# Sustainability review 2018

Outokumpu contributes to a more sustainable world by producing stainless steel – a material with superior durability, longevity and recyclability. But it is not only what we produce, but how we produce it. We follow ambitious goals for our sustainability.

outokumpu

# Sustainability at Outokumpu

Sustainability is at the core of Outokumpu: we are the proud provider of sustainable solutions that help to build a world that lasts forever.

Our business is based on the circular economy, as our most important raw material is recycled steel. Our stainless steel is produced in a sustainable production chain in a responsible manner including own production of the most important alloying element in stainless steel: chromium. Our Kemi chromite mine and ferrochrome production are integrated with stainless steel making in Tornio, Finland. We have production facilities also in Germany, Sweden, the UK, the US and Mexico.

## Policies and frameworks guide our sustainability

Sustainability is integrated into all our operations, activities and decision making, from the purchasing of the materials to production and logistics. Outokumpu's operations are guided by our Code of Conduct, Ethical Principles, Corporate Responsibility Policy and Environment, Health & Safety and Quality Policy. We expect our business partners, subcontractors and suppliers to follow similar standards. All our policies on sustainable development are available on outokumpu.com.

Outokumpu is a signatory to the UN Global Compact and has committed to contributing to the United Nations' Sustainable Development Goals (SDGs). We have defined five SDGs that are the most material to our operations and sustainability themes.

## Certified management systems

All Outokumpu's sites are certified according to quality ISO 9001 and environment ISO 14001 management systems. Safety is our top priority in all sites, and our safety management is based on systematic management and tools. The functioning of the systems is monitored by both internal and external audits. These management systems are used to implement sustainability issues on local level. ■

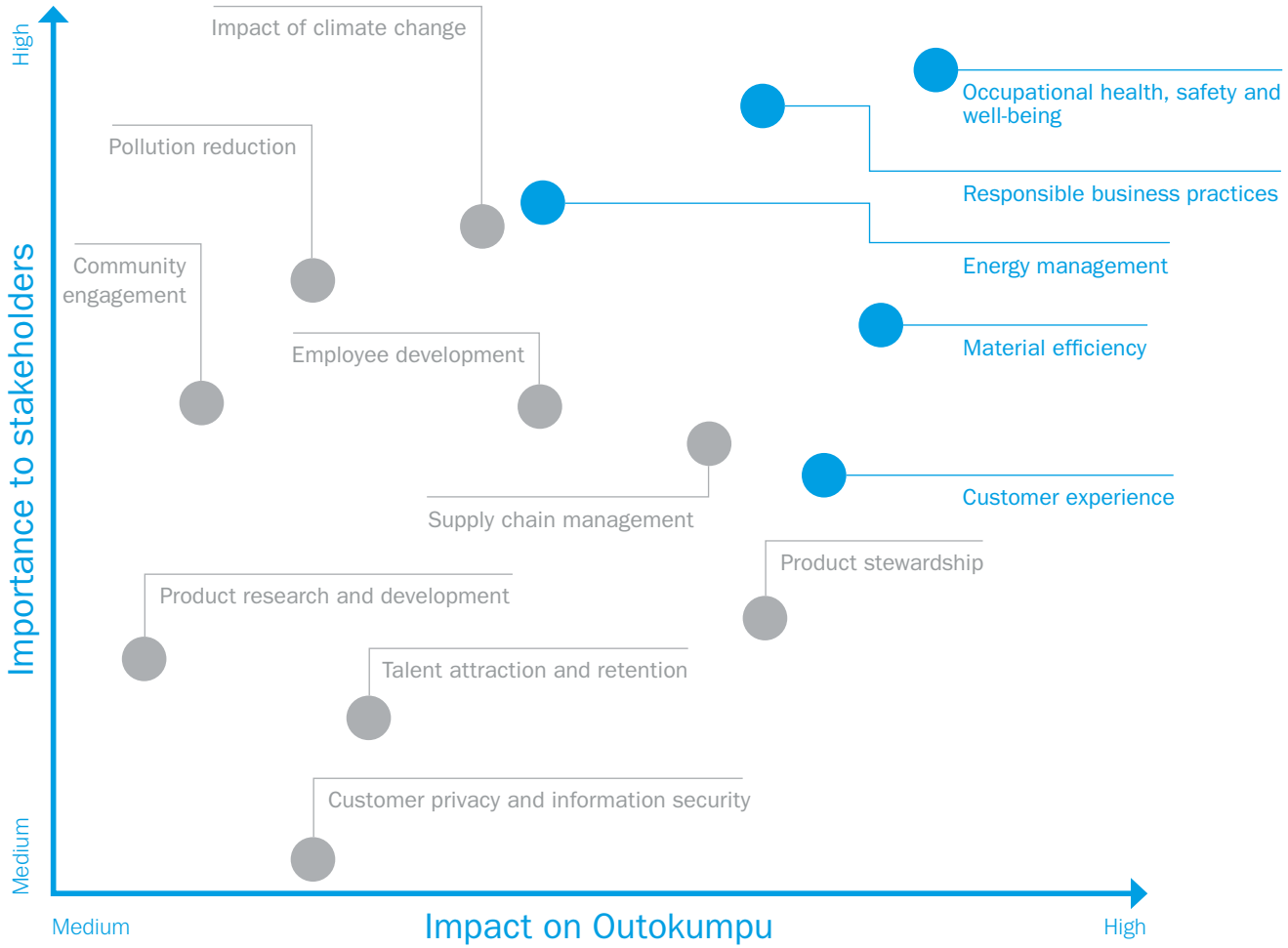




# Focus on material sustainability topics

Outokumpu conducted a new materiality analysis in 2018 to further improve our focus on the sustainability topics that are most important for our stakeholders and operations. The analysis also guides our reporting on the relevant topics.

## Materiality matrix




According to the new materiality analysis, Outokumpu has five core focus areas for sustainability: Occupational health, safety and well-being; Responsible business practices; Energy management; Material efficiency and Customer experience.

As a basis for the materiality analysis, a third party conducted an extensive data study of the emerging trends in the steel industry and compared these trends with the material topics of Outokumpu's main peers, customers and suppliers. This analysis was complemented with an overview of material issues found in global Environment, Social and Governance (ESG) and sustainability frameworks.

Based on this research an initial list of material topics was drafted and narrowed down to the 14 most material topics which were ranked and prioritized in an internal workshop. A questionnaire on material topics was answered by 21 customers during our customer event in Sweden in 2018. Additionally, interviews with three customers and three suppliers were conducted to gain a deeper insight into these stakeholder groups. The topics were ranked and prioritized by their importance to stakeholder groups and business impact.

