable plants. With long-term operational and maintenance services, the environmental performance of a plant can be further improved,” says Ruonala.

A WIDE RANGE OF TREATMENT OPTIONS

No single technology is optimal for the treatment of all ores, and the choice of the best process depends on many technical and financial parameters. Exploitable gold ores have two main mineralogies: oxidized ore, which contains ‘native’ gold; and sulfide deposits that contain ‘refractory gold’. Outotec’s process solutions include comminution, flotation, pressure oxidation, roasting, leaching and recovery with analyzers and automation systems. Tailings and effluent treatment are an integral part of environmentally sound process solutions.

Together with mining companies, research institutes and universities, Outotec has participated in the ‘Tools for sustainable gold mining in the EU’ program to develop more sustainable solutions for gold processing and related water management.

In refractory ores, gold is locked within sulfide minerals making these ores unamenable to conventional cyanide leaching without pre-treatment. Outotec offers two proven pre-treatment options, pressure oxidation and roasting, to convert the refractory or double refractory ores into easily and effectively leachable form. Following the pre-treatment by pressure oxidation or roasting, Outotec can provide gold recovery technologies as an integrated process solution including cyanide detoxification and tailings disposal.

According to Ruonala, Outotec’s newly-acquired BIOX bio-oxidation technology provides a useful alternative pre-treatment step for the treatment of refractory ore. In this biological process bacteria are used to break down the pyrite mineral matrix in the ore, making the gold available for recovery using conventional cyanide leaching methods. BIOX thus provides a complementary alternative to the more conventional roasting and pressure oxidation technologies already available in Outotec’s portfolio.

SAFE TREATMENT OF CYANIDE

One problem related to conventional gold extraction methods concerns the use of cyanide, a highly toxic substance whose use is banned in a number of countries. Outotec’s biological process

ASTER enables the safe treatment of process solutions containing cyanide and thiocyanate, which are broken down by bacteria, enabling water to be recycled back upstream to the plant or safely discharged.

Environmental legislation on the treatment and disposal of cyanidation tailings and water discharges is becoming increasingly stringent, so there is an urgent need for this kind of safe alternative to conventional chemical processes, especially in arid and semi-arid regions where the recycling of precious water is even more important in mining operations.

“From an environmental point-of-view ASTER is also a very important technology, as it offers a low cost alternative to the more traditional chemical processes for the treatment of contaminated process solutions,” adds Ruonala.

GOLD FROM SLIME

Anode slime from primary copper production is a very valuable secondary resource, as it contains gold, platinum and other valuable elements. Leaching, pyrometallurgical processing, reduction and refining technologies are used to produce an alloyed mixture of precious metals known as ‘doré’. Gold can be leached and precipitated from the gold mud produced in the silver electrorefining process. In hydrometallurgical processing different components are separated utilizing sequential leaching, precipitation and filtration steps.

NEW MODULAR CONCEPTS

Outotec has recently introduced a modular hydrometallurgical process that enables the cost-effective recovery of precious metals with low environmental impact. The process can be adapted for a variety of different applications and combined with other precious metal technologies. The resulting high-grade silver and gold can be melted and cast into ingots or granules, while impurities can be converted into saleable products such as selenium, copper telluride and lead sulfate, to improve operational profitability.

Such developments show how Outotec is actively seeking more sustainable ways to go for gold. Although the gold processing industry still has far to go before it can become truly sustainable, safe ore pre-treatment methods are particularly essential when it comes to minimizing environmental impacts while ensuring that recovery rates make projects economically viable. “If the optimal pre-treatment technologies are not used, then projects cannot be feasible,” concludes Ruonala.



REFLECTIONS OF MEMBERS OF OUTOTEC'S SUSTAINABILITY ADVISORY COUNCIL

JOHN HASYN

**Director
Corporate Social Responsibility
Dundee Precious Metals**



LIISA ROHWEDER

**Secretary General
WWF Finland**



LIISA

In some 30 years there will be 2 billion more people on this planet. The global middle class will have 2 to 3 billion new members. Today humanity consumes natural resources at a rate that would require 1.5 planets to provide them. If we continue with business as usual we will need 3 planets to meet our needs by 2050. This means that business as usual is not an option if we want to keep our planet suitable for human well-being.

With growing and wealthier populations and increasing industrial applications, demand for gold will probably grow. In order to minimize the need to turn the ground and the ecosystems on it upside down to get this gold, we need to take every action to manage demand for gold. It's also a question of allocating existing above ground gold reserves.

JOHN

Outotec is bridging the gap between old world gold mining, where methods have not changed for centuries, and new world constraints. In the coming years, most ore deposits will be far more com-

plex than in the past. Elevated levels of impurities, such as arsenic, will become the norm. Sustainable technologies that deal with the processing and handling of impurities will become all the more important. Technology that enhances yields without the use of toxic substances, such as cyanide, is in focus. Effective ways of handling and managing waste will also become paramount. Outotec is well positioned to be a leader in these important shifts.

LIISA

John's view of the future is challenging and interesting. From the demand perspective, elements of the circular economy provide solutions for managing the need for gold. It will be essential for example to prolong product life cycles, reuse products as far as possible, recover gold from end-of-life products, and design products to be recyclable. In order to perform to the maximum, totally new solutions that can extract gold from previously discarded waste materials or lower grade ores are also needed. This is where Outotec comes into play.

JOHN

It seems that Outotec's business model allows both big picture strategic positioning, and a focus on grassroots level engineering issues. It is like a 'zoom lens' that has the ability to see issues both wide angle and in close-up. At first glance, Outotec's mission 'Sustainable use of the Earth's natural resources' may seem like a paradox, but after a closer look it makes sense. Outotec's approach to the application of sophisticated science, engineering and technology to resolve some of the complex paradoxes in today's world is unique.



CASE

WASTE-TO-ENERGY TECHNOLOGIES IN DEMAND

Refuse derived fuel (RDF), which is created by removing all recyclable and non-combustible materials from solid municipal waste, can be efficiently combusted in Outotec's fluidized bed boilers.

Modern waste-to-energy solutions can help to ease two major environmental problems by reducing both the landfilling of wastes, and demand for fossil fuels. Outotec's technologies can greatly facilitate this favorable utilization of recovered wastes.

The main fuels used in waste-to-energy schemes include municipal solid waste (MSW), refuse derived fuel (RDF), solid recovered fuel (SRF), construction and demolition waste, sewage sludge, organic wastes from wood processing industries, and agricultural wastes such as manure and harvesting residues.

In a future circular economy, combustion will not be the optimal way to use wastes, since the recycling of their material content will be preferable. But incinerating waste to generate energy can in the meantime still help to reduce the amounts of waste going to landfill, while also curbing demand for fossil fuels.

Outotec's advanced combustion solutions can enable a wide range of biomass and waste materials to be used efficiently as fuels, in plants that can be sustainably run and maintained.

A WASTE-TO-ENERGY HOTBED IN THE UK

Over the last few years a perfect storm has been brewing in the UK energy market. A combination of changes in government subsidies and growing demand for green-and-clean energy have helped to make the UK a hotbed for waste-to-energy projects. Outotec has been well positioned to strike while the iron is hot, receiving orders for seven waste-to-energy or renewable energy plants - six of them from the UK - with a total value of more than €150 million over a period of just nine months.

"The UK energy market is quite unique," says Dr Mika Saario, Outotec's SVP for Energy & Environment. "The global energy market at the moment is very challenging, because the prices of electricity and oil have gone down. But there are al-



Over the next few years six new waste-to-energy plants using Outotec's fluidized bed technology will start running in the UK.

ways good opportunities for us where governments and the local authorities are promoting green and clean energy.”

BP's Energy Outlook 2030 spotlights renewable fuels as the fastest growing energy source, with annual growth averaging 7.6 percent from 2011 to 2030. By offering a complete life-cycle solution together with performance guarantees, Outotec has been able to give customers the peace of mind they seek when selecting a green technology partner.

“Particularly in the UK, to get the subsidies that make these projects feasible you have to be able to demonstrate and give absolute guarantees that the technology works, and that targets for greenhouse gas emissions will be met,” explains Saariaho. “The robustness of our technology and our experiences with different fuels have also been major factors. We have also been able to demonstrate a complete technology solution for the whole life cycle of any new plant.”

PROVEN TECHNOLOGIES

Outotec's proven bubbling fluidized bed combustion technology is an environmentally favorable option for the generation of energy and the disposal of solid or liquid by-products. Outotec can guarantee that strict emission limit values set by the municipal and national authorities will be met, by applying a combination of gas cleaning measures adjusted to suit the fuel in question, and more than 60 years of experience in fluidized bed technology.

Outotec's sewage sludge incineration systems are industry-leaders, thanks to our long track record in bubbling and circulating fluidized technologies. A state-of-the-art fluidized bed sewage sludge incineration plant can operate as a self-sustaining process, without external fuel, producing a surplus of electrical power or heat, and fully complying with emission standards.

“We are able to optimize benefits and minimize risks by leveraging the extensive knowhow we have built up over the years,” explains Saariaho. “Our more than 100 waste-to-energy and bioenergy plants around the world utilize more than 250 different fuel sources, and we also have a lot of experience with ‘difficult fuels’ such as RDFs.”

ASH TO CASH

Saariaho describes Outotec's ASH DEC ash decontamination process as a good example of a fluidized bed technology that perfectly complements the company's other waste-, sludge- and biomass-to-energy solutions. Treating ash with ASH DEC creates fuels that can be efficiently utilized regardless of their heavy metal content. The process closes critical metal and nutrient cycles by turning the waste ash into a new product or raw material.

As long as the product value exceeds the process costs, ASH DEC can create welcome savings in landfill disposal, and facilitate the separate storage of materials that may become scarce and expensive in the foreseeable future. The application of this process is not limited to ash. A specially designed process variation was successfully tested for removing cadmium from phosphate rock, and many other applications are conceivable.

This kind of flexibility exemplifies how Outotec's wide-ranging experience facilitates the development of innovative solutions that can promote the recycling of materials as targeted in circular economy thinking.



REFLECTIONS OF MEMBERS OF OUTOTEC'S SUSTAINABILITY ADVISORY COUNCIL

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KELLIE A. MCELHANEY
Professor
Haas School of Business
University of California
Berkeley

KELLIE

The waste-to-energy topic links strongly with the newer concept of the circular economy, and with core resource efficiency. This gives it incredible importance and value. Societies need two-fold strategies, involving re-using waste, including energy use, as well as reducing and avoiding waste.

KATARINA

Two interesting topics meet here in a fruitful way. Societies and businesses need to transform to a more low carbon direction, and waste is an issue calling out for solutions. The combination of these two issues opens interesting business opportunities for Outotec. Waste-to-energy is also a good portfolio diversifier, as Outotec's business environment in minerals and metals is challenging.

Health and safety have a high priority from our environment, social and governance (ESG) perspective. What kind of health and environmental risks might waste-to-energy plants cause, and how are those risks mitigated? Comparisons with other energy sources would also offer interesting information. These are potential next aspects for Outotec to highlight.

KELLIE

I agree with Katarina. From an impact viewpoint it is also interesting to consider what kind of economical and social value waste-to-energy generates for local communities and societies in a broader perspective. Less waste and a more flexible local energy supply are likely benefits. What kind of human impact does waste-to-energy leave?

Trends in regulation and international climate change processes are shaping the waste-to-energy business horizon. Predictability is crucial for business, and this is an important message for regulators and decision makers.



DEMONSTRATING THE BENEFITS OF OUTOTEC'S PRODUCTS BY CALCULATING OUR HANDPRINT

To show our stakeholders how well Outotec's products and services help the environment, we need to accurately calculate their handprint – in terms of quantifiable positive impacts – as well as their negative footprint, including impacts along the entire supply chain.

Wherever companies operate in the metal supply chain, it is becoming increasingly important – and often essential – to be aware of the environmental impacts of their upstream suppliers, and to provide similar reassurance about their own activities to customers downstream. To facilitate compliance with ever tougher legislation and to meet environmentally aware consumers' needs, large companies, financiers and governments are increasingly demanding audit trails of entire supply chains, as well as verifiable figures that demonstrate a company's environmental benefits.

When at Outotec we proudly say that our handprint is larger than our footprint, we mean that the positive impacts of our products and services on the environment are demonstrably greater than the negative impacts generated by our operations

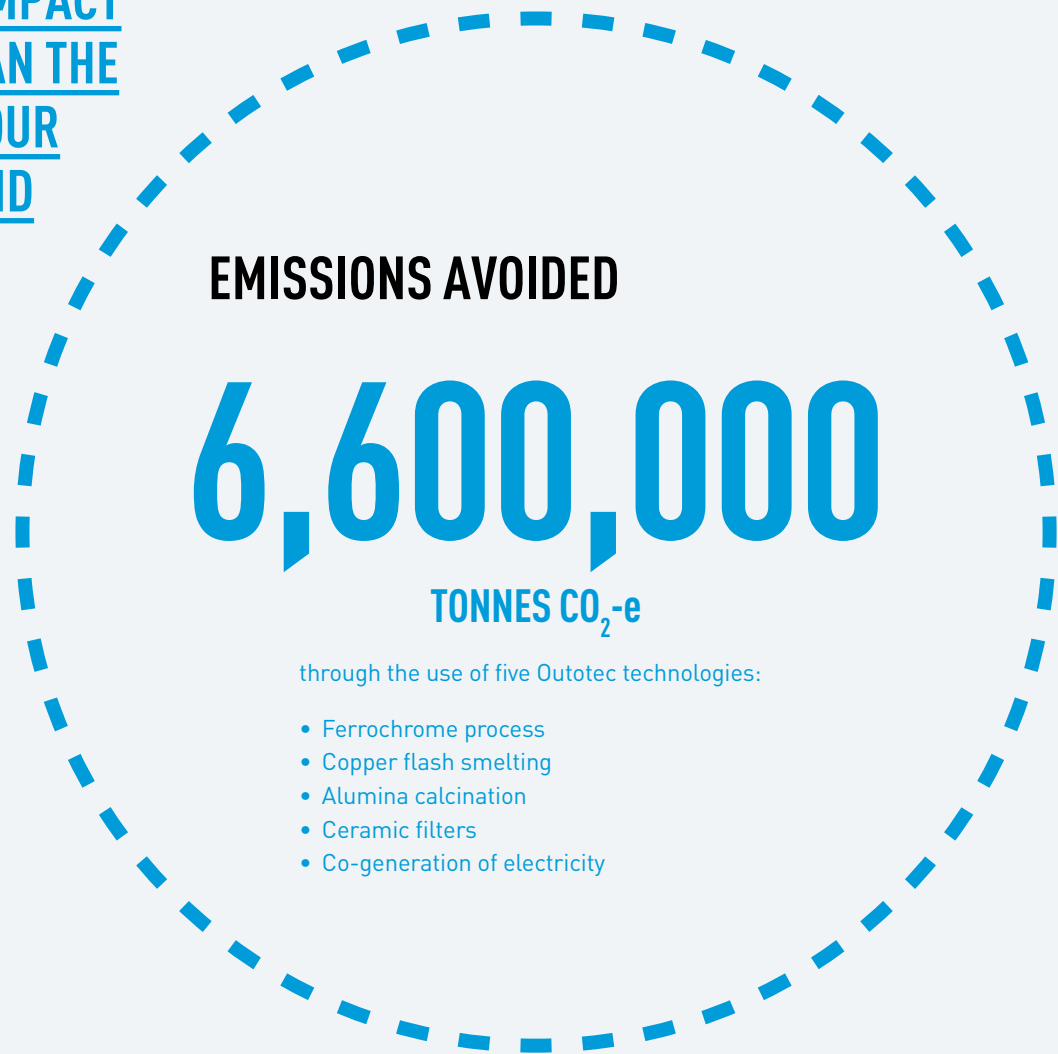
and our supply chain. This is a strong statement that must be backed up by verified data.