The material topics were then mapped to the Sustainable Development Goals and compared to Outokumpu's previous materiality matrix and strategy to identify potential gaps. In the final stage, a new materiality matrix was created based on the stakeholder rankings of material issues and the business impact of these issues to Outokumpu. ■

Core focus areas for acceleration

Areas that are important to monitor

# Sustainable performance in 2018

Outokumpu has set challenging goals and key sustainability performance indicators for 2020. The company also follows up and measures other selected economic, social and environmental indicators.

All sustainability figures are available on our sustainability data tool

## 96% of administrative employees had a performance discussion

Outokumpu's clear target is that each employee has a regular performance development discussion with their manager. In 2018, 96% of administrative and 77% of production employees had a regular discussion with their manager.

More on Personnel and organization

## Energy efficiency 8.9%

Outokumpu aims to improve the energy efficiency of its operations by 1% each year until 2020. In 2018, Outokumpu's energy efficiency was impacted by more energy demand for ferrochrome production and resulted in a reduction of 8.9%. This corresponds to a saving of about 3.3 million GJ compared to the baseline.

More on Energy efficiency

## Workplace accidents continued to decline

In 2018, our total recordable incident frequency rate (TRIFR, per million working hours) was 4.1, continuing on the low level achieved in 2017 (4.4). In absolute terms, this marks a 53% improvement from 2016 when new safety targets were set. Our long-term target is to have zero accidents.

More on Safety and health

## No significant environmental incidents

Outokumpu's target is to have no significant environmental incidents, and the company has had no such incidents for many years.

More on Environmental compliance

## High recycled content in stainless steel products 88.6%

Outokumpu aims to raise the recycled content in its stainless steel to 90% by 2020.

More on Resource efficiency

## Specific $CO_2$ emissions reduced by 7.7%

Outokumpu's long-term target was set to 20% reduction by 2023 compared to the baseline.

In 2018, Outokumpu reduced its $CO_2$ intensity by 7.7% compared to the baseline 2014–2016.

Early 2019, the Science Based Target initiative approved the company's long-term climate target.

More on Climate change

# Sustainability highlights in 2018

## Organizational health continues to develop

Outokumpu measures and manages organizational health with the help of an annual Organizational Health Index (OHI) survey. OHI connects the day-to-day behaviors and mindsets of employees to company strategy, and the survey is a key element in measuring Outokumpu's performance in the must-win battle of High Performing Organization. In 2018, we achieved a record-breaking participation rate of 86%. In just two years, we have moved from the bottom quartile to the second quartile amongst all 1,700 companies participating in the survey. To celebrate the remarkable response rate we will support altogether 86 different voluntary projects in our neighboring communities, which our employees are actively involved in.

Read more about our organizational health and development


## Sustainability is linked to our customers' business

More than 50 customers attended Outokumpu's Connect customer event in Uppsala, Sweden in June. The main theme of the event was sustainability and how we help our customers to link sustainability to their business success. "In a world of scarce resources, we need to pay more attention to finding long-lasting solutions as short-sighted decisions are costing billions to societies. It all starts with the right material choices. When done right, with the help of the right stainless steel grade, we not only increase efficiency and profitability but can do that also sustainably by maximizing the durability and life cycle costs associated with a given application," said Outokumpu's Chief Commercial Officer Olli-Matti Saksi at the event.

Read more about our customer experience

## Reduced paper consumption contributes to climate protection

Cold rolled flat products are delivered in coils. An intermediate paper layer is used to protect the steel surface. Outokumpu has made efforts to save paper and to reuse it as much as possible. In 2018, a project at the cold rolling mill in Krefeld, Germany, succeeded in economical savings as well as in environmental protection. The avoided paper production contributed to climate protection by yearly savings of about 1,200 tonnes of $CO_2$ emissions. Saving in the water use was about 1,700 m³. Further development will find out the potential without impact to steel surface quality.

Read more about Outokumpu's environmental impacts

## Increasing biodiversity: 100 bird houses in the Kemi mine area

Outokumpu arranged a Nature Day at the Kemi mine with local bird watchers in May. Visitors had a possibility to participate in building of bird houses for the area's bird population. Altogether 150 people attended the event and altogether 100 bird houses were built. Bird houses were installed around the Kemi mine area on the World Environment Day in June. The water ponds areas of Kemi mine have become important bird areas. Around 100 different bird species have been spotted around the water ponds, including some rare water birds and eagles. Outokumpu collaborates with a local birdwatcher group to follow the area's bird population and biodiversity.

Read more about biodiversity in Outokumpu

# Safe and healthy working environment

At Outokumpu, safety is the number one priority. Everyone who works or visits the company's premises – employees, customers, contractors, and other visitors – has the right to a safe and healthy working environment.

Safety is one of the cornerstones in Outokumpu's strategy and ensuring the safety and good health of our employees is the first priority for us. We also believe that strong safety performance correlates with improved quality and operational efficiency. We aim to be among the industry leaders in safety with the ultimate goal of zero accidents.

Our safety management system supports us in striving towards this goal through various preventive activities. Safety audits are performed regularly at our production sites according to a standardized audit program. Our daily work is guided by common safety principles, standards and our ten Cardinal Safety Rules. Hazard observations and Safety Behavioral Observations (SBOs) are utilized to flag potential risks and unsafe behaviors before they lead to accidents. Lessons from past incidents are shared with other sites in the monthly Safety Call hosted by the CEO.

## Building a strong safety culture

Strengthening the safety competence and awareness of our leaders, safety professionals and employees was one of the focus areas in 2018. The company-wide behavioral safety training program SafeStart continued and most of the sites have started the training by the end of the year. Approximately half of the employees have been trained. The program provides our personnel a comprehensive approach to safety which does not end at the workplace but continues in their personal life as well. The program continues in 2019.

In addition to the safety awareness training and the regular task and location specific safety education, a new e-learning course was launched to increase the awareness of all employees on the Cardinal Safety Rules, ten fundamental rules which set the foundation for safety for our employees, contractors and visitors.

As part of building a positive and preventive safety culture, Outokumpu launched a global Safety Awards program at the end of 2018. The initiative aims to encourage and recognize both individual employees and teams for efforts to improve safety performance and culture.

Our annual Safety Week was held in April with a focus on raising awareness about hand safety and preventing hand injuries which have been identified as one of the most common injury types in the industry. Employees participated in various activities such as workshops to recognize and eliminate potential hazards at the workplace.

## Safety performance

Proactive safety actions and incidents were reported and monitored on a monthly basis. The definitions of safety performance indicators are based on international standards. Incident rates and the rate of proactive safety actions (leading indicators) were reported per million working hours.

### Workplace accidents*


* Per 1 million working hours.
** Split between non-lost-time incident types is not available before 2016.

Outokumpu uses total recordable incidents per million working hours (TRIFR) as the main safety performance indicator. Group TRIFR declined slightly from the previous year and was 4.1 against the target of <4.0 (2017: 4.4). Group LTIFR (lost-time incidents per million working hours) was 1.7 against the target of <1.5 (2017: 1.8).

The rate of all workplace accidents (total recordable incidents and first-aid treated incidents per million working hours) was 19.5 (2017: 24.7). Lost-day rate (more than one calendar day absence from the day after the accident per million working hours) was 84.2 (2017: 71.2).

Proactive safety action frequency was 3,330 (2017: 3,241). This includes reported near-misses, hazard observations, SBOs and other preventive safety actions per million working hours.

## Health and well-being

Good health and well-being of our personnel are essential values on their own. In addition, we believe that a healthy and thriving team of professionals is an asset to the company's success. We want all our employees to return home healthy, safe and sound every day.

Outokumpu encourages its employees to take care of their physical health by offering various exercise benefits and discounts to sports and well-being services. Different health support programs are also run across our sites. For example, in the US and Mexico, the health benefits of walking were promoted with a campaign "10,000 steps club". Employees were given pedometers with an invitation to join the club and increase walking activity during the day.

Mental health awareness was promoted as part of a first line manager training program, which covered topics such as how to approach and support mental health concerns. In Sheffield, the UK, a group of employees were also trained on mental health first-aid courses.

Regular health checks and other preventive medical care activities such as influenza immunization were carried out in many countries. Employees were offered screenings for common diseases, for example, in Germany for skin cancer and in the US for heart and vascular blockages.

The health service team in Germany conducted several activities aimed at promoting health and well-being of the personnel throughout the year. For example, employees participated in a voluntary exercise program to prevent back issues. During spring an external medical team conducted skin health screenings for over 400 employees. Around 180 participants were directed for further examinations and ultimately eight cases of potentially life-threatening abnormalities were found and treated. During the autumn, the team organized fitness check-ups and offered seasonal vaccinations for employees across the German sites.

In addition, occupational hygiene measurements are being carried out at Outokumpu sites to ensure a healthy working environment. For example, in Tornio, Finland pioneering research on occupational exposure to airborne metal fumes and dusts was conducted in order to further improve occupational safety and health specifically at the stainless steel melt shop.

The number of occupational diseases diagnosed in the Group was 0 (2017: 0). Total absentee rate was 4.2% (2017: 4.0%); in Europe, the rate was 5.8%, in Americas 0.4% and in Asia and the rest of the world 0.9%. ■

### Workplace accidents by region, accident and employee type

| | Group | Europe | Americas | Asia and rest of the world | Female | Male | Employees | Contractors |
|---|---|---|---|---|---|---|---|---|
| TRIFR [1] | 4.1 | 4.2 | 3.9 | 0.0 | 0.3 | 3.8 | 3.3 | 6.8 |
| LTIFR [2] | 1.7 | 1.8 | 1.6 | 0.0 | 0.2 | 1.6 | 1.5 | 2.4 |
| Total recordable incidents [3] | 94 | 69 | 25 | 0 | 6 | 88 | 57 | 37 |
| Fatalities | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lost-time incidents | 40 | 30 | 10 | 0 | 4 | 36 | 27 | 13 |
| Restrictive work incidents | 19 | 16 | 3 | 0 | 2 | 17 | 8 | 11 |
| Medically treated incidents | 35 | 23 | 12 | 0 | 0 | 35 | 22 | 13 |
| Lost-day rate | 84.2 | 87.5 | 77.8 | 0.0 | 1.5 | 109.8 | 90.6 | 63.6 |

[1] Total recordable incident frequency includes fatalities, lost-time incidents, restrictive work incidents and medically treated incidents, per million working hours.
[2] Lost-time incident frequency includes fatalities and lost-time incidents, per million working hours.
[3] Includes fatalities, lost-time incidents, restrictive work incidents and medically treated incidents.

# Improving organizational health and people development

Significant improvement in our organizational health characterized the year 2018. The notable step-change in the third annual Organizational Health Index survey proves that our transformation into a high performing organization is being delivered.

The boost in our organizational health is tightly integrated with substantial increase in learning activities, highly focused capability building and people development at all levels.

## Focus on developing organizational health yields encouraging results

To succeed in the long-term as a high-performing organization, Outokumpu measures and manages organizational health in a consistent and comprehensive manner. For this purpose, Outokumpu conducts an Organizational Health Index (OHI) survey annually. As a tool, OHI connects the day-to-day behaviors and mindsets of employees to company strategy, and the survey is a key element in measuring Outokumpu's performance in the must win battle of High Performing Organization. The Organizational Health Index survey is also a part of our efforts to offer all our employees the best work environment where our people feel motivated, respected and proud to be part of the Outokumpu team.

After each survey Outokumpu defines focus areas for development. Based on the results of the 2017 OHI survey, the focus areas for 2018 were empowerment and leadership. In 2018, the OHI survey was conducted in the fourth quarter to assess how successful the company has been in enhancing the focus areas, work satisfaction, and organizational health in overall. Response rate increased to 86% (2017: 80.4%) which is a high rate among manufacturing industry companies. More than 16,000 individual open comments, recommendations and opinions were given by employees at all levels of the organization.

The survey results were encouraging as Outokumpu reached all its main targets. In just two years, our OHI score has improved significantly, from 50 points in 2016 to 67 in 2018. We have moved from the bottom quartile to the second quartile amongst all 1,700 companies participating in the survey, and all our sites have reached at the least the third quartile. Based on the survey results, key development areas for 2019 are identified as personal ownership and empowerment, leadership and role clarity.

As a part of our social responsibility, in 2019 we will sponsor diverse voluntary projects in our neighboring communities. To celebrate the remarkable response rate in the survey, 86%, we will support altogether 86 different projects, which our employees are actively involved in.