"We have worked for many years to calculate the impacts of our technologies in ways that can be assured by a third party," explains Dr Ilkka Kojo, Director of Sustainability and Environment at Outotec. Life-cycle assessments (LCAs) can be useful tools, though even the best LCA databases are often based on industry averages.

In the steel industry, Outotec's technology is used only in one part of the process, whereas published figures for production and environmental impacts cover entire plants. In certain areas such as copper production, however, it is possible to get detailed, reliable and comparable information on environmental impacts from producers or research institutes.



OUR POSITIVE IMPACT IS GREATER THAN THE EMISSIONS OF OUR OPERATIONS AND SUPPLY CHAIN



**GREENHOUSE
GAS EMISSIONS
FROM OUTOTEC'S
OPERATIONS**

“Industry data is also to a certain extent publicly available in producers’ sustainability reports, which helps us in data collection. However, for certain technologies the publicly available data tends to be massive, complex, and seldom comparable. For this reason we have been able to get reliable reference data for five Outotec technologies so far,” adds Kojo.

WHAT MAKES GOODS AND SERVICES GREEN?

Outotec’s benchmark is the definition of environmental goods and services (EGS) made by the Organisation for Economic Co-operation and Development (OECD). This definition covers goods and services used to measure, prevent, limit, minimize or correct environmental damage to water, air and soil, as well as problems related to waste, noise and ecosystems. EGSs thus



**GREENHOUSE GAS EMISSIONS
OF OUR SUPPLY CHAIN**



include cleaner technologies, products and services that reduce environmental risks, minimize pollution and curb resource use. Outotec has worked with the Finnish consultancy Insinööritoimisto Ecobio to devise methodology for assessing our technologies against the EGS criteria.

Kojo explains that four key questions need to be answered when assessing a specific technology against these criteria: Does the technology reduce negative environmental impacts? Does the product reduce the need for resources or energy? Is the service or product clearly meant for an environmental purpose? Or does it provide a solution to an environmental protection problem?

Using this methodology Outotec's technologies can be divided into three categories: those that are clearly EGS technologies; those that may qualify as EGS technologies depending on their application; and non-EGS technologies. These definitions can then be applied in-house to determine the proportion of new orders placed in any reporting year that qualify as EGSs.

"Our classification of our sulfuric acid plants provides a good example of how we assess technologies. If a plant produces acid using by-products from a smelter, this is clearly an EGS technology as it is used for pollution management; but in the case of sulfur-burning based acid production, we define the plant as 'maybe EGS'," says Kojo.

"Orders cannot be classified as EGS orders if the technologies do not include the latest favorable acid production technologies. Such technologies include Outotec's improved HEROS heat recovery systems, and our LUREC technology, which allows the treatment of gas containing higher levels of sulfur dioxide (SO₂), and enables better SO₂ recovery rates than conventional technology."

ENVIRONMENTAL GOODS AND SERVICES DOMINANT IN OUTOTEC'S OFFERING

The calculations revealed that as much as 90 percent of Outotec's order intake in 2015 qualified as EGS. "It must be emphasized that this whole approach requires self-assess-

ment, and that there are no formal procedures in place for OECD EGS evaluations by independent institutions – or for EGS labeling," says Kojo.

"To verify our handprint in practical terms, we also calculate the emissions avoided through the use of Outotec technologies, and the ecological footprint of our own operations and supply chain," adds Kojo. "We have calculated the carbon dioxide (CO₂) emissions from the use of five significant Outotec technologies, combined this information with production data, and then compared it with emissions from other corresponding technologies on the market."

TANGIBLE NET BENEFITS

These calculations have resulted in a figure for the CO₂ emissions avoided through the use of the five Outotec technologies during 2015, amounting to 6.6 million tonnes of CO₂ equivalent (CO₂-e) emissions avoided. This figure and the calculation method have been assured by a third-party auditor.

When it comes to calculating our carbon footprint it is important to look at our whole supply chain. Using supply chain emission factors defined by the UK Department for Environment, Food and Rural Affairs together with figures for Outotec's spending, we were able to calculate that the footprint of our supply chain amounted to 345,000 tonnes of CO₂-e in 2015. The carbon footprint of Outotec's own operations is relatively small in comparison, amounting to 33,584 tonnes.

Comparing all these figures reveals that our handprint is much greater than our footprint. Such tangible evidence of favorable environmental performance can give us a vital competitive edge, and benefit all of our stakeholders.



REFLECTIONS OF MEMBERS OF OUTOTEC'S SUSTAINABILITY ADVISORY COUNCIL

ANDERS H. NORDSTRÖM
Group Head of Environment
ABB



CAITLIN GLYNN-MORRIS
Corporate Manager
Community Relations
and Development
First Quantum Minerals



ANDERS

From the perspective of an industry peer, environmental calculations are an important and increasingly advanced issue. On the other hand, it is of the utmost importance that Outotec demonstrate awareness of their environmental impact, as they are serving controversial businesses. We are also interested to see what Outotec is able to calculate, and how.

CAITLIN

Outotec's handprint concept speaks well to the company's subtle yet meaningful commitment to understand and minimize the environmental impact of their business. With a global handprint like Outotec's, I am impressed that the most senior levels of management take corporate responsibility seriously and have taken active steps to actually be more sustainable.

ANDERS

The report gives a good indication of the accuracy of methodology, which is crucial. Classifying order intake according to the OECD's EGS evaluations seems reasonable. It is also convincing that Outotec has calculated the carbon dioxide emissions from the use of five significant technologies and compared them with emissions from other corresponding technologies on the market. As a development suggestion it could be beneficial to explain how crude comparison between the company's handprint and footprint is in practice.

CAITLIN

Outotec shows strong commitment and puts a lot of effort into gathering and reporting on environmental data. We would like to have a better sense of how they loop back with their employees on what the data means, and what the company's

expectations are with regard to further emissions reductions. For example, it would be great to gain a deeper insight concerning how employees can continue to reduce emissions by improving their own systems, and how the company encourages these extra steps.

ANDERS

Outotec's policy is to take a bold sustainability approach backed up by sensitive handprint and footprint analysis. Having technologies that help their customers to improve is tremendously valuable for Outotec. They gain additional credibility by also doing the same in Outotec's own operations.

RESPONSIBLE BUSINESS PRACTICES

We aim to take economic, environmental and social responsibility into account in all our activities according to our core value - commitment to sustainability. Achieving sustainable financial performance was in focus in the challenging year 2015. For us, being a responsible business partner means that we fully respect laws and regulations, have solid governance practices, manage risks effectively, and behave ethically according to our code of conduct in all our relationships.

Governance is often considered to be a matter of mere compliance. However, we believe that the way how sustainability is managed and governed makes a big difference. We have a clear hierarchy of ethics guidance and decision making on sustainability issues.

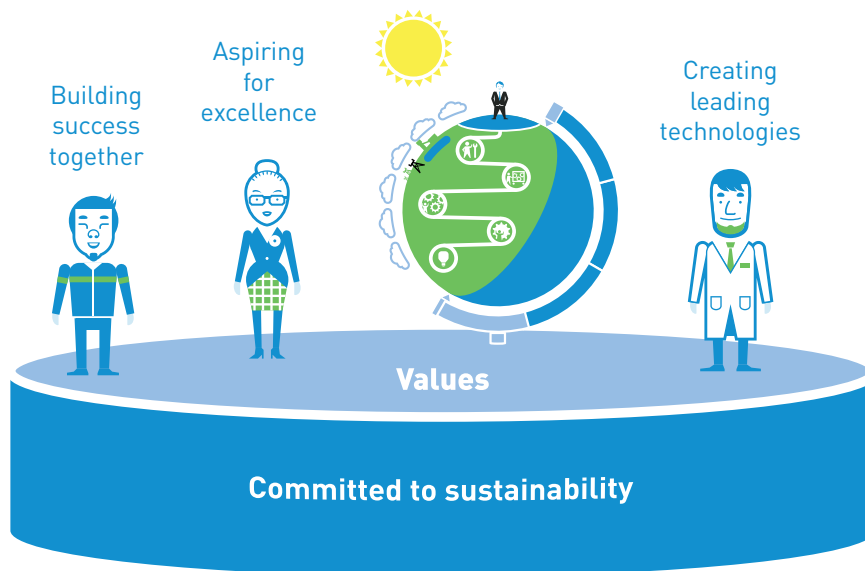
Everything we do is first and foremost based on our mission and values. Our everyday work is guided by our Code of Conduct and other detailed policies. Through training and active dialogue on

governance issues we ensure that our employees in each Outotec location are sufficiently empowered to operate efficiently and as guided by Outotec policies.

BUILDING ON COMMON VALUES

We want to encourage everyone at Outotec to consider their actions through one simple question: "Is this sustainable?" In addition to our core value of commitment to sustainability, we have three value statements:

- **Creating Leading Technologies.** This means creating technology breakthroughs and leading the way, seeing change and complexity as opportunity, leveraging our expertise, encouraging innovation and rethinking as well as leading in sustainable technology.
- **Building Success Together.** This means pursuing our mission, building long-term customer and supplier relationships, trust and respect, celebrating success together, taking care of life balance, leveraging diversity, and acting with courage.
- **Aspiring for Excellence.** This means continuous improvement every day, setting the bar high, challenging the status quo, growing and renewing ourselves as individuals, staying humble and adaptive to learn, finding out what good looks like and flourishing in what we do.



ENSURING GOOD GOVERNANCE

We have been developing a solid governance structure to ensure good governance, effective risk management, adequate controls, and the internal audit principles to support them. We follow the most recent Finnish Corporate Governance Code for listed companies issued

by the Securities Market Association to avoid possible conflicts of interest. Outotec's corporate governance is described in more detail in our Corporate Governance Statement 2015 at www.outotec.com/cg.

Outotec endorses ethical business practices and complies with national and international laws and regulations. We have zero tolerance for corruption and non-compliance with our Code of Conduct.

Outotec was not subject to any corruption-related suspicions in 2015, did not have to pay any fines, and was not exposed to any non-monetary sanctions for non-compliance with anti-corruption laws, competition laws or regulations, or any environmental laws.

However, Outotec was subject to a market position investigation in China by The Price Supervision and Anti-Monopoly Bureau of the National Development and Reform Commission of the P.R. China (NDRC), in September 2015. The investigation was closed after Outotec cooperated with NDRC to submit the requested further information.

Outotec has a Product Compliance Management process to ensure that the products and services engineered and delivered by the company worldwide are reliable and meet all applied safety standards during all phases of the product life-cycle. We follow negative impacts and incidents through our QEHS management system and product compliance management system as well as customer feedback collected after each major delivery and through customer surveys.

Outotec has not identified any significant negative impacts of its operations or products on employees' or suppliers' health and safety or labor practices, or on local communities. During 2015 no issues emerged concerning the rights of indigenous people.

However, after completion of the project delivery, the possibility remains that information on indirect negative impacts

may not have been disclosed to Outotec by the customers or local communities.



Read more about safety and product compliance on page 30.
Read more about how we favor local suppliers on page 57.

THE KEY ROLE OF THE BOARD OF DIRECTORS

At the end of 2015, the Board of Directors of Outotec consisted of seven members, all of whom are independent. Two of the Board members are female. One of the Board members is a Canadian citizen, and the other members are Finnish.

The work, duties, composition and committees of the board are described in our Corporate Governance Statement 2015. The Board of Directors conducts an annual evaluation of its operations and working methods.

In 2015, the Board of Directors' special focus areas have related to current challenges in the macroeconomic environment, cost efficiency, project risk management, Outotec's organizational structure and long-term strategy. The Board's Audit and Risk Committee focused especially on project-related risk reviews and on Outotec's internal risk management systems and internal controls.

The remuneration of board members is described in Outotec's Corporate Governance Statement on pages 10-13. There is no correlation between the compensation for board members and Outotec's social or environmental performance.

OUR APPROACH TO RISK MANAGEMENT

Outotec operates in accordance with the company's own enterprise risk management policy, which specifies the objectives, principles, operating procedures, organization and responsibilities of risk management, as well as related report-

ing and monitoring procedures. The Executive Board is responsible for defining and implementing risk management processes, and for ensuring that risks are taken into account in strategic planning and operative business. The management evaluates strategic enterprise risks in the annual strategy process, and makes mitigation plans at least once a year. Our Business Units, Markets Unit with market areas and global functions are responsible for achieving their strategic targets and for mitigating and managing risks with support from our risk management, contract management and internal audit function.

Outotec's strategic and operational risks are described at www.outotec.com/investors, and the company's risk management policy, responsibilities and processes are set out in our Corporate Governance Statement 2015.

During 2014 -2015, Outotec's project risk management tools have been renewed to improve project risk management in the sales and delivery phases. The key objective of the process is to identify and manage risks and opportunities intelligently and transparently. It is not only about avoiding risks, but about recognizing and managing them at an early stage to reduce or avoid negative impacts.