## Collaboration with employees

In 2018, we focused on enhancing empowerment by involving employees more in decision making processes and ensuring all-around collaboration across teams and the organization, top-down and bottom-up. Leadership development has meant enabling and encouraging teams to take responsibility and action for constant development. At mills, daily and weekly shift meetings have been leveraged successfully for hands-on initiatives. For example, in Krefeld, Germany employees have been involved in decision-making processes and improving the company actively, thus giving responsibility to every employee.

In Europe, continuous cooperation with personnel takes place in a joint consultative body, Personnel Forum, as an information channel between management and employees. The Personnel Forum discusses issues concerning transnational interests, such as financial performance, employment issues, reorganization, health and safety, and technology and research. The forum has 33 representatives from European countries and it appoints the Group Working Committee, which is responsible for the ongoing cooperation between management and employees. Eight members represent employees and three represent the management. In 2018, the Personnel Forum met once, and the Working Committee convened four times.

## Our people support our growth

During 2018, the number of employees increased by 308 globally, mostly due to the acquisition of Fagersta Stainless in Sweden. The amount of personnel increased also due to preparing for retirements and recruiting young talents. Furthermore, the mission of reliability has been progressed at sites by a support organization being implemented, including reliability change agents, engineers and planners.

### Our people by region

| | 2018 | 2017 | 2016 |
|---|---|---|---|
| Germany | **2,667** | 2,744 | 3,004 |
| Finland | **2,437** | 2,377 | 2,363 |
| Sweden | **1,940** | 1,619 | 1,656 |
| The United Kingdom | **571** | 538 | 513 |
| Other Europe | **698** | 624 | 611 |
| **Europe** | **8,313** | 7,902 | 8,147 |
| The United States | **1,072** | 1,077 | 1,220 |
| Mexico | **903** | 1,000 | 1,058 |
| South America | **86** | 85 | 88 |
| **Americas** | **2,061** | 2,162 | 2,364 |
| **Asia/Rest of the world** | **75** | 77 | 89 |
| **Group total** | **10,449** | 10,141 | 10,600 |

## Building capabilities to enhance leadership and empowerment

During 2018, Outokumpu systematically and significantly increased learning and development activities and established cornerstones for the company's talent management approach. Virtual e-learning courses formed a great part of trainings, yet a multitude of face-to-face classroom training sessions were held, too. In total, over 80% of Outokumpu employees participated in training sessions and programs. The global e-learnings curriculum included i.e. Code of Conduct, Anti-corruption, Cyber Security and Data Protection courses.

Several training actions were connected to the Manufacturing excellence must-win battle, as the concept of continuous improvement is embedded to the ways of working and to the mindsets of employees.

In terms of leadership, we continued programs for different groups of leaders. We have proceeded in enhancing the capabilities of all first line managers in the License to Lead programs, with 24 License to Lead training programs started in 2018. To reach Outokumpu's 2020 vision, we will proceed working on the way we create value as leaders. To support this goal and drive a step-change in leadership excellence we created a new leadership program in Tornio and Kemi, Finland.

SafeStart behavioral safety awareness program continued in 2018. Also, Sales Academy activities were carried on developing sales competences in 16 different programs. A reliability focused academy was started to ensure all key stakeholders effectively support the implementation of tasks and actions that will deliver organizational reliability.

Overall, the total number of training and development days amounted to 17,860 (2017: 14,500) and 142,845 hours (2017: 103,218) during the year.

## Global talent management process evolving

The global talent management process work focused on talent review and succession planning, and is owned by the Outokumpu Leadership Team, who regularly reviews the process.

As a part of our succession planning process, we implemented leadership development reviews. The aim is to gain a better overview of the potential for our future organization and identify strengths and development needs of our senior managers. In 2018, altogether 25 senior managers participated and as a result they received individual action and development plan.

To develop young talents, we continued and streamlined activities across the company. Also, we progressed our Development Center to support our young potentials in their individual growth. 44 young talents participated in 2018, and some of them have already achieved the next step in their individual progress.

Strengthening the company talent pool consists of activities on various levels: from entry-level program for graduates and team development programs to leadership development and reviews. For example, Outokumpu has a technical graduate program for recent graduates with a master's degree in material science, engineering and metallurgy. The three-year program familiarizes graduates with Outokumpu's technical processes. During the program graduates will develop their competencies and gain valuable experience by working independently with diverse and demanding technical assignments. As a part of the talent management, an international network program for some 20 of young graduates started in November. In 2018, we started the process for recruiting 55 future professionals within the Steelmakers training program to Tornio stainless steel and ferrochrome production.

## Common performance review tool and process

In 2018, the new employee data platform, PeopleDrive, was further utilized and developed. The tool covers all basic HR processes, helps employees to manage their learning curriculum and performance management process as well as supports the management of the compensation processes. Furthermore, managers have clear visibility of their team members' compensation details. All internal and external recruitments are done through the platform, providing HR and recruiting managers a well-structured process.

With devising our common HR platform in 2018, everyone in the company, both production and administrative employees, was guaranteed an access to participate in the performance management process. The baseline for the performance and development discussion is set, training provided, and the system built to ensure that reviews take place annually. In 2018, 77% of production employees and 96% of administrative employees in applicable countries had a regular performance development discussion with their respective manager. In those countries where local contracts or regulations do not make it possible to have performance development discussions, Outokumpu follows local procedures.

Significant effort was made in 2018 to increase the transparency of compensation programs. Outokumpu's remuneration principles and framework are unchanged from the previous year meaning incentive plans remained unchanged while salary increases were on a moderate market-based levels. Also, the long-term incentive programs are unchanged with the focus on emphasizing shareholder value creation and ownership culture and to incentivize the achievement of the 2020 vision.

More on remuneration

## Zero tolerance for any kind of discrimination

Outokumpu Code of Conduct sets the way of operating in the Group, built on the equal treatment of all people: there is zero tolerance for any kind of discrimination, whether it is based on ethnic origin, nationality, religion, political views, gender, sexual orientation, or age. Outokumpu fosters equal opportunity and diversity. Employment decisions are based solely on business reasons and are made according to the national employment laws. In 2018, Outokumpu issued a statement according to the UK's Modern Slavery Act. We are committed to ensuring that modern slavery, forced and child labor or human trafficking have no part in our business or supply chain.

In 2018, 14 alleged incidents of misconduct were recorded (2017: 9). The Group reviews and investigates all incidents. When required, corrective actions are taken accordingly. Together with our strict Code of Conduct, the risks related to human rights in our operations are not considered to be high. In 2018 an anti-corruption e-learning was issued. The course was mandatory for white-collar employees and achieved a completion rate of 97%.