Project risk management at Outotec covers all stages of a project starting in the sales phase and continuing through the bidding, negotiation, and execution phases up until the end of the warranty period.

Identified risks and mitigation measures are documented in risk assessments, which are then used as a basis for specifying appropriate follow-up actions. These actions may include the abandonment of a proposal to a customer. Outotec's internal audit system aims to verify that the company's operations are efficiently managed and profitable, and that risk management and internal controls are at a sufficient level. Our in-

ternal audit function reports administratively to the CFO and, in matters related to the internal audit reports, directly to the Board's Audit and Risk Committee and the CEO.

Outotec's internal and external audit processes take into account any corruption suspicions and fraudulent acts that may occur. Training sessions are held in connection with audit activities at our market area operations to train employees in anti-corruption policies and procedures for the purpose of preventing misconduct and crimes, and virtual training sessions on anti-corruption are available to all employees.

In 2015, specific audits were conducted in our Sub-Saharan Africa and Middle East market areas, covering our company-wide delivery process, and for our Moroccan service projects. Follow up audits were also run for our supply function and our Indian and Russian offices.



Read more about the Board's work, internal controls and auditing in our Corporate Governance Statement 2015 at www.outotec.com/cg.

MANAGING SUSTAINABILITY

Outotec's Executive Board is responsible for our sustainability agenda. The Executive Board approves the sustainability strategy, targets and reporting. Our General Counsel, who is a member of the Executive Board, has had overall responsibility for corporate responsibility since October 2015, when the former Head of Marketing, Communications & Corporate Responsibility left the company. Responsibility for sustainable products and services lies with the Technology and Product Board, chaired by the CTO. Decisions, actions and commitments are reported to the Board of Directors.

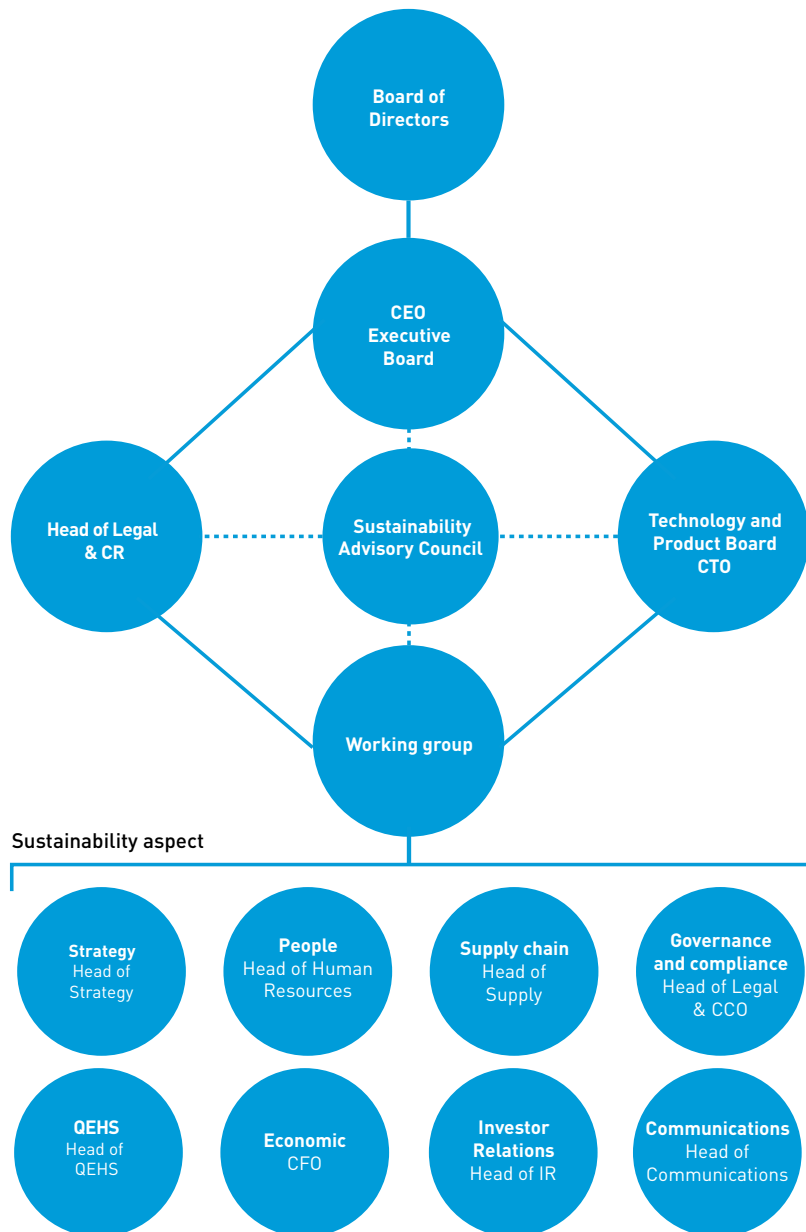
Sustainability is integrated into all relevant organizational functions, such as Human Resources & Communications, Supply, Legal & Contract Management,

and QEHS. We additionally have a sustainability working group, who coordinate the work and meet several times a year.

Outotec's Sustainability Advisory Council, established at the end of 2014, advises the company regarding sustainability trends, strategies and reporting, and gives input on how stakeholders view

the economic, social and environmental impacts of our decisions. The Council is not part of Outotec's formal governance. In 2015, the Sustainability Advisory Council met twice.

Sustainability related personal targets are included in the annual bonus plans of Outotec's QEHS, environmental



and sustainability managers and several Executive Board members. Inventors working with new, patentable solutions also receive monetary rewards for their inventions. Furthermore, Outotec rewards all employees for making proposals that improve the sustainability of the company's internal processes.

Our Code of Conduct, which we defined on the basis of our values in 2012, gives everyone at Outotec ethical guidance on many issues. The Code of Conduct has been approved by the Board of Directors and communicated to employees through e-learning and classroom training sessions since 2013.

By the end of 2015, a total of 3,527 employees had completed training on the Outotec Code of Conduct, corresponding to 73 percent of our personnel. In addition, a total of 3,645 employees have completed virtual training on anti-corruption; 3,082 employees on competition law and 3,366 employees on intellectual property rights.



Read our Code of Conduct at www.outotec.com/sustainability.

COMPLIANCE HELPLINE FOR RAISING CONCERNS

Outotec's Chief Compliance Officer (CCO) reports directly to the Board Audit and Risk Committee on a quarterly basis regarding any material compliance cases and developments.

Outotec has a compliance helpline available to both internal and external stakeholders. This helpline enables anyone to raise concerns or seek advice regarding ethical behavior or Outotec's Code of Conduct. All compliance concerns raised are treated confidentially, and there is a clear no retaliation policy against anyone raising a question or concern in good faith. More severe compliance cases may be submitted to Outotec's Compliance Board, which consists of the Chief Compliance Officer, the General Counsel, the Chief Financial Officer

and the Head of Human Resources.

During 2015 we saw increased activity through the compliance helpline in our Sub-Saharan Africa and Middle East market areas, where we held classroom-training sessions on our Code of Conduct and compliance topics. This has clearly encouraged people to contact the CCO with their questions and concerns. During 2015 the compliance helpline was also opened in Germany, and our German personnel received virtual training on the Code of Conduct and anti-corruption issues.

We will continue to promote the compliance helpline during 2016, with a special focus on retraining our employees on the Code of Conduct, anti-corruption and other compliance topics through our e-learning platform. Focus areas will include building trust in the compliance system and raising awareness in different locations.

We follow up on our performance by monitoring the number of filed, addressed and resolved grievances about labor practices or impacts on society. Altogether 17 registered cases (2014: 21) were brought to the attention of the CCO directly or through the compliance helpline during 2015.

The majority of these cases related to employee and management relations, conflicts of interest, or compliance with internal policies and processes. In addition, one serious forensic case arose, where investigations and actions are ongoing. During the year we also saw a clear increase in cyber fraud attempts, in line with global trends.

Our external stakeholders have not used our compliance helpline on Outotec's website.



Read about our work on equal opportunities and diversity on page 57.

RESPECTING HUMAN RIGHTS

Outotec supports and respects the pro-

tection of internationally proclaimed human rights, and this commitment is reflected in our Code of Conduct. We are committed to treating people with dignity, and every individual is equally entitled to enjoy human rights without discrimination. We do not provide goods or services that we know will be used to carry out human rights abuses, and we work towards the effective abolition of the use of compulsory, forced or child labor.

Outotec joined the United Nations Global Compact Initiative in December 2010, and we are committed to its principles.

Outotec does business globally, and has acquired companies in countries where human rights risks are widely recognized. As part of the integration of the acquired companies in 2015, Outotec has been providing training on its global policies, Code of Conduct and labor practices to the employees and local managers of acquired companies in the Middle East and Africa.

In 2015, as a preliminary step towards conducting human rights assessments at Outotec, we commissioned a Master's thesis study assessing current drivers in relation to the implementation of human rights at Outotec. The study involved interviews with selected representatives of Outotec's key functions, and set out a plan for human rights implementation and assessment. Outotec will consider conducting further human rights assessments in future, taking into consideration the challenging financial situation. We will also continue to support and advance human rights in our operations and in dealings with our business partners. During 2016 we will particularly review our Code of Conduct from the human rights perspective.

FINANCIAL PERFORMANCE DETERIORATED

Outotec's approach to economic sustainability is demonstrated by our long-term financial targets involving continuous growth and profitability. Robust business

allows us to pay dividends to our shareholders, salaries to our employees, and taxes to governments.

Due to the weakened market situation, Outotec's financial performance further deteriorated in 2015. The total order intake remained on the previous year's level, but sales contracted because customers initiated fewer investment projects and made slower progress on existing projects.

Our 45 million euro cost savings program launched in 2014 reached its gross cost reduction targets, but its net effects were diluted by lower than planned resource utilization, currency exchange effects, and extraordinary IPR litigation costs.

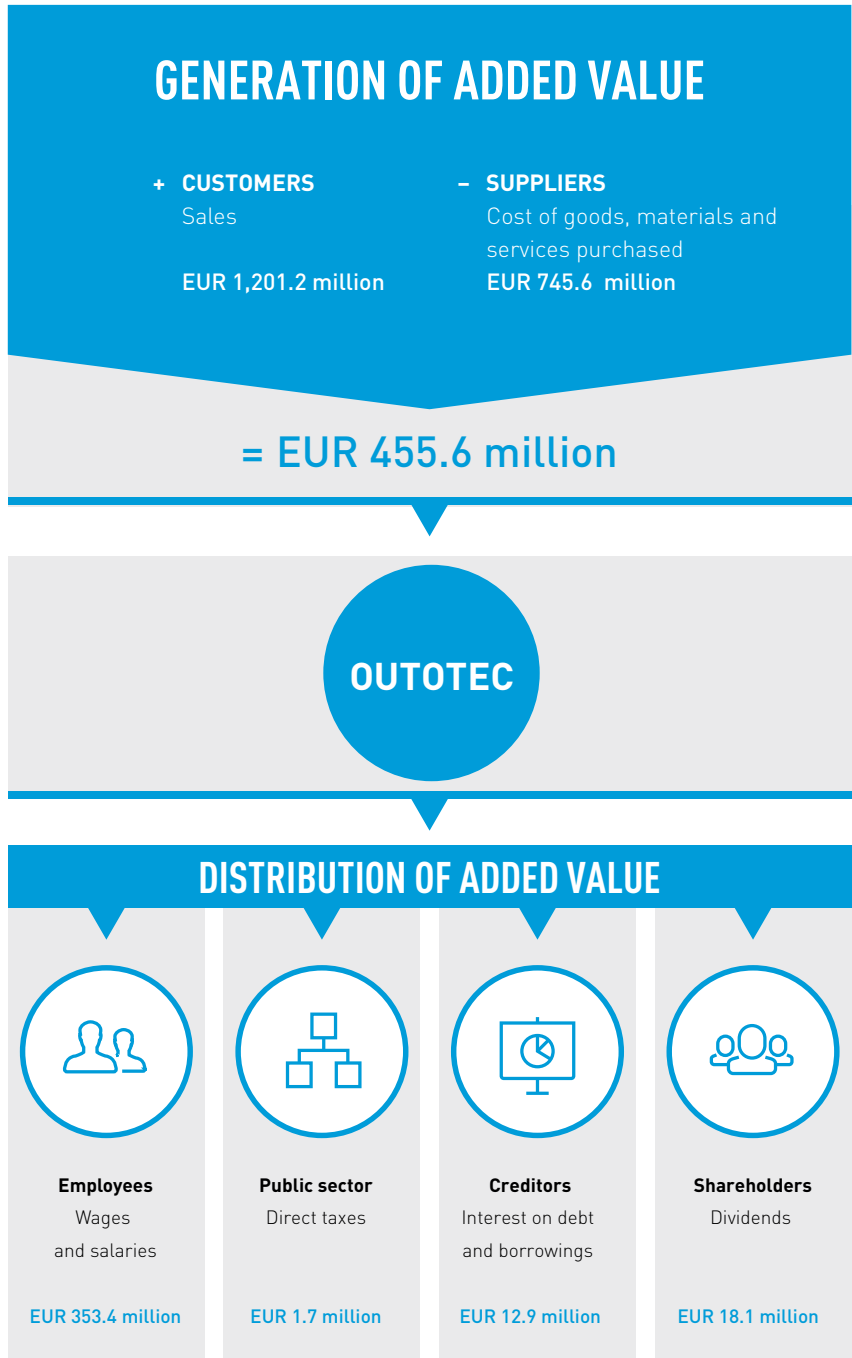
As profit before taxes was negative, the Board of Directors proposed to the Annual General Meeting that no dividend would be paid to shareholders from 2015.

To adapt our operations to the accelerated weakening of markets, Outotec launched a new cost structure program in November 2015 aiming to reduce fixed costs by EUR 70 million during 2016.

The total wealth created by Outotec in 2015 was EUR 455.6 million (2014: 457.8 million). Our total procurement spend was EUR 745.6 million (2014: 944.8 million), a 21 percent decrease compared to 2014, mostly due to fewer large customer projects. As a buyer of goods and services we play an important role in supporting local businesses. This generates employment and drives socio-economic development in local communities. In 2015, 43 percent of our customer-related purchases were sourced locally.

At the end of 2015, Outotec's market capitalization was EUR 623 million (2014: 803 million).

DIRECT ECONOMIC VALUE CREATED FOR STAKEHOLDERS



FAIR AND NON-DISCRIMINATORY TAX POLICY

As a globally operating company, Outotec faces a variety of tax laws and regulations. International taxation is not always an easy environment in which to navigate, but our principle is clear: we want to pay the right taxes in the right places. We aim to be transparent and non-discriminatory in our tax practices. Our Board of Directors has decided on an approach in which no aggressive tax planning is done, nor will Outotec maintain any legal entities in the so-called tax havens, unless a justified business reason arises. Currently there are no such entities.

In 2015, Outotec paid a total of EUR 3.3 million in taxes (2014: 30.3 million). Our average effective tax rate was 25.1 percent (2014: 28.7%). The tax rate tends to vary depending on the geographical distribution of sales, which in turn is affected by our product mix and the locations of customer projects. The table on the right lists the tax rates affecting us in the countries where we operated in 2015.

There has been extensive public discussion about total transparency on taxes paid in individual countries. Outotec delivers large projects, and in some countries there may be only one project ongoing. Revealing country-specific financial information in such cases could breach our commitments concerning access to project-specific confidential information. Also, the destinations of our sales typically do not correspond with the places in which the work and activities connected to the sales are performed, where value is created, and where the income must be reported and taxes paid based on globally applied tax principles. For these reasons, we do not believe that providing country-specific tax information would give a comprehensive picture of the fairness of the tax distribution in Outotec's case.

Country	Effective income tax, %
Australia	30.0
Austria	25.0
Brazil	34.0
Bulgaria	10.0
Canada	25.8
Chile	35.0
China	25.0
Finland	20.0
Germany	29.2
Ghana	25.0
India	33.1
Indonesia	25.0
Kazakhstan	20.0
Mexico	30.0
Mongolia	10.0
Morocco	30.0
Mozambique	32.0
Namibia	33.0
Netherlands	25.0
New Caledonia	30.0
Norway	27.0
Peru	28.0
Poland	19.0
Qatar	10.0
Russia	20.0
Saudi Arabia	20.0
South Africa	28.0
Spain	28.0
Sweden	22.0
Turkey	20.0
United Arab Emirates	0.0
United Kingdom	20.0
United States	38.0
Zambia	35.0





SUSTAINABLE **SUPPLY CHAIN**

80 percent of Outotec's manufacturing is outsourced, so sustainability along our supply chain is highly material to us. In the current weak market situation, we have focused on developing a cost-competitive supply base without compromising on product quality, safety and sustainability.

Our supply chain management covers both Outotec's own operations and those of our suppliers. Our Supply function manages the supplier base through sourcing category management, while also leading and developing sourcing activities for customer deliveries that are executed through locally-based purchasing.

Outotec has two main policies serving as the basis for collaboration with suppliers. Our Supply Policy steers supply activities throughout the company, defines ways to enhance supply quality, and sets out guidelines for all people involved in supply-related activities.

Our parallel Supplier Policy imposes strict requirements on Outotec suppliers and defines our principles on ethical conduct, compliance with laws and regulations, environment, health and safety, labor, intellectual property and improper benefits. We expect our suppliers to comply with this policy in their dealings with Outotec, their own employees, their suppliers, and other third parties. Suppliers are expected to ensure compliance with Outotec policy, identify any deviations, manage corrective actions, ensure the transparency of these actions, and communicate with us systematically on such issues.

We measure our performance by calculating the percentage of new suppliers screened using labor practices, environmental and human rights criteria.



FOCUSING ON SUPPLIER SELECTION

Since some 80 percent (2014: 85%) of Outotec's manufacturing is sourced from external suppliers, supplier selection is of key importance in our business.

Outotec gives performance guarantees for the plants and processes we deliver to our customers. We are also naturally responsible for the equipment and materials supplied, as well as the engineering, construction and service work provided by our suppliers and subcontractors.

Our suppliers include distributors, component manufacturers, equipment manufacturers, logistics companies, en-

gineering companies, construction companies and other service providers. In addition, thousands of our direct suppliers' own suppliers form part of Outotec's supply chain. The majority of our direct suppliers are either component or equipment manufacturers.

Because Outotec delivers large tailored solutions, the set-ups and combinations of suppliers vary a great deal from one year to the next, which makes it difficult to run joint long-term development programs with them. Outotec had approximately 3,400 active direct suppliers in 2015 (2014: 3,500). Out of 380 potential new suppliers, 70 (18%) were

screened using quality, labor practices, environmental and human rights criteria. All the screened companies met our criteria and qualified as new suppliers.

Most of our suppliers are based in Finland, Germany, Australia, Sweden and Brazil. Outotec has also developed best-cost-country sourcing in China, India, Eastern Europe and Mexico, and negotiated new agreements and prices with European suppliers. Our global supply hub concept, which had earlier been planned to consist of three supply hubs – China, India and Mexico – was changed in 2015, leaving China as our only global supply hub. The company has also

strengthened its capabilities to handle quality control, expediting and logistics in China and India.

The cost-competitiveness of our products is of crucial importance in the current weak market situation. Improving cost efficiency without compromising on product quality, safety and sustainability was the main challenge for supply chain management in 2015. The allocation of more business to fewer suppliers enables better management and development partnerships, in turn enhancing delivery excellence and cost competitiveness.

43% OF SPENDING ON LOCAL SUPPLIERS

We define "local suppliers" as suppliers who we do not manage globally, and who are located in a country other than Finland and Germany, where Outotec's two global plant delivery hubs are located. Spending on local suppliers contributes to local employment and regional development. Outotec's supply chains are characterized by logistic complexity, especially those that combine global project deliveries and purchases from local suppliers.

Our spending on local suppliers in 2015 amounted to EUR 270 million, equivalent to 43 percent of our total supply spend. The largest shares by country – each amounting to EUR 10–70 million – were spent in Sweden, Australia, Russia, Chile, USA, China and the United Arab Emirates. The remaining local spend was distributed among 50 countries.

We estimate that 20 percent (2014: 15%) of Outotec's manufacturing and assembly took place in the company's own manufacturing workshops and assembly shops. The acquisition of Kempe Engineering in May 2015 brought three new workshops to the company, focusing on service operations and the manufacturing of spare parts close to customer sites in Mozambique, Qatar and the United Arab Emirates; while our acqui-

sition of Sinter Plant Services in December 2015 has brought us a small spare parts manufacturing facility in South Africa. The share of our own manufacturing has increased from previous years. This is mostly due to a reduced order backlog in a weak market situation, the realization of more manufacturing in-house, and new acquisitions of manufacturing capacity.

Outotec's manufacturing facilities are relatively small. They all have local quality, health and safety systems in place, and they duly manage, sort and process their wastes. No notable risks related to the use of child labor or forced or compulsory labor have been identified in Outotec's own manufacturing units. The due diligence process applied during acquisitions covers labor practices, human rights and environmental criteria.

MITIGATING RISKS ALONG THE SUPPLY CHAIN

We have nominated Supplier Account Managers to work with our most important global or local suppliers. These persons are responsible for facilitating collaboration between Outotec and the suppliers across and above individual projects. This procedure enhances visibility, alignment and the management of supplier-related risks, while also improving overall collaboration between Outotec and individual suppliers.

The main sustainability-related risks identified in our internal workshops include bribery and kickbacks, occupational safety, protecting information and reporting misconduct. With regard to environmental issues, material toxicity and chemicals were ranked as the greatest risks. In addition, we have identified three countries in our supply chain with potential risks regarding child labor, hazardous work, or rights to exercise freedom of association or collective bargaining. These countries are China, India and Mexico. In 2015, 3 percent of our suppliers were based in China, 2 percent in

India, and 2 percent in Mexico. We have dedicated supply persons in each of our Market Area offices, whose task is to perform Supplier Assessment and Approval Processes carefully and make observations during audits and other visits.

During 2015 we updated our project risk assessment process and tool, and also tested them in larger sales cases. The super users and facilitators were trained, and the training of sales and project implementation personnel will continue in 2016. The feedback from project managers and teams has mostly been positive, and risk assessments have provided our management with important information about major risks and planned mitigation actions. In addition, a major training event was organized at Outotec House in Espoo, Finland, to increase awareness of potential risks in supply chain among personnel responsible for procurement.

THE CARBON FOOTPRINT OF OUR SUPPLY CHAIN

In 2015, we continued to analyze the footprint of our supply chain in terms of greenhouse gas emissions. Calculations were based on Outotec's spending and supply chain emission factors defined by the UK Department for Environment, Food and Rural Affairs (DEFRA).

The analysis showed that the biggest sources of CO₂ emissions in Outotec's supply chain were metal products, representing 40 percent of the total. In 2015, the carbon footprint of our supply chain, at 345,000 tonnes of CO₂ equivalent (2014: 386,000), was considerably larger than the footprint of Outotec's own operations, which amounted to 33,584 tonnes of CO₂-e (2014: 34,787).



See also the supplier data on page 69.

DEVELOPMENT OF OUR PEOPLE

The year 2015 continued to bring new challenges for Outotec employees. To adapt the company's operations to the further weakened market situation, Outotec was compelled to launch a new cost structure program to follow the earlier EUR 45 million cost saving program that resulted in more than 500 redundancies globally. Despite the many challenges, our people remain committed to enhance Outotec, and we have planned various actions to improve employee engagement and satisfaction.



Several rounds of restructuring in previous years had an impact on employee engagement. According to our bi-annual employee survey O'People, conducted in September 2015, all our key human resources indexes – employee engagement, performance enablement and job satisfaction – declined. The Employee Engagement index fell to 56 percent (2013: 69%); the Performance Enablement index was 63 percent (2013: 67%); and the Job Satisfaction index decreased to 61 percent (2013: 67%).

These weaker results represent a serious message for Outotec, and we have already taken action in response. The results have been discussed by all our management teams and in different locations in facilitated employee workshops. The high 79 percent response rate to the survey nevertheless shows that our employees are committed to help us enhance Outotec.

All leaders are held accountable for planning actions, taking corrective action based on results, and continuously following up on actions. All our top leaders also made personal commitments relating to the results in the Leaders' Forum, an annual event that brings together our

top leadership. A special emphasis will be put on building engagement, spirit and trust, even in these uncertain times. Employee events and change management activities will support these actions. The O'People Challenge campaign has been launched to promote local actions and share success stories. Teams can challenge each other to share their commitments, actions and stories, by posting short video clips in our internal social media. Progress will be measured in the O'People surveys in 2016.

PERFORMANCE MANAGEMENT

More than 95 percent of Outotec employees have engaged in performance development dialogues (PDD). During 2015 we further improved our performance management practices. A new component, Outotec value-based behaviors, was embedded into the PDD process in order to enhance Outotec's value-based culture. Related training was initiated, but due to our new cost structure program the planned wider training was put on hold in the fourth quarter of 2015.

Outotec's values are the foundation of our strategy, and we want to ensure that all employees are aware of our val-

ues and behave in line with them in their everyday work. We also encourage our employees to set themselves behavioral development objectives through PDDs with their line managers. These objectives provide a concrete tool for managers to give structured feedback and support employees in their personal development.

PROFESSIONAL GROWTH

Outotec's main development initiatives in 2015 were strongly linked to our five strategic programs. A new Project Manager curriculum was developed as part of our Delivery Excellence program, and a sales development assessment was conducted as part of our Customer Focused Sales program.

The Project Manager curriculum has been designed to support the professional growth of project managers. It consists of three different levels from junior project manager to project director, and focuses on commercial project management and leadership. Training modules are supported by on-the-job learning, self-reflection and e-learning. During 2015 approximately 50 project managers completed the program.

One of the highlights of the Outotec Experience training was a session where participants wrote postcards with personal messages of thanks and recognition to colleagues near and far.





An assessment of sales competences was carried out in the autumn 2015 to identify Outotec's strengths and development needs in sales and sales management. Based on the results, personal development objectives were set for each participant.

Outotec also continued to offer classroom or virtual classroom training on products and technologies, global Outotec business processes and QEHS. Outotec has a strong portfolio of product and technology training, from introductory e-learning to advanced training on specific products, product groups or technologies, and these modules are continuously enhanced. In 2015, special emphasis was put on the internal marketing of our training offering, measures

to facilitate access to learning opportunities, and the creation of new tools for supporting the design of high impact development initiatives. Many development activities including induction, leadership, languages, ICT and project management training were run locally in Outotec's Market Area offices.

In addition, Outotec is continuing to focus on on-the-job learning. Our mentoring concept is being rolled-out in different locations. In 2015, a second mentoring program was organized in Finland with 14 mentor-mentee pairs. A cross-company mentoring program with 13 participants was successfully completed with KONE Corporation.

Job rotation opportunities are promoted within Outotec. During 2015 ap-

proximately 350 of our employees were sent on international project assignments, with an average length of three months. The fact that we employ over 70 expatriates in 16 countries is an important indication of Outotec's investment in on-the-job learning and knowledge sharing around the globe.

Outotec's Spare Parts team tested short-term job rotation during 2015 to endorse change and development within their organization. The program involved six job positions, with participants making extended business trips of approximately four weeks as job swaps between Chile, Australia, US, Peru and Finland. Feedback from participants was very positive, and there are plans to continue the program in 2016.

LEADERSHIP DEVELOPMENT AND TALENT MANAGEMENT

Outotec's leadership profile is used as a framework for leadership development. The first profile-based leadership development tool, a 360° assessment, was rolled out globally in 2015, with a network of facilitators trained to support the use of this tool. Leaders and managers are guided to base their work on the four cornerstones of the profile: Provides direction; Inspires for collaboration; Drives high performance; and Drives change. We have also produced new virtual modules to support managers' target setting and performance management skills. Leadership development training was delivered as part of the new Project Manager curriculum.

Change management training sessions were organized to help leaders drive changes. Transitional leadership was also on the agenda in the Leaders' Forum, an annual event for our top leaders.

Active talent management, succession planning and internal job rotation continue to be the key elements in leadership development. Our ability to promote internal job rotation and fill leadership positions with good internal candidates has improved significantly.

We have been able to enhance our talent management maturity and expand the scope of our annual talent management process. More than 1,000 employees are invited to the annual process.

OUTOTEC EXPERIENCE

Outotec Experience is a two-day interactive workshop designed to give employees deeper insights into the company's strategy, business, customers, values and processes. The program aims to enhance collaboration by engaging people from different parts of the organization. Discussions focus on how we can work together to add value for Outotec's customers. The program is developed in-house, with Outotec leaders functioning as presenters.