Outokumpu's working hours, minimum notice periods, vacation times, wages, and other working conditions are consistent with the applicable local laws. Outokumpu maintains a consistent policy of freedom of association. All Outokumpu employees are free to join trade unions according to the local rules and regulations, and in 2018 altogether 80.1% of the Group's employees were covered by collective agreements (2017: 82%). 1,607 days in 2018 were lost due to strikes (2017: 408).

More on compliance

### Anti-corruption e-learning completion rate in 2018

| | Completion rate, % |
|---|---|
| Europe | 97 |
| Ferrochrome | 98 |
| Americas | 98 |
| Long Products* | 90 |
| Business Support Functions | 99 |
| Total | 97 |

*Business area Long Products includes employees from both Europe and Americas

## Focus areas for 2019

The first implementation phase of the organizational process blueprints prepared in 2018 by various group functions will take place in 2019. The blueprints assemble current process descriptions and refurbish processes to gear up for the future. Building the required skills and capabilities are embraced in the implementation phase of the new blueprints, which include more consistent and efficient delivery of services to our business partners, and for example in sales, processes are developed to identify multiple ways to interact and interface with customers.

Focusing on digital manufacturing will lead to transformation in our ways of working: the needed skill set for operators and all employees is affected in every function and part of production. Educating and increasing the competencies of employees are thus an essential part of capability development in 2019.

The leadership program License to Lead will expand from shift leaders in operations to foremen in service centers around the world. We will constitute to capability building by supporting potential future leaders moving into new roles combined with individual development activities in our Development Center. In addition, SafeStart, Sales Academy and Reliability Academy activities will stay on the learning curriculum, and to improve quality, Quality and Application Academy sessions for production employees will be rolled out.

Talent Management will be developed further in 2019. Mentoring and coaching of young talents will be fortified, and the transparency of talent management processes and information systems enhanced. Young graduates are invited to Outokumpu's international talent network program Form Your Future to share knowledge and experiences, and new class of graduates and technical graduates will start in 2019. Preparing for the future, Excellerate program offers leadership development reviews and management audits, and a step-change in leadership excellence will be spread out to sites globally. Onboarding program will be refined to upgrade on-the-job development activities and taken into use across the company to ensure uniform onboarding experience.

To build Outokumpu an even better workplace and to improve our organizational health further, our goal is to continue enhancing personal ownership and empowerment. Also, developing leadership will stay as a focus area, with a specific emphasis on supportive leadership behavior. The third focus area will include role clarity, especially in the course of business transformation program and organizational blueprint roll out. By 2020, the company target is to move to the first quartile amongst the 1,700 other companies using the OHI methodology.

The development of our HR platform PeopleDrive remains in focus to deliver a better end user experience. The target is to create an environment where employee transactions and knowledge can be integrated into the company culture dynamically and efficiently. Recruitment and placement process will be structured further to increase focus on local and functional aspects, and the global onboarding process automation will also continue. To increase quality, clarity and transparency both to the employee and organization in all HR processes including reporting and analytics, we will continue to elevate our HR practices to meet the requirements of the changing environment of processes and technology. ■

# Responsibility throughout the supply chain

Outokumpu is a part of a global supply chain by producing stainless steel for leading brands in demanding industries around the globe. Our customers expect us to provide a fully traceable supply chain, therefore we have in place stringent requirements to our suppliers, too.


Our customers require assurance that the materials for their applications are produced and procured in an ethical and responsible manner. As one of the few companies in stainless steel industry with an integrated production – covering the production from mining of chrome and ferrochrome production to the melting, hot rolling, cold rolling and finishing of stainless steel – means that we know and control this supply chain to the fullest extent.

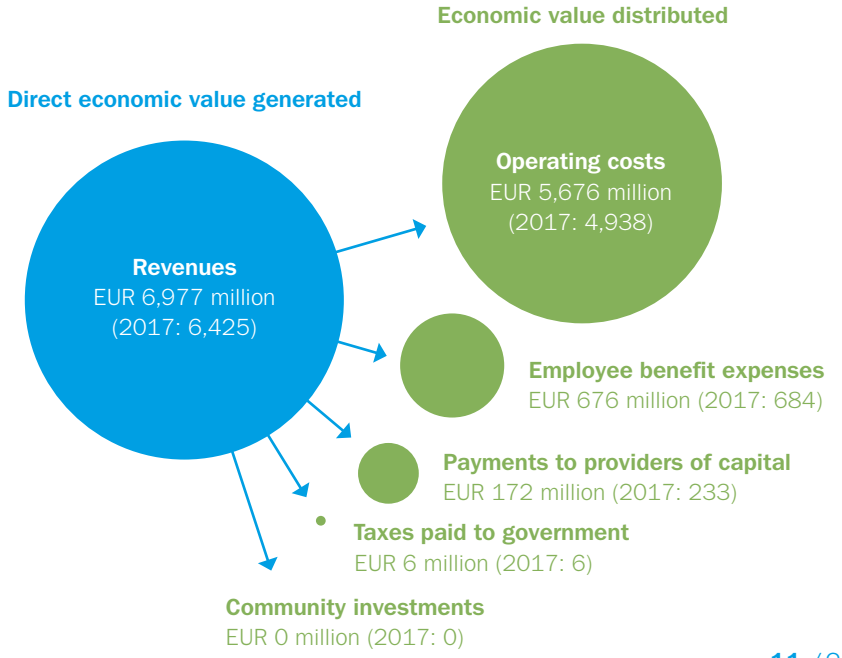
Recycled steel is the most important raw material for Outokumpu. The main raw materials originate mainly from Europe and the US as our melt shops are located in these areas. The most important alloying element, chromium, originates from our own chromium mine which differentiates us from our competitors. Our mine in Kemi, Finland is the only chromium mine in the EU and provides ferrochrome for all our steel melt shops.

## We place stringent requirements on ourselves and our suppliers

As our customers require a lot from us, we place the most stringent requirements on ourselves, and require the same from our suppliers. All suppliers and subcontractors are expected to comply with our Code of Conduct or similar standards and meet our supplier requirements, which require our suppliers to act

**Direct economic value generated and distributed**

**Economic values retained in business**
EUR 446 million (2017: EUR 565 million)



according to applicable laws and regulations, maintain a quality management system, sign general terms and conditions and be able to clearly define, document and share their supply and production control processes including material traceability.