During 2015 a total of 17 Outotec Experience workshops were held around

the world. Since the start of the program in 2014, nearly 770 of our employees from seven market areas have participated, and their feedback has always been very positive. The workshops' learning impact has also been measured through questionnaires, with results showing remarkable improvement, especially concerning participants' better understanding of our strategy, business process and organization.

FAIR COMPENSATION

For Outotec, it is very important to be able to recruit and retain world-class professionals as key assets who help to create the company's intellectual property. Fair and motivating compensation is achieved through remuneration scaled to the requirements of the job and the performance and competences of the employee.

According to Outotec's compensation policy, total compensation should align closely with the interests of Outotec, its shareholders and all employees. Our employee share savings plan supports this principle by making our employees into shareholders. A significant proportion of total compensation should be based on the company's performance, as well as on each employee's individual performance. In order to attract and retain highly competent professionals, total compensation should also be competitive compared to compensation levels in the relevant labor market.

Almost all Outotec employees benefit from an annual bonus system. These bonuses are paid to employees who have been employed by the company for at least six months during the calendar year, and are still employees when bonuses are paid. If a person was first hired during the accounting period, they qualify for the bonus after four months.

Incentive bonuses are determined on the basis of the attainment of the company's financial targets, as well as targets set specifically for the employees or their departments. Maximum bonuses generally range from 10 to 60 percent of employees' annual salary, depending on

“Outotec Experience was a great chance to understand better what our values and ‘One Outotec’ mean,” said one participant in Canada.

their position. Due to the difficult market environment and consequent operating losses and personnel reductions, no bonuses will be paid to management or employees for 2015.



Read more about our HR data, labor practices, and compensation on pages 65-68.

EQUAL OPPORTUNITIES AND DIVERSITY

Outotec has employees of over 60 nationalities in 32 countries. The company has signed the United Nations Global Compact, and we are committed to its principles on human rights, environment, labor, and anti-corruption. Our commitment to the Global Compact demonstrates our desire to further advance sustainability and social responsibility in our business practices.

We also recognize the UN's Guiding Principles on Business and Human Rights, and we are developing an approach on this basis. We support the realization of basic human rights global-



ly, and we do not knowingly provide any goods or services that will be used to carry out human rights abuses. We do not use any form of compulsory, forced or child labor, and we expect the same from our agents, suppliers, contractors and other business partners. We strive to contribute towards the effective abolition of the use of compulsory, forced or child labor globally, and we also respect the rights of indigenous peoples. Outotec also fully respects freedom of association and the right to collective bargaining.

We additionally value diversity in the workplace, and follow the principle of equal opportunities. Employees are selected and treated on the basis of their abilities and merits. Every individual is equally entitled to enjoy fair treatment, respect and common courtesy, without discrimination and regardless of their ethnic origin, nationality, religion, political views, gender, sexual orientation or age. We do not tolerate any form of harassment or behavior that could be considered offensive, intimidating, discriminating or insulting.

There were no reported incidents directly linking Outotec to human rights

abuses or discrimination of any type in 2015.

We monitor diversity and equal opportunities in relation to the composition of our governance bodies and the breakdown of employees by category, gender, age group and other indicators.

Traditionally there are fewer women than men working in the mining and metals industry. To share the career experiences of female leaders, Outotec organized a panel discussion and networking event 'Women at Outotec' in Espoo, Finland. More than 100 women attended the event in March 2015.

Our newly established company Outotec Services RSA, which makes up a significant part of our business in Sub-Saharan Africa, has qualified as a Black Economic Empowerment (BEE) entity in South Africa. A BEE entity is defined as a company of which 25% +1 vote of share capital is in the hands of historically disadvantaged South African ethnic groups. This ownership may involve individual shareholders or organizations such as educational trusts, community trusts and employees' share ownership plans.

Outotec does business globally and has acquired companies in countries where certain human rights risks are widely recognized. As part of the integration of the acquired companies in 2015, we have been providing training on our Code of Conduct. This training emphasizes Outotec's commitment to human rights and globally recognized labour practices to the employees and local managers of the acquired companies in the Middle East and Africa.



Read about our stakeholders' expectations and engagement on page 23.

GRI AND DATA

ABOUT THE REPORT

At Outotec we report on our sustainability targets and performance annually. This report covers the company's sustainability performance for the calendar year 2015. It has been prepared according to the Global Reporting Initiative (GRI) G4 guidelines and the UN Global Compact principles.

In 2014, we reviewed our material sustainability topics with an external partner, on the basis of an earlier materiality assessment from 2011, management interviews, a review of sustainability trends impacting our industry, and stakeholder feedback. Topics were identified by mapping relevant economic, environmental, and social impacts that could be important to stakeholders. The identified aspects were initially prioritized in a workshop with Outotec's Sustainability Working Group, and then validated in Outotec Leaders' Forum, where about 100 of Outotec's leaders shared their views on the topics relevant to the company. Finally, the results of the materiality assessment were reviewed and verified by external advisors representing our stakeholders in Outotec's Sustainability Advisory Council. The scope and aspect boundaries for the material topics were evaluated, and relevant GRI indicators were chosen by Outotec's sustainability specialists. The results of the materiality assessment were validated by Outotec's Executive Board in January 2015.

The material aspects identified as most relevant to the company and our stakeholders form the basis for our sustainability management and reporting. We have identified our customers, employees, suppliers, and investors and financiers, as well as the media, NGOs and local communities as the main users of this report.

We fully report on our own operations, and partly include information on our contractors in delivery projects,

the use of Outotec's technology, and our supply chain. The report boundary includes all our major operations. Our aim is to expand the coverage of information collection and include site operations, construction, and commissioning work carried out at our customers' sites. Since 2013, we have also calculated the CO₂ emissions along Outotec's supply chain.

Some of the material indicators in the GRI Index list are reported only partly due to the lack of measured data. Concerning labor data, the reason is often that in certain countries we are not allowed to compile such statistics. This is an issue we would like to improve in the future reports.

In 2015, our new Dewatering Technology Center started operation in Lappeenranta, Finland, and it is included in the data of Lappeenranta facilities. Outotec also acquired four new businesses. Three of these businesses – Kempe Engineering, Kovit Engineering and Biomin – are included in the reported data. The acquisition of Sinter Plant Services was only completed in December, and related data is not fully included in this report.

DATA COLLECTION

Financial data is based on data collection through our enterprise resource planning and management reporting systems. The figures used in Outotec's consolidated financial statements have been prepared according to the International Financial Reporting Standard. In addition, some data has been collected manually from Microsoft Excel spreadsheets.

For the collection of social performance data, a global master data system based on SAP Human Capital Management was applied. The system includes accurate data on Outotec employees globally, covering all business units and providing basic information on all employees.

Training data is collected from a learning management system, our e-learning platform and local human resources personnel. However, the coverage and quality of training data still needs to be improved.

Outotec's global health and safety reporting system is used for data collection and to set and monitor progress towards common health and safety targets in all Outotec operations. It also provides qualified metrics and covers subcontractors on construction sites.

Environmental data is compiled on Microsoft Excel spreadsheets to a database and the data is analysed and combined to one file to carry out calculations. Performance data on environmental aspects has been collected from our major business units for electricity use, heating, owned or leased company cars, flight emissions, water use, paper use, recycled waste, and landfill waste. The report also includes information on the combustion of fuels in company-owned combustion sources (scope 1 emissions), and figures on hazardous wastes generated in our research centers, manufacturing workshops, and ceramic plate production plant. Figures for our combustion sources are compiled from separate annual environmental data reports. When required, information was also collected from business units via e-mail correspondence.

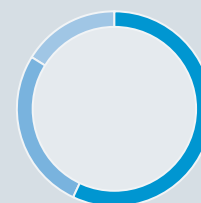
Environmental data was readily available for Outotec's most important and largest business units. The smallest offices were not able to report environmental data, because they are located in larger office premises together with other companies. They typically pay a monthly lump sum to the office space providers, and therefore it is not possible to determine their electricity, heat, or water consumption. For this group, average figures were calculated based on available and comparable data.

HR DATA AND LABOR PRACTICES

At the end of 2015 Outotec had a total of 4,859 employees (2014: 4,571). The increase of 288 compared to the previous year was due to acquisitions (449 new people). Since September 2014, 568 persons have been made redundant as part of our EUR 45 million cost saving program.

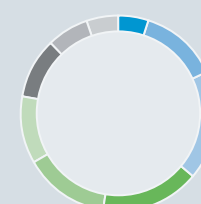
Temporary personnel accounted for about eight percent of the total. In addition, Outotec had 405 full-time equivalent contracted persons working in project execution and services (2014: 454). Outotec has employees on all continents, but nearly half of our personnel are based in Europe.

PERSONNEL BY REGION



- EMEA (including CIS) 57%
- Americas 27%
- APAC 16%

PERSONNEL BY AGE RANGE



- <25, 5%
- 26-30, 13%
- 31-35, 19%
- 36-40, 16%
- 41-45, 14%
- 46-50, 11%
- 51-55, 10%
- 56-60, 7%
- >60, 5%

n = 4,859, coverage 100%

Personnel by region	Dec 31, 2015	Dec 31, 2014	Dec 31, 2013
EMEA (including CIS)	3,159	2,627	2,891
Americas	1,012	1,214	1,144
APAC	688	730	820
Total	4,859	4,571	4,855

Employees, key data	2015	2014	2013	GRI indicator
Employees at year end	4,859	4,571	4,855	G4-10
Employees on average	4,855	4,776	4,927	G4-10
Temporary, % of total	8	8	8	G4-10
Full-time equivalent contracted persons	405	454	495	G4-10
Share of women in employees, %	18.4	18.8	19.6	G4-LA12
Share of women in management, %*	13.3	13.1	12.1	G4-LA12 G4-LA13
Wages and salaries paid, EUR million	353.4	362.8	385.8	G4-EC1
Ratio of annual total compensation of CEO to median compensation of employees	10.3	9.7	18.8	G4-54
Change in annual total compensation of CEO	-2.9%	-40.9%	N/A	G4-55
Change in annual median compensation of employees	-2.9%	-4.4%	N/A	G4-55
Average age of employees	41.3	41.0	40.9	G4-LA12

n = 4,859, coverage 100 %

*| n = 1,307 employees in management based on Outotec grading

The share of men in the mining and metallurgical industry has traditionally been high, which partly explains the current low share of women.

Outotec is committed to close cooperation with local employee representatives, unions and works councils, based on local practices and regulations.

The Outotec Round Table is a discussion forum that enables representatives of our personnel and management to discuss matters concerning the whole company. It is based on the European Works Council directive 94/95 EU, Article 6, and covers all employees in the EU countries, Norway and Switzerland. The Outotec Round Table was held once in 2015. Topics discussed included strategy, acquisitions, rewarding, organizational change, and cost saving programs. 21 personnel representatives participated in the meeting. The Outotec Council, a sub-committee of the Outotec Round Table which works to ensure the smooth

administration of the Round Table, had meetings once per quarter. Since the Council consists of personnel and management representatives, it also serves as a forum for additional discussions and information-sharing.

Approximately 50 percent of employees are covered by collective bargaining agreements (2014: 51%). Binding collective agreements are followed in each country where they are applicable to Outotec employees. The minimum notice periods regarding significant operational changes depend on locations and national legislation, and therefore differ significantly. Notice periods range from two weeks to one year.

Health and safety topics are not covered in formal agreements with trade unions, since they are duly addressed by statutory regulations and laws that Outotec complies with.

When Outotec starts a new operation in a new country, an expatriate employee is typically assigned to integrate the new operation into Outotec. Our goal is nevertheless that senior management should be hired locally. In 2015, 63 percent of our market areas had local managers (2014: 70%). The decrease is due to the fact that certain market areas were combined during the year.

Employee turnover rate	2015		2014		2013		GRI indicator
	#	%	#	%	#	%	
by age group							G4-LA1
<25	68	27	66	24	71	29	
26-30	101	16	104	16	112	18	
31-35	121	14	118	14	106	12	
36-40	144	19	92	13	106	15	
41-45	109	16	76	13	69	11	
46-50	82	15	67	13	47	8	
51-55	85	17	41	9	40	8	
56-60	39	12	33	10	30	8	
>60	49	20	71	31	73	21	
Total	798	16	668	15	654	13	
by gender							G4-LA1
Women	147	16	127*)	15	114	12	
Men	651	16	543*)	15	558	14	
by region							G4-LA1
Finland	132	9	120	9	65	4	
Germany	68	12	42	8	28	5	
Rest of Europe	72	19	133	35	29	7	
The Americas	324	32	216	18	414	36	
Australia	74	18	70	15	77	14	
Rest of the world	128	13	89	14	55	9	

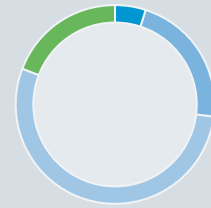
*) The total figures for employee turnover by age and gender for 2014 differ slightly due to missing age information for two people.

The higher employee turnover in 2015 compared to 2014 is partly a result of personnel reduction due to cost saving programs.

Training	2015	2014	2013	GRI indicator
All types of vocational training and instruction				G4-LA9
Number of employees	2,444	1,301	2,704	
Hours	31,788	27,521	67,750	
Training or education pursued externally and paid for in whole or in part by Outotec				G4-LA9
Number of employees	500*)	807	1,395	
Hours	3,000*)	6,877	40,200	
Training on health and safety				G4-LA9
Hours	87,277	200,979	124,695	
Training on human rights issues**)				G4-LA9
Number of employees	954	1,104	1,039	
Hours	1,431	3,139	1,168	

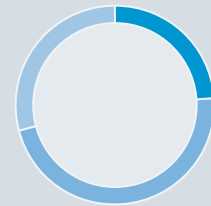
Vocational training hours	By gender			By employee category				GRI indicator
	Total	Men	Women	Senior management	Middle management	Specialists	Blue-collar workers	
Number of employees	2,444	1,908	536	198	761	1,521	5	G4-LA9
Hours	31,788	25,099	6,693	3,330	11,245	16,950	176	G4-LA9

EMPLOYEES BY CATEGORY



- Senior management 5%
- Middle management 22%
- Specialists 54%
- Blue-collar workers 19%

EDUCATIONAL BACKGROUND



- Primary and lower secondary level 24%
- Upper secondary level and lower university degree 47%
- Higher university degree and postgraduate 29%

n = 2,401, coverage 49%

The collection of education information has been optional in some countries in the past, which partly explains the low coverage.