We assess our new and existing suppliers and if there is evidence of any kind of violation of our requirements, the suppliers are requested to provide an improvement plan and evidence of improvement. If the situation continues without improvement, Outokumpu will discontinue purchasing from the supplier. Outokumpu has declined business opportunities in cases where it has been established that the business partner is not following the principles of our Code of Conduct.

## Global supply chain

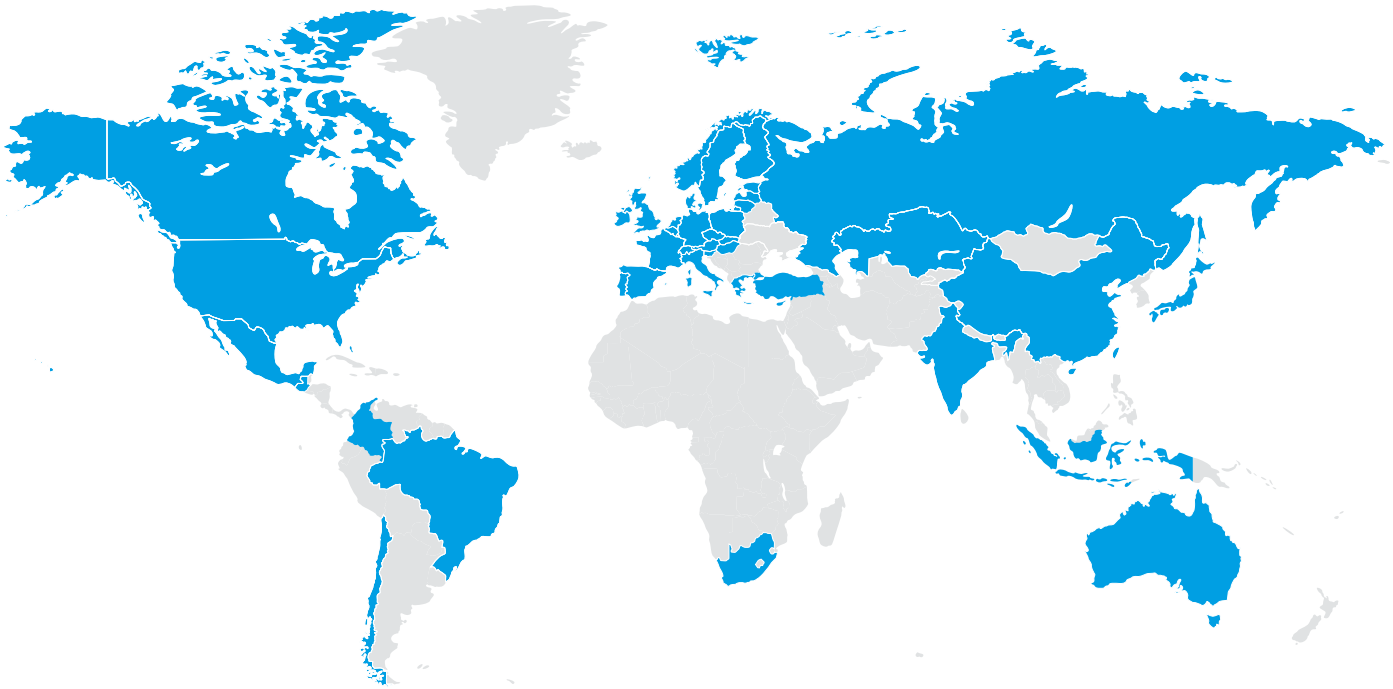
In 2018, Outokumpu had 9,177 suppliers in 56 countries. 87% of the suppliers are located in Finland, Germany, Sweden, the UK, the US and Mexico, where Outokumpu has production. In those locations where we have significant production sites with melt shops, local suppliers account for 12% of purchases. There were no major changes in the supplier base during the year.

We take into account the OECD Due Diligence Guidance for Responsible Supply Chain. In 2018, we screened our main raw materials suppliers of ferro alloys and coke on environmental, social and governance (ESG) issues such as forced and child labor, conflicts with indigenous people or corruption and on ESG risks of countries of origin. More detailed raw material suppler risk assessment will continue in 2019.

Outokumpu monitors its suppliers through self-assessment, screenings and audits. In addition, most of the suppliers are going through a monthly compliance screening for sanctions. Outokumpu renewed its supplier requirements and the related supplier assessment approach in 2017. The new approach was piloted during 2018. A small number of existing and new suppliers were invited to a self-assessment. Additionally, four suppliers were audited on-site. The self-assessments and audits were based on Outokumpu's supplier requirements and focused on evaluating the suppliers' social and environmental responsibility and quality management. As a result of the assessments, improvement opportunities and requirements were identified and agreed with the suppliers.

## Environmentally sustainable transportation

Outokumpu's target is to transport as much of its products by rail and ship as possible. There was no change of transport mode compared to 2017. Our mills have various programs and targets to make transportation more environmentally friendly. For example, our mill in Avesta is participating in a local electric road project and switching to biofueled trucks. In 2018, the total transport emissions increased by 3% because of the new site in Fagersta, higher ferrochrome production and better coverage of transport data in Mexico. In 2018, chrome concentrate transport was taken in account to calculate $CO_2$ emissions of internal transport. It counts for about 1% of 2018 transport emissions. ■



### Material and service suppliers

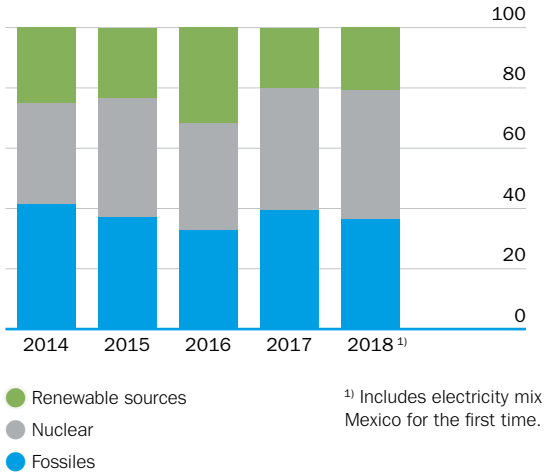
● Outokumpu supplier countries, including the most important supplier countries with purchases of more than 50,000 euro.

# Energy efficiency

Outokumpu's operations are energy intensive. For the recycled steel to melt, it is heated to over 1,400°C. The process requires a high amount of electricity as the best available technique for melting recycled steel is to use electric arc furnaces.