*) Training on Microsoft Office365 tools started in December 2015.

***) Training as part of Code of Conduct e-learning modules and classroom training.

In 2015 we completed a safety training program for our employees and subcontractors working on our projects, which had started in 2014. We also continued to hold customary seminars about the prevention of occupational health diseases.

Employee categories, gender balance and age structure	2015	2014	2013	GRI indicator
Total number of employees in each employee category				G4-LA12
Senior management	255	238	209	
Middle management	1,052	1,008	969	
Professionals	2,648	2,536	2,520	
Blue-collar workers	904	789	774	
Executive Board, %				G4-LA12
Women	23	29	29	
Men	77	71	71	
< 30 years old	0	0	0	
30-50 years	31	57	64	
> 50 years old	69	43	36	
Senior management, %				G4-LA12
Women	14	14	13	
Men	86	86	87	
< 30 years old	0	0	0	
30-50 years	59	60	54	
> 50 years old	41	40	46	
Middle management, %				G4-LA12
Women	13	13	12	
Men	87	87	88	
< 30 years old	3	2	1	
30-50 years	64	66	64	
> 50 years old	33	32	35	
Specialists, %				G4-LA12
Women	26	27	27	
Men	74	73	73	
< 30 years old	22	19	19	
30-50 years	59	61	59	
> 50 years old	19	20	22	
Blue-collar workers, %				G4-LA12
Women	2	3	3	
Men	98	97	97	
< 30 years old	30	33	31	
30-50 years	54	52	50	
> 50 years old	16	15	19	
Board of Directors, %				G4-LA12
Women	29	25	29	
Men	71	75	71	
< 30 years old	0	0	0	
30-50 years	0	0	29	
> 50 years old	100	100	71	

n = 4,859, coverage 100%

Compensation

The total compensation paid by Outotec in 2015, amounting to EUR 353 million, consisted of:

- 1) **Base salaries**
- 2) **Short-term incentives**
Outotec's global annual bonus system, or project bonuses
- 3) **Long-term incentives**
Share-based Incentive Program for key employees
Share Savings Plan for all employees
- 4) **Rewards for innovation**
- 5) **Ad-hoc rewards for extraordinary achievements**
- 6) **Pension and life insurance benefits**

168 key employees (2014: 169) were part of the company's share-based incentive program in 2015. In addition, 1,211 employees equaling 27 percent (2014: 33%) of the eligible personnel participated in the employee share savings plan. The employee share savings plan was not offered to employees in Russia, Kazakhstan, Mozambique, Morocco, Qatar and Saudi Arabia due to legal restrictions or acquisition during the year.

Outotec runs several pension plans in various countries. These plans are mainly classified as defined contribution pension plans. Other post-employment benefits relate to retirement medical arrangements in Germany.

Benefits provided by Outotec	Full-time employees covered, %	Temporary employees covered, %	GRI indicator
Life insurance	66	52	G4-LA2
Health care	82	66	G4-LA2
Disability/invalidity coverage	95	66	G4-LA2
Maternity/paternity leave	98	84	G4-LA2
Retirement provision	49	3	G4-LA2

n= 4,813 coverage 99%

The retirement provision is significantly changed from previous years due to more precise numbers for the temporary employees in certain countries. Thus also the total coverage was improved.

[Read also about fair compensation on page 62, Corporate Governance Statement on pages 10-11 and Financial Statements 2015 on page 60.](#)

R&D DATA

R&D and innovation	2015	2014	2013	GRI indicator
R&D expenditure, EUR million	61.2	56.9 ^{*)}	48.7	G4-EN27
R&D expenditure, % of sales	5.1	4.1 ^{*)}	2.6	G4-EN27
R&D grants, EUR million ^{**)}	3.0	2.3	2.6	G4-EC4
Number of new patent applications filed	93	62	101	
New national or regional patents granted	531	370	419	
Number of patent families	824	749	702	
Proportion of environmental goods and services in order intake, %	90	90	87	G4-EN27

^{*)} Restated figures

In April 2015 Outotec published the reclassification of its research and development expenses as of January 1, 2015 including 2014 comparison figures. The reclassification of costs is consistent with the redefinition of Outotec's product management processes. This change explains the increase in R&D expenditure in 2014 and 2015. The relative increase as a percentage of sales in 2015 was also due to contracted sales.

^{**)} R&D grants were awarded to Outotec in Finland and Germany.

HEALTH AND SAFETY PERFORMANCE

Outotec operates with a single harmonized QEHS management system, including QEHS policy, procedures, work instructions and training materials, in line with our 'One Outotec' approach. The multi-site matrix certification includes ISO 9001 (Quality management), ISO 14001 (Environmental management), BS:OHSAS 18001 (Occupational Health and Safety management) and Safety Construction Certificate (SCC) for all

our main locations. In 2015, the certificates were revised because some new locations were added and there were several changes in company names and addresses.

Local health and safety procedures in Brazil, Chile, Mexico, Peru, USA and South Africa were harmonized with our global procedures. This means we have now harmonized health and safety documentation across eleven countries.

Health and safety	2015	2014	2013	GRI indicator
Non-fatal injury arising from or in the course of work	41	33	54	G4-LA6
Fatal injury arising from or in the course of work	0	0	2	G4-LA6
Lost time injury rate (LTIR) (number/1 million working hours)	2.8	1.5	1.9	G4-LA6
Occupational diseases	0	0	1	G4-LA6
Occupational disease rate (number/1 million working hours)	0	0	0.03	G4-LA6
Lost days because of an occupational accident or disease	512	173	307	G4-LA6
Lost day rate (number/1 million working hours)	35.1	7.6	10.6	G4-LA6
Absentee rate, %	1.2	0.9	0.8	G4-LA6
Total workforce represented in health and safety committees, %	98	98	NA	G4-LA5

n = 7,157 including our own employees and subcontractors on project sites

Outotec's office work has a relatively low safety risk, whereas the manufacturing, laboratory and test work as well as work at customers' sites have higher safety risks. The amount of working hours in 2015 was significantly smaller than in 2013 and 2014 when we had large challenging construction projects under implementation and special focus was put on their safety management. The safety performance in these projects was extraordinary compared to global peers. In 2015 the LTIR and LDR returned to earlier levels, and we will next analyze the good practices in these projects and implement the same measures in our own manufacturing operations. We also collect data on near-miss cases and we will continue to further develop our Health and Safety Management System to prevent any accidents.

Our health and safety committees monitor and collect feedback and discuss health and safety related issues. They typically operate on location and project level. Some units with fewer than 20 employees do not have nominated health and safety committees.

SUPPLIER DATA

Outotec had approximately 3,400 direct and active suppliers in 2015, including distributors, component manufacturers, equipment manufacturers, logistics companies, engineering companies, construction companies and other service providers. Suppliers, set-ups and combinations vary project by project. The majority of our suppliers are either component manufacturers or equipment manufacturers. In 2015 the majority of Outotec's suppliers were based in Finland, Germany, Australia, Sweden and Brazil.

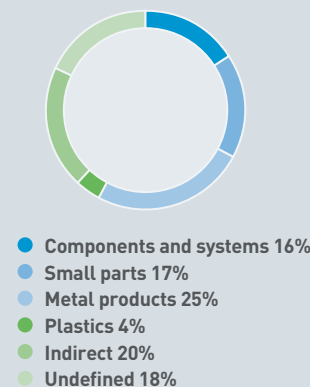
The total spend on customer-related purchasing in 2015 was approximately EUR 629 million (2014: 800). Total spend was lower than in the previous year because of decreased order intake and sales in a weak market situation. The majority of our purchasing, approximately 66%, took place in our Europe, Middle East and Africa region (EMEA).

The share of indirect spend increased in 2015 from 2014 because there were fewer large customer projects. Previously the Undefined category was not shown, because most of those items were individually assessed and relocated in other categories. In 2015 the share of Undefined increased significantly, because resources were not available for this categorization process.

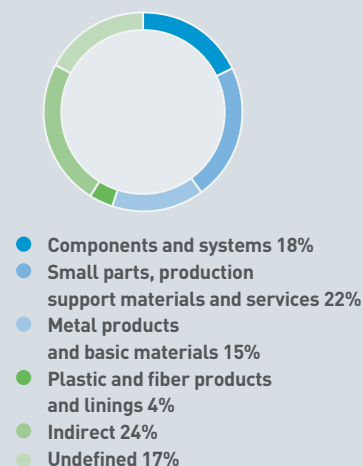
The number of suppliers increased in the Americas and decreased in the Asia Pacific region (APAC) in 2015.

The carbon footprint of our supply chain in 2015 totaled 345,000 tonnes of CO₂ (2014: 386,000). The majority of the greenhouse gas emissions of the supply chain originated from metal products.

CO₂ EMISSIONS BY SUPPLY CATEGORY



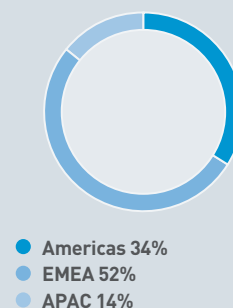
SUPPLY SPEND BY CATEGORY



SUPPLY BY REGION



LOCATION OF SUPPLIERS



n = 3,400 direct and active suppliers

ENVIRONMENTAL PERFORMANCE

The bulk of Outotec's operations involve engineering and business management in offices located in 32 countries. In addition, our operations include two research centers in Finland and Germany, a Dewatering Technology Center, two manufacturing workshops and a ceramic plate production plant in Finland, assembly shops in Brazil, Canada, China, and the USA, spare parts and service workshops in Qatar, United Arab Emirates, Mozambique and South Africa, and several warehouses. However, 80 percent of Outotec's manufacturing is outsourced.

The environmental impact of office work is relatively small, and is managed through our quality, environment, health and safety (QEHS) management system. Outotec adheres to the principles of sustainable development, pollution prevention and sound environmental management in all of the company's operations. The management's commitment to the continuous improvement of our environmental performance is visible in our target setting and results.

We identify and evaluate the environmental aspects of offices, research centers, manufacturing workshops, customer construction sites and industrial plants. The aspects related to significant impacts are considered when we set our environmental objectives and annual targets. When selecting new office premises, environmental criteria are taken into account. Outotec's two largest offices, in Espoo, Finland, and Oberursel, Germany, fulfil LEED® Gold requirements. Leadership in Energy and Environmental Design (LEED) is a globally recognized green building certification program.

We strive to operate with minimum inputs of energy and materials, and to record our consumption of electricity, heating and water annually. At our research centers, electric power and natural gas consumption for test purposes are recorded monthly. All our Finnish manufacturing units and the Pori research center are committed to the Federation of Finnish Technology Industries' energy efficiency agreements for 2008-2016, and thus committed to save nine percent in energy consumption compared to the baseline year, 2006. We have also set local or unit-specific targets for the energy efficiency of other operations.

Our waste management system provides for the collection, sorting, storage and disposal of waste on our own premises. Outotec employees are requested to separate waste for sorted collection. Where hazardous wastes such as radioactive, flammable, explosive, toxic, corrosive or bio-hazardous materials need to be disposed of, local legal requirements and customers' requirements at construction sites are duly considered together, and specialized contractors are commissioned for the disposal.

No significant spills were reported in relation to our manufacturing and R&D activities in 2015. However, one small oil spill took place at a project site, and another oil spill was reported in a parking garage of an office building.

Energy

Energy consumption, TJ	2015	2014	2013	GRI indicator
Direct energy consumption:	48.5	38.8	38.0	G4-EN3
Propane gas	11.2	7.9	11.4	
Light fuel oil	0.3	0.3	0.4	
Coal, coke, semi coke	0.4	0.2	4.1	
Natural gas	23.5	22.7	15.0	
Diesel and gasoline	13.3	5.7	7.1	
Indirect energy consumption:	116.0	116.1	118.8	G4-EN3
Electricity (incl. cooling)*)	73.7	71.8	70.1	
District heating	40.8	43.2	47.5	
Steam	1.5	1.1	1.2	
TOTAL energy consumption	164.5	152.9	156.8	G4-EN3
Energy intensity (energy, TJ/EUR 1 million sales)	0.14	0.11	0.08	G4-EN5

*1 MWh converted to TJ: 20,482 (2014: 19,947) MWh

In 2015 Outotec's total energy consumption increased due to the use of diesel and gasoline for electricity production in workshops acquired by the company in Qatar and Mozambique.

Energy consumption and emissions in Finnish units	2015	2014	2013	GRI indicator
Pori research center and Turula works				
Energy consumption, TJ	33.4	38.5	43.1	G4-EN3
Energy saved due to efficiency improvements, TJ compared to base year	14.4	9.4	4.8	G4-EN6
Emissions, tonnes CO ₂ -e	2,248	2,585	2,900	G4-EN15 G4-EN16
Emissions avoided, tonnes CO ₂ -e	965	628	313	G4-EN19
Lappeenranta works				
Energy consumption, TJ	18.0	18.3	17.9	G4-EN3
Energy saved due to efficiency improvements, TJ compared to base year	2.1	1.8	2.2	G4-EN6
Emissions, tonnes CO ₂ -e	1,207	1,226	1,200	G4-EN15 G4-EN16
Emissions avoided, tonnes CO ₂ -e	138	120	146	G4-EN19
Turku works				
Energy consumption, TJ	13.0	11.0	13.8	G4-EN3
Energy saved due to efficiency improvements, TJ compared to base year	3.8	5.8	3.0	G4-EN6
Emissions, tonnes CO ₂ -e	873	740	923	G4-EN15 G4-EN16
Emissions avoided, tonnes CO ₂ -e	253	387	203	G4-EN19

[Read about our environmental performance targets on page 17.](#)

Emissions

Greenhouse gas emissions, tonnes of CO ₂ -e	2015	2014	2013	GRI indicator
Scope 1 emissions (own fuel combustion, company cars)	4,431	3,774	3,910	G4-EN15
Scope 2 emissions (purchased heat and electricity)	7,646 (7,392)¹	8,746	9,160	G4-EN16
Scope 3 emissions (air travel and commuting)	21,762	22,267	32,235	G4-EN17
Total greenhouse gas emissions	33,839 (33,584)¹	34,768	45,305	G4-EN15 G4-EN16 G4-EN17
Flight emissions, tonnes of CO ₂ /EUR 1 million sales	16.4	14.6	15.8	G4-EN18
Total greenhouse gas emissions, tonnes of CO ₂ /EUR 1 million sales	28.2 (27.9)¹	24.8	23.7	G4-EN18
Greenhouse gas emissions avoided through the use of five Outotec technologies	6,600,000	5,900,000	5,400,000	G4-EN19

Our total greenhouse gas emissions decreased by 2.7% in 2015. However, relative emissions increased due to reduced sales.