Outokumpu is continuously striving to make its production operations more energy efficient and minimize its environmental impacts. Although the melting of recycled steel and the production of stainless steel use a lot of energy, stainless steel enables more energy efficient solutions from a life-cycle perspective by saving energy during its use phase. Our goal is to improve the energy efficiency of our operations by 1% each year until 2020. In 2018, our improvement of energy efficiency calculated as a sum of different process steps was 8.9% compared to the baseline 2007–2009. This was below our target for 2018 but it still corresponds to a saving of 0.9 million MWh. In 2018, we had challenges due to changes in product mix and technical and maintenance interruptions.

### Origin of electricity, %




1) Includes electricity mix of Mexico for the first time.

## Reduction potential

The biggest energy-saving potential lies in the optimization of yield through high utilization of facilities and recovery of waste heat. Energy reduction and efficiency plans are included in environmental management systems at all our sites. Over the past years, we have been able to improve our overall energy efficiency by reorganizing production sites, optimizing our internal supply chain and increasing our capacity utilization globally.

Electricity is the largest item in our energy consumption but we also use natural gas, propane and other fuels, such as diesel. Fossil fuels cover about 82% of our total fuel consumption. Outokumpu doesn't consume renewable fuels in production processes but we use own recovered carbon monoxíde process gas and this makes up 18% of fuel consumption. Process gases and their heat are also used to heat buildings on the site.

## Towards low-carbon energy

Outokumpu has centralized energy procurement in order to secure sufficient energy supply, to ensure predictable, competitive and stable energy prices and to optimize the energy portfolio.

Outokumpu participates in several programs that promote the use of low-carbon energy such as wind power, hydropower, combined heat and power as well as nuclear power. For example, a combined heat and power plant in Tornio produces heat for the Tornio site out of recovered process gases, and in Dahlerbrück, Germany, we have our own hydro power plant to generate some 10% of the electricity needed in the production. Outokumpu is a shareholder in a wind power park in Tornio, in a hydro-power plant in Norway and in a new nuclear power plant project in Finland.

A fuel change from propane to liquified natural gas started at the Tornio site in 2018. $CO_2$ reductions are expected in 2019 after the first implementation phase.

The aim of all these measures is to secure our energy supply and to reduce our $CO_2$ emissions. In 2018, 63.6% of our electricity sources came from low-carbon (renewable and nuclear) sources.

### Energy used in operations

| Terajoules, TJ | 2018 | 2017 | 2016 |
|---|---|---|---|
| Electricity | **17,189** | 16,325 | 16,734 |
| Carbon monoxide gas | **2,275** | 2,003 | 2,405 |
| Natural gas | **4,623** | 4,241 | 4,078 1) |
| Propane | **4,754** | 5,016 | 4,639 |
| Diesel, light and heavy fuel oil | **662** | 580 | 614 |
| **Energy** | **29,502** | 28,164 | 28,355 |
| | | | |
| Energy use in GJ per tonne crude steel | **10.1** | 9.3 | 9.7 |

Data includes the new site in Fagersta for July–Dec 2018.
1) Data for 2016 has been restated.

# Environmental impacts to a minimum

We reduce the impact on the environment by proactively developing our production processes, energy and material efficiency and solutions for by-products of our operations.

The biggest environmental impacts of stainless steel production are dust emissions into the air, water discharges from production, use of direct and indirect energy, and waste created in the production process.

## Dust emissions kept at low levels

Dust and scales are generated in our operations by steel melting and rolling processes. Dust and scales are collected, treated and, whenever possible, recycled at our own production. For example, raw material metals (chromium, nickel and molybdenum) are recovered from dust and scales through specialist recovery plant.

Our dust filtering systems are extremely efficient and remove 99% of the particles. With the production of 2,913,794 tonnes of stainless steel, the measured particle emissions from all of our production processes was 388 tonnes in 2018 (2017: 366 tonnes). The majority of particles were emitted from the ferro-chrome production process with 313 tonnes with the increased ferrochrome production (2017: 193 tonnes). However, emission measurement results in this process include high uncertainty causing remarkable fluctuation in results year by year.

The level of dust emissions from the melt shops is well within the limits of environmental permits. No significant further reduction is expected.

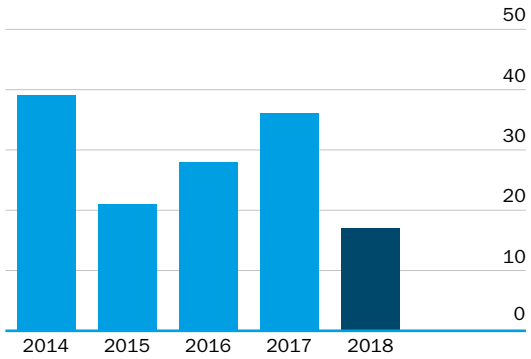
As our main raw material is recycled steel, we take all possible precautionary measures to check the input material for any unwanted content, such as mercury and radioactive contaminated material. Despite these precautionary measures, mercury or radioactive material is sometimes noted only when the steel is melted. All input material, the product liquid steel and waste gas of melting process, is controlled on radioactive contamination.

There were three incidents involving radioactive material in 2018. One was detected before melting. The other two cases were managed in coordination with the competent authority. The slightly radioactive contaminated slag and dust were safely deposited on a special area. The mercury emissions of our plants were minor and amounted to less than 211 kg (2017: 185 kg) from our European melt shops. To reduce mercury emissions waste gas is treated by an absorptive technique. We work together with our suppliers to decrease the amount of unwanted materials in our production processes.

## Water is reused in production

Water is needed in stainless steel production for cooling, pickling and cleaning. We reuse water as much as possible in our own operations. Some water also evaporates and leaves the system. All wastewater is treated in the company's own treatment plants or in municipal water treatment systems before it is discharged. The main discharges into water are metals and nitrates. The discharge is measured and supervised by authorities. Wastewater treatment depends on the contamination of the wastewater. The water is treated directly in the water circle at the process step and/or before discharge. According to the needs treatments are oil skimming, neutralization, flocculation and sedimentation to

### Steel melt shop particle emissions, grams/t



extract metals and, when necessary, a Cr(VI) reduction process. Nitrate is often treated in the organic municipal water treatment.

Water used in the production is mainly surface water. In 2018, withdrawal of water increased, because of warm weather condition which increased evaporation and the need for cooling water. Impact of water withdrawal in 2017 is evaluated at sites where river water is used, and data of the river water is publicly available. The impact is screened by the percentage of withdrawn water compared to the river flow on a yearly base. All sites resulted in no impact on the river which means the withdrawal was below 5%.