Scope 1 emissions increased due to the use of diesel and gasoline for electricity production at workshops acquired in Qatar and Mozambique.

Electricity consumption increased by 2.5% from 2014. However, scope 2 emissions decreased by 6.5% mainly due to the changed Greenhouse Gas Protocol country-specific grid CO₂ emissions.

Within Scope 3, emissions from air travel are the biggest single source at Outotec. These emissions decreased in 2015 despite the increased amount of flight kilometres (15 million kilometres more in 2015), because of our personnel's increased use of economy class tickets on long-haul flights. However, flight emissions per EUR 1 million sales increased by 11% because sales declined by 14% from 2014. The CO₂-e calculations for flight emissions are based on guidelines produced by DEFRA/DECC's GHG Conversion Factors. Economy class flights produce lower emissions per kilometer than business class travel.

Video conferencing systems are available in all of our major locations. In addition to video

conferencing, teleconferences and Skype for Business are used for internal meetings. In 2015 Outotec took a new set of collaboration and information sharing tools, Office365, into use, which significantly increased the use of Skype for Business in internal meetings, and reduced the need for traveling.

Flights to visit our customers are an integral part of Outotec's business activities, by which means we contribute indirectly to avoiding emissions by promoting the use of our favorable technology solutions and services. The positive impact of Outotec's business travel can be best illustrated by comparing our annual greenhouse gas emissions in 2015, which were 33,584 tonnes CO₂-e (2014: 34,787), with the emissions avoided through the use of five of our key technologies, which amounted to 6,600,000 tonnes of CO₂-e (2014: 5,900,000).

Outotec has paid attention to the use of responsible air carriers and hotels. Lufthansa and Finnair, for instance, use relatively new fleets, which generally produce lower emissions. In agreements with hotels, Outotec prefers hotels with favorable social responsibility policies.

Company cars in Finland	2015	2014	2013	GRI indicator
Company car emissions, g CO ₂ -e/km	121	123	132	G4-EN15
Reduction from 2008, %	37	35	31	

According to Outotec's company car policy, employees in Finland are incentivized progressively when they take a car with emissions of less than 120 g CO₂/km and 100 g CO₂/km. In 2015, out of 235 company cars 159 cars emitted less than 120 g CO₂/km and of those 40 emitted less than 100 g CO₂/km.

Volatile organic compounds (VOCs) emissions from paint shops	2015	2014	2013	GRI indicator
VOCs emissions, tonnes	8.8	11.0*	15.6	G4-EN21

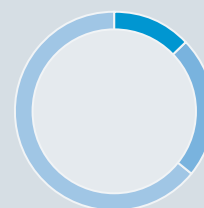
*1 Restated due to an error in 2014.

We calculate VOC emissions from our paint shops based on annual paint consumption. VOC emissions decreased due to a reduction in the amount of equipment delivered to customers.

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard was used to calculate Scope 1 and Scope 2 emissions. Emission factors were retrieved from the GHG Protocol's calculation tool 'GHG emissions from purchased electricity, heat of steam'.

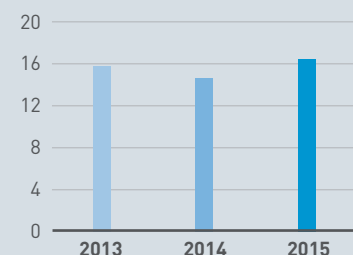
*1) In 2015, Outotec purchased 1,871 MWh of CO₂-free electricity from hydroelectric installations in Finland. We are gradually moving to hydropower in our major locations in Finland, excluding the Pori research center.

SCOPE 1, 2 AND 3 EMISSIONS



- Scope 1 emissions (own fuel combustion, company cars) 13%
- Scope 2 emissions (purchased heat and electricity) 23%
- Scope 3 emissions (air travel and commuting) 64%

FLIGHT EMISSIONS, TONNES OF CO₂ / MILLION EURO SALES



Materials

We manufacture high-tech ceramics in Turku, Finland, for use in Outotec filters. This unit used 109 tonnes of ceramics in 2015.

Outotec's Finnish workshops in Lappeenranta, Turula and Turku report the amount of packaging they use annually to the Finnish Packaging Recycling Ltd RINKI.

Materials used, tonnes	2015	2014	2013	GRI indicator
Paper	70.4	70.9	94.7	G4-EN1
Steel	5,600	6,200	9,300	G4-EN1
Ceramics	109	113	121	G4-EN1
Cardboard packaging	12.9	13.8	11.4	G4-EN1
Plastic packaging	1.1	1.7	7.6	G4-EN1
Metal packaging	1.2	1.6	1.0	G4-EN1
Wood packaging	210.6	230.1	851.5	G4-EN1

The figures decreased for all materials in 2015 due to fewer equipment deliveries to customers.

Waste

A small amount of hazardous waste is produced in the final surface treatment of filter presses in the Lappeenranta works. In addition, oily waste from lubricants used in the Turula works is classified as hazardous.

These hazardous wastes are sent for treatment to local hazardous waste treatment facilities.

Waste, tonnes	2015	2014	2013	GRI indicator
Waste recycled	1,013	1,346	1,523	G4-EN23
Landfill waste and incinerated waste	1,484	1,482	1,251	G4-EN23
Hazardous waste	261¹	98	243 ^{**1}	G4-EN23
Total waste	2,758	2,926	3,016	G4-EN23
Paper recycled	120	151	146	G4-EN23

¹ A large amount of hazardous waste was removed from a workshop acquired in Mozambique.

^{**1} While building a new Dewatering Technology Center in Lappeenranta, Outotec discovered soils that had been contaminated by the earlier operations of an old laundry at the site. This land had to be removed, which increased the volume of our hazardous waste.

Water

Water is purchased locally from municipal water suppliers, and wastewater is channeled into municipal wastewater systems. Because our workshops are mainly assembly shops, no process water is discharged. Outotec's research center in Pori uses river water for cooling purposes in their test facilities. After use, the water is channeled back to the river. We also monitor water consumption at our premises.

Our total water usage decreased in 2015 due to the reduced amount of river water used for test work at the research center in Pori.

Drinking water consumption increased because the restaurant at Outotec House Espoo had its first full year of operation, serving daily lunch for over 500 employees. The acquisitions of new sites in Mozambique, United Arab Emirates and Qatar also increased water consumption, though some other locations reduced their water consumption.

During 2013, leakage from a drainage well was discovered in our Lappeenranta works. The incident was investigated with the city's environmental authorities in 2014, and Outotec was not consequently prosecuted for any offense.

Water consumption, m ³ /year	2015	2014	2013	GRI indicator
Drinking water	61,348	53,506	53,945	G4-EN8
River water for cooling	2,628	9,548	49,949	G4-EN8
Total water usage	63,976	63,054	103,894	G4-EN8

GRI INDEX AND UN GLOBAL COMPACT

Based on our own assessment, Outotec has self-declared this report to be compliant with the GRI G4 guidelines in accordance with the core level. This compliance has been checked by a third party, Ecobio Ltd.

	GRI Content	Reference page	Reported	Global Compact principles
	General Standard Disclosure			
	Strategy and analysis			
G4-1	CEO's statement	CEO's message, p. 3	Fully	
G4-2	Key impacts, risks, and opportunities	Megatrends driving our business, p. 11 Topics that matter most, p. 28 Our sustainability agenda, p. 14	Fully	
	Organizational profile			
G4-3	Name of the organization	This is Outotec, p. 5	Fully	
G4-4	Primary brands, products, and/or services	This is Outotec, p. 5	Fully	
G4-5	Location of organization's headquarters	This is Outotec, p. 5	Fully	
G4-6	Number of countries where the organization operates	This is Outotec, p. 5	Fully	
G4-7	Nature of ownership and legal form	This is Outotec, p. 5	Fully	
G4-8	Markets served	This is Outotec, p. 5	Fully	
G4-9	Scale of the reporting organisation	This is Outotec, p. 5 Financial Statements 2015, p. 22 and 28	Fully	
G4-10	Breakdown of workforce	HR data and labor practices, p. 65 and 67	Fully	6
G4-11	Coverage of collective bargaining agreements	HR data and labor practices, p. 65	Fully	3
G4-12	Organisation's supply chain	Sustainable supply chain, p. 55 and 57	Fully	
G4-13	Significant changes during the reporting period regarding size, structure, or ownership	This is Outotec, p. 5	Fully	
G4-14	Addressing the precautionary approach or principle	Our approach to risk management, p. 49	Fully	
G4-15	Externally developed charters, principles, or other initiatives endorsed	www.outotec.com/sustainability	Fully	
G4-16	Memberships in associations	www.outotec.com/sustainability	Fully	
	Identified Material Aspects and Boundaries			
G4-17	Entities included in the organization's consolidated financial statements	Financial Statements 2015, p. 62 at www.outotec.com/investors	Fully	
G4-18	Process for defining report content	Topics that matter most, p. 28 Active stakeholder dialogue, p. 22	Fully	
G4-19	Material aspects	Topics that matter most, p. 28	Fully	
G4-20	Aspect boundary within the organisation	About the report, p. 64 Topics that matter most, p. 28	Fully	
G4-21	Aspect boundary outside the organization	About the report, p. 64 Topics that matter most, p. 28 The carbon footprint of our supply chain, p. 57	Fully	
G4-22	Explanation of re-statements	This is Outotec, p. 5 VOCs emissions, p. 71	Fully	
G4-23	Significant changes from previous reporting periods in the scope and aspect boundaries	This is Outotec, p. 5 About the report, p. 64	Fully	
	Stakeholder Engagement			
G4-24-27	Stakeholder engagement	Active stakeholder dialogue, p. 22	Fully	
	Report profile			
G4-28-31	Report profile	About the report, p. 64 Contact information, p. 78	Fully	
G4-32	GRI content index	GRI Index and UN Global Compact, p. 73	Fully	
G4-33	External Assurance	Independent assurance, p. 77	Fully	

	GRI Content	Reference page	Reported	Global Compact principles
	Governance			
G4-34	Governance structure	Ensuring good governance, p. 48	Fully	
G4-35	Delegating authority for sustainability topics	Managing sustainability, p. 50	Fully	
G4-36	Executive-level positions with responsibility for sustainability topics	Managing sustainability, p. 50	Fully	
G4-37	Consultation with stakeholders	Sustainability Advisory Council, p. 22	Fully	
G4-38	Composition of the Board of Directors	Corporate Governance Statement, p. 4	Fully	
G4-39	Position of the Chair of the Board	Corporate Governance Statement, p. 4	Fully	
G4-40	Selection of the Board	Corporate Governance Statement, p. 3	Fully	
G4-41	Avoiding conflicts of interest	Ensuring good governance, p. 48	Fully	
G4-42	Board's role in setting the organization's purpose, values and strategy	Corporate Governance Statement, p. 3	Fully	
G4-44	Board's performance evaluation	Corporate Governance Statement, p. 5	Fully	
G4-45	Board's role in the identification and management of risks	Corporate Governance Statement, p. 5	Fully	
G4-46	Reviewing the effectiveness of risk management	Corporate Governance Statement, p. 5	Fully	
G4-47	Frequency of risk reviews	Corporate Governance Statement, p. 5	Fully	
G4-48	Formal approval of the organization's sustainability report	Executive Board	Fully	
G4-49	Communicating critical concerns	Managing sustainability, p. 50	Fully	
G4-50	Nature and number of critical concerns communicated to the Board	Managing sustainability, p. 50 Compliance helpline, p. 51	Fully	
G4-51	Remuneration policies for the Board and senior executives	Corporate Governance Statement, p. 11	Fully	
G4-54	Ratio of the annual total compensation for the organization's highest-paid individual to the median annual total compensation for all employees	HR data and labor practices, p. 65	Partly	
G4-55	Ratio of percentage increase in annual total compensation for the organization's highest-paid individual in each country of significant operations to the median annual total compensation for all employees	HR data and labour practices, p. 65	Partly	
	Ethics and Integrity			
G4-56	Organization's values, principles and codes	Building on common values, p. 48 Responsible business practices, p. 48	Fully	10
G4-57	Mechanisms for finding advice on ethical and lawful behavior	Compliance helpline, p. 51	Fully	10
G4-58	Reporting concerns about unethical or unlawful behaviour	Compliance helpline, p. 51	Fully	10
	Specific standards disclosure			
	ECONOMIC PERFORMANCE INDICATORS			
	Management approach to economic responsibility	Financial performance deteriorated, p. 52	Fully	
G4-EC1	Direct economic value generated and distributed	Direct added value for stakeholders, p. 52 Employees key data, p. 65	Fully	
G4-EC2	Risks and opportunities due to climate change	CEO's message, p. 3 Megatrends driving our business, p. 11 Climate Leadership Council, p. 27	Fully	7
G4-EC3	Employee benefit obligations	Compensation, p. 68 Fair compensation, p. 62	Partly	
G4-EC4	Financial assistance received from government	R&D data, p. 68	Fully	
G4-EC6	Proportion of senior management hired from the local community	HR data and labor practices, p. 65	Fully	6
G4-EC7	Development and impact of infrastructure investments and services supported	Working with NGOs and local communities, p. 27 Commitment to external initiatives, www.outotec.com/sustainability	Fully	
G4-EC8	Significant indirect economic impacts	Direct added value for stakeholders, p. 52	Partly	
G4-EC9	Spending on local suppliers	43% spending on local suppliers, p. 57	Fully	
	ENVIRONMENTAL PERFORMANCE INDICATORS			
	Management approach to environmental responsibility	Environmental performance, p. 70	Fully	
G4-EN1	Materials used	Environmental performance, p. 72	Fully	7, 8
G4-EN3	Energy consumption within the organization	Environmental performance, p. 70	Fully	7, 8
G4-EN5	Energy intensity	Environmental performance, p. 70	Fully	8
G4-EN6	Reduction of energy consumption	Environmental performance, p.70	Fully	8, 9
G4-EN7	Reductions in energy requirements of products and services	The emissions avoided by our customers, p. 34	Fully	8, 9
G4-EN8	Water withdrawal	Environmental performance, p. 72	Fully	7, 8

	GRI Content	Reference page	Reported	Global Compact principles
G4-EN15–G4-EN17	Greenhouse gas emissions (Scope 1, 2, 3)	Environmental performance, p. 71 Finnish units, p. 70	Fully	7, 8
G4-EN18	Greenhouse gas emissions intensity	Environmental performance, p. 71	Fully	8
G4-EN19	Reduction of greenhouse gas emissions	Annual targets, p. 16 Environmental performance, p. 70, 71	Fully	8, 9
G4-EN21	NO _x , SO _x , and other significant air emissions	VOCs emissions globally, p. 71	Fully	7,8
G4-EN23	Waste by type and disposal method	Environmental performance, p. 72	Fully	8
G4-EN24	Total number and volume of significant spills	Environmental performance, p. 70	Fully	8
G4-EN25	Hazardous waste	Environmental performance, p. 72	Fully	8
G4-EN27	Extent of impact mitigation of environmental impacts of products and services	Our sustainability agenda, p. 14-16 Sustainable offering for customers, p. 34 Life-cycle assessment of Outotec technologies, p. 37 Safe products for our customers, p. 31 EGS in order intake, p. 68	Fully	7, 8, 9
G4-EN29	Compliance with environmental laws	Ensuring good governance, p.48	Fully	8
G4-EN30	Significant environmental impacts of transporting products and other goods and materials for Outotec's operations, and transporting members of the workforce	Emissions, p. 71 Share of local suppliers, p. 57 The carbon footprint of our supply chain, p. 57	Fully	
G4-EN32	Percentage of new suppliers that were screened using environmental criteria	Sustainable supply chain, p. 55 Focusing on supplier selection, p. 56	Fully	8
G4-EN33	Significant actual and potential negative environmental impacts in the supply chain	Mitigating risks along the supply chain, p. 57 The carbon footprint of our supply chain, p. 57	Partly	8
G4-EN34	Number of grievances about environmental impacts	Mitigating risks along the supply chain, p. 57 Environmental performance, p. 70	Fully	8
SOCIAL PERFORMANCE INDICATORS				
Labor practices and decent work				
Management approach to labor practices and decent work				
		Development of our people, p. 58 HR data and labor practices, p. 65	Fully	
G4-LA1	Total number and rate of employee turnover by age group, gender, and region	HR data and labor practices, p. 66	Partly	6
G4-LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	HR data and labor practices, p. 68	Partly	
G4-LA4	Minimum notice period(s) regarding significant operational changes	HR data and labor practices, p. 65	Partly	3
G4-LA5	Percentage of total workforce represented in formal joint management worker health and safety committees that help monitor and advise on occupational health and safety programs	Health and safety performance, p. 69	Fully	
G4-LA6	Rates of injury, occupational diseases, lost days and absenteeism, and total number of work-related fatalities by region	Health and safety performance, p. 69	Partly	
G4-LA7	Workers with high incidence or high risk of diseases related to their occupation	Working to achieve zero accidents, p. 31 Safety in field operations, p. 32	Fully	
G4-LA8	Health and safety topics covered in formal agreements with trade unions	HR data and labor practices, p. 65	Fully	1
G4-LA9	Average hours of training per year per employee category	HR data and labor practices, p. 66	Fully	6
G4-LA10	Programs for skills management and lifelong learning	Professional growth, p. 60	Fully	
G4-LA11	Percentage of employees receiving regular performance and career development reviews	Performance management, p. 60	Fully	6
G4-LA12	Composition of governance bodies and breakdown of employees per category according to gender, age group, minority group membership, and other indicators of diversity	HR data and labor practices, p. 65, 67	Fully	6
G4-LA14	Percentage of new suppliers that were screened using labor practices criteria	Sustainable supply chain, p. 55 Focusing on supplier selection, p. 56	Fully	
G4-LA15	Significant actual and potential negative impacts for labor practices in the supply chain and actions taken	Sustainable supply chain, p. 55 Focusing on supplier selection, p. 56	Fully	
G4-LA16	Number of grievances about labor practices	Compliance helpline, p. 51	Fully	

GRI Content		Reference page	Reported	Global Compact principles
Human rights				
Management approach to human rights		Equal opportunities and diversity, p. 62 Safety, p. 30 Building on common values, p.48	Fully	
G4-HR2	Employee training on policies and procedures concerning human rights relevant to operations	Building on common values, p. 48 HR data and labor practices, p. 66	Fully	1
G4-HR3	Total number of incidents of discrimination and actions taken	HR data and labor practices, p. 65 Managing sustainability, p. 51	Fully	6
G4-HR4	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be at significant risk	Mitigating risks along the supply chain, p. 57	Fully	3
G4-HR5	Operations and suppliers identified as having significant risk for incidents of child labor	Ensuring good governance, p. 48 Mitigating risks along the supply chain, p. 57	Fully	5
G4-HR6	Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor	Mitigating risks along the supply chain, p. 57	Fully	4
G4-HR8	Total number of incidents of violations involving rights of indigenous people and actions taken	Ensuring good governance, p. 48	Fully	1
G4-HR10	Percentage of new suppliers that were screened using human rights criteria	Focusing on supplier selection, p. 56	Fully	2
G4-HR11	Significant actual and potential negative human rights impacts in the supply chain	Mitigating risks along the supply chain, p. 57	Fully	2
G4-HR12	Number of grievances about human rights impacts	Compliance helpline, p. 51	Fully	1
Society				
Management approach to society		Our sustainability agenda, p. 14 Active stakeholder dialogue, p. 22 Working with NGOs and local communities, p. 26	Fully	
G4-S01	Local community engagement, impact assessments, and development programs	Active stakeholder dialogue, p. 22 Engaging employees, p. 24 Working with NGOs and local communities, p. 26	Fully	1
G4-S02	Operations with significant negative impacts on local communities	Ensuring good governance, p. 49	Fully	1
G4-S03	Total number and percentage of operations assessed for risks related to corruption	Mitigating risks along the supply chain, p. 57 Ensuring good governance, p. 48	Fully	10
G4-S04	Communication and anti corruption training	Ensuring good governance, p. 48	Fully	10
G4-S05	Confirmed incidents of corruption and actions taken	Ensuring good governance, p.48 Compliance helpline, p. 51	Fully	10
G4-S06	Total value of political contributions	Working with NGOs and local communities, p. 27	Fully	10
G4-S07	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Ensuring good governance, p. 48	Fully	
G4-S08	Monetary value of significant fines and total number of non-monetary sanctions for non compliance with laws and regulations	Ensuring good governance, p. 48	Fully	
G4-S09	Percentage of new suppliers that were screened using criteria for impacts on society	Focusing on supplier selection, p. 56	Partly	
G4-S010	Significant actual and potential negative impacts on society in the supply chain	The carbon footprint of our supply chain, p. 57 43% spending on local suppliers, p. 57	Fully	
G4-S011	Number of grievances about impacts on society	Compliance helpline, p. 51	Fully	
Product responsibility				
Management approach to product responsibility		Safe products for our customers, p. 31 Sustainable offering for customers, p. 34	Fully	
G4-PR1	Health and safety impacts of products and services	Safe products for our customers, p. 31 Annual targets, p. 16	Fully	
G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services	Compliance helpline, p. 51	Fully	
G4-PR3	Type of product and service information required by procedures, and percentage of significant products and services subject to such information	Safe products for our customers, p. 32	Fully	
G4-PR5	Results of surveys measuring customer satisfaction	Customer satisfaction and loyalty survey, p. 17 Focusing on customers' needs, p. 24	Fully	
G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	Responsible business practices, p. 48 Safe products for our customers, p. 32	Fully	

INDEPENDENT ASSURANCE REPORT – OUTOTEC SUSTAINABILITY REPORT 2015

TO THE MANAGEMENT OF OUTOTEC OYJ

Insinööritoimisto Ecobio Oy (hereafter Ecobio) has been commissioned by Outotec Oyj (hereafter Outotec) to perform a limited third party assurance engagement regarding the content of Outotec's Sustainability Report for 2015.

OUTOTEC'S RESPONSIBILITY

Outotec was responsible for the collection, preparation and presentation of the information in the Sustainability Report (hereafter Sustainability Information) according to the Sustainability Reporting Guidelines (GRI G4) set up by the Global Reporting Initiative (GRI). Ecobio, as an independent assessor was not involved in the data gathering and preparation of the Sustainability Information, apart from the Independent Assurance. The Management of Outotec has approved the information provided in the Sustainability Report.

PRACTITIONER'S RESPONSIBILITY

Ecobio's responsibility was to present a conclusion on the Sustainability Information subject to the assurance performed by Ecobio.

The scope of work included assurance of completeness and correctness of information presented by Outotec in the Sustainability Report 2015. The assurance engagement was limited to the non-financial performance data disclosed in the Sustainability Report for the reporting period of January 1st 2015 to December 31st 2015.

The Sustainability Information assured covered the Standard Disclosures in accordance with the core-level option, including the reported Environmental and Social Performance Indicators. In addition, the level of the consistency of the Economic Performance Indicators reported was checked against the GRI G4 Sustainability Reporting Guidelines.

Ecobio disclaims any liability or responsibility for any third party decision based upon this assurance report.

METHODOLOGY

Ecobio based the assurance process on the following guidelines and standards: the Global Reporting Initiative Sustainability Reporting Guidelines GRI G4, the International Standard on Assurance Engagements 3000 (ISAE3000) and Outotec's internal reporting guidelines. The assurance process was performed utilizing Ecobio's internally developed GRI assurance tool, covering the principles, standard disclosures and indicators of the GRI G4 Guidelines. The Standard Disclosures were assessed based on a sampling plan composed by Ecobio.

Concerning limited assurance engagement the evidence-gathering procedures are more limited than for a reasonable assurance engagement, and therefore less assurance is obtained. This assurance engagement was conducted from

January to March 2016. The assurance process included:

- Interviewing employees responsible for data collection and reporting at Outotec's group level.
- Evaluating procedures for gathering, analyzing, and aggregating quantitative data for the Sustainability Report 2015 as well as performing cross-checks on a sample basis concerning the reported sustainability data.
- Checking the internal guidelines of the data collection.
- Checking the sufficiency of the documentation of the data gathering process.
- Checking the consistency of the Sustainability Report 2015 compared to the GRI G4 Sustainability Reporting Guidelines.

CONCLUSIONS

Based on the work described in this report, nothing has come to our attention that would cause us to believe that the information presented in Outotec's Sustainability Report 2015 is not fairly stated, in all material respects, or that it would not comply with the Reporting Criteria stated before.

OBSERVATIONS AND RECOMMENDATIONS

Based on our limited assurance engagement we provide the following observations and recommendations related to GRI Sustainability Reporting principles. These observations and recommendations do not affect the conclusions presented earlier.

- In general, the report is comprehensive, well-structured and claims are reported in a clear and reasonable fashion.
- Outotec presents a good understanding of sustainable development conditions and the reported strategy and performance relate to the understanding of these conditions.
- The materiality assessment is comprehensive taking into account different dimensions of sustainability. The process for defining the report content could though be described more in detail.
- All relevant topics are covered in the report. However, even a more focused content could be possible and if omissions are made they should be clearly stated and preferably on indicator level.
- Stakeholder dialogue is active and relevant topics are well identified. We recommend keeping an active dialogue with stakeholders to maintain a high level on inclusivity in future reporting periods and to ensure that also future reports responds to stakeholder expectations and interests. The report could also support the interactivity between stakeholders and the reporting organization more by offering means to be in contact with the organization.

- Outotec has made further progress on including the whole value chain within the reporting boundary, which is consistent with the work done during previous reporting periods. This could still be enhanced to even more comprehensively cover impacts outside the organization, as most of the impacts are identified to happen there. This would improve the completeness of the report.
- The documentation of the work processes and the internal guidelines for data gathering has been further improved. This is of importance as to maintain consistency in data gathering and compilation as well as accuracy and reliability in the reporting over time also when organizational changes occur.

PRACTITIONER'S INDEPENDENCE AND QUALIFICATIONS

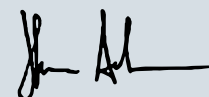
Ecobio is an independent consulting company that specializes in environmental, health and safety management with over 25 years of history. Ecobio provides corporate sustainability and environmental consultancy services, combined with training, modelling, research and planning, for companies in the infrastructure, industry and service sectors. Ecobio's assessors are skilled and experienced within non-financial assurance and have good knowledge of industry related sustainability issues.

As an independent consultancy, Ecobio has no financial dependencies on Outotec beyond the scope of this engagement. Ecobio has conducted this assurance independently, and there has been no conflict of interest.

Helsinki, 23rd of March 2016
Insinööritoimisto Ecobio Oy



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FROM THE GROUND UP

Outotec's customers in the minerals and metals processing, renewable energy production, and industrial water treatment industries need technologies that allow them to make the best possible use of increasingly limited raw materials.

By making prudent choices today, we can ensure the prosperous growth of businesses and societies worldwide, while preserving the planet for the benefit of future generations. This is our mission: sustainable use of Earth's natural resources.

This is where we see modern society. Let's not forget that Outotec's solutions make all this possible. Our technologies provide the backbone of our customers' operations, and the full life-cycle support we provide ensures the best return on their investments.

We are a technology partner to the world's major resources companies. Their facilities are where you'll find our varied offering at work. They in turn supply the materials that underpin the infrastructure of our lives.

We all understand by now that natural resources of all kinds require more efficient, environmentally friendly treatment. We answer this challenge by developing breakthrough technologies which utilize natural resources and raw materials efficiently. They also recycle materials and reduce energy and water consumption, waste, and emissions, while optimizing a plant's lifetime operating costs.

All this is underpinned by decades of experience as well as constant innovation at our in-house R&D centers. Our people and their expertise, not to mention their commitment and drive, are what make all this possible.

The planet's inner layers are the source of the metals and minerals that represent Outotec's heritage. Our experts now look beyond the use phase of a variety of resources, including water and biomass, to examine their entire life cycles. Deep process knowledge of these raw materials – the building blocks of our lives – is our most important asset.



For the whole story,
please visit our
YouTube channel.





Outotec

Outotec provides leading technologies and services for the sustainable use of Earth's natural resources. As the global leader in minerals and metals processing technology, we have developed many breakthrough technologies over the decades for our customers in metals and mining industry. We also provide innovative solutions for industrial water treatment, the utilization of alternative energy sources and the chemical industry. Outotec shares are listed on NASDAQ Helsinki. www.outotec.com