Outokumpu operates a cold rolling mill in San Luis Potosí, Mexico, in a dry, arid area, where groundwater is a scarce resource for people. The water withdrawal of this site is 0.7% of Outokumpu's total water withdrawal. Water is used in our production process in annealing, pickling and cooling. It is undergoing an exceptional treatment and recycled as much as possible, and only a few cubic meters are discharged to municipal wastewater system. Small amounts of cleaned water percolates to groundwater again.

The reported nitrate discharge increase will further be evaluated in 2019.

### Water withdrawal and discharges

| Million m³ | 2018 | 2017 | 2016 |
|---|---|---|---|
| Surface water | **44.6** | 38.2 | 37.9 |
| Municipal water | **1.4** | 1.2 | 1.2 |
| Groundwater [1] | **2.5** | 1.2 | 1.4 |
| Rainwater [1] | **1.2** | 2.4 | 1.7 |
| **Water withdrawal by source** | **49.7** | 43.1 | 42.2 |
| | | | |
| **Water discharges by type and destination** | | | |
| Cooling water out | **13.4** | 12.5 | 14.6 |
| Wastewater out | **23.4** | 20.5 | 21.6 |
| Discharge to surface water | **22.2** | 19.2 | 20.2 |
| | | | |
| **Emissions to water** | | | |
| Metal discharges to water, tonnes | **25** | 24 | 36 |
| Nitrogen in nitrates, tonnes [2] | **1,443** | 1,308 | 1,344 |

[1] Refined reporting on mining water resulted in change from rainwater to groundwater in 2018.

[2] Data restated to give the discharged nitrate. Part of the nitrates are treated in a municipal treatment plant.

### Impacts of mining operation are limited

Outokumpu operates a chromite mine in Kemi, Finland. We are a member of The Finnish Network for Sustainable Mining, which was established to act as a discussion platform and to develop practical tools to improve the sustainability of mining and ore exploration in Finland. Kemi mine follows the Finnish sustainability standard for mining.

The environmental impacts of the mine are very limited due to the nature of the process, as the minerals are very stable, and chemicals are not used in the beneficiation process. There were no major changes in 2018, and the emissions have remained stable at very low levels. Dust emissions are minimal due to the underground mining. The biggest impact on environment from the mine are nitrates in the wastewater which originate from explosives. However, the amount of nitrates are reduced in the internal water recycling system of the mine.

Kemi mine is almost self-sufficient with water as it recycles water on site and collects rainwater. The mine site takes water outside the area only from municipal supply (0.03 million m³ in 2018) and surface water from nearby fresh water canal (0.06 million m³ in 2018). Fresh water from canal is used only during maintenance breaks and special situations. Normal situation is that concentrator plant takes water from tailings ponds and pumps back approx. same amount.

The mine district is 9.16 km² by its size and rainwater amounts to this area are significant (rainfall in 2018 was 486.3 mm). The amount of direct rainfall to tailings site excluding evaporation was about 0.5 million m³. From tailings clarifying pond area there is discharge point where 0.89 million m³ is discharged to receiving water body. Rainwater from old open pit is also pumped to receiving water body which was 0.62 million m³ in 2018. There are also seapage waters that cannot be measured. Land use of mining is limited to the existing mining area as mining is underground. Tailing sand is deposited in tailing ponds of the mine area which will be landscaped as forests when full.

### Environmental costs of actions and compliance

Costs for environmental-related activities for 2018 amounted to EUR 117 million. Operational costs were EUR 111 million and include process-related treatment, disposal and remediation costs of waste and emission reduction into air and water. In 2018, some EUR 2.7 million was invested in the improvement of dust and mercury reduction at Tornio site, Finland. Read about .

Our environmental network follows closely the quarterly environmental performance of our operations, their permit status and legal compliance. The network conducts internal site audits in the production units according to risk screening. In 2018, there were 18 permit breaches, but all were temporary and insignificant. Outokumpu reported each incident to environmental authorities, carried out corrective actions immediately or resolved the incidents together with the authorities. No environmental damage was reported.

### Biodiversity

The production of stainless steel does not occupy or reserve large areas of land, or have a significant effect on the biodiversity of the surrounding natural environment. Outokumpu's production sites are not located in sensitive areas. However, Outokumpu has identified areas of high biodiversity value that are owned by the company or adjacent to our sites in Dahlerbrück, Germany, Kemi and Tornio, Finland, and Calvert, Alabama, in the US.

Outokumpu regularly monitors the environment of its production sites. Areas once utilized by production are remediated for further use. More informarion on biodiversity on our website. ■

# Resource efficiency and circular economy

## Outokumpu is deeply connected to circular economy as stainless steel is one of the most recycled materials in the world.

Our approach is two-fold: we aim to both reduce the total volume of landfill waste from our own operations and increase the proportion of materials sold as by-products.

In fact, our stainless steel mills are significant recycling facilities, producing new products out of recycled steel, recovering and recycling everything reasonable in our production and finally selling by-products from the manufacturing process to replace natural resources.

### Products with very high recycled content

Recycled steel from both stainless and carbon steel is our most important raw material. The recycled content according to ISO 14021 was 84.3%. This includes pre- and post-consumer scrap. Including the use of recycled metal from our waste streams, the recycled content of our products was 88.6% in 2018. Our ambitious target is to reach 90% recycled content by 2020.

One key factor in reaching such a high level of recycled content is the recovery and recycling of metals from the production processes, for instance from dust. Dust is either treated on the site or by an external facility for a recycling in melt shop.

In addition to metals, other raw materials, such as slag formers, acids and gases, are needed in the production process although they do not become part of the stainless steel products. As far as reasonable, these are also recovered and recycled in the process. For instance, used acids are regenerated for re-use and hydrogen from bright annealing process are recovered in the furnace of the process. Some of these input materials are used to minimize or prevent emissions to the environment.

### Aim to reach zero waste to landfill

While waste is recycled whenever possible in our own production, our production still generates landfill waste. We strive further to reduce this, and our long-term goal is to generate zero landfill waste. In 2018, Outokumpu produced more landfill waste as a new site was included and the market for slag use decreased. The total amount of waste was 1.5 million tonnes which means that the landfilled waste per tonne stainless steel also increased to 0.47 (2017: 0.36).

The biggest waste items at Outokumpu are slag that are not reused, tailing sand from the mining operation and dust and scales from the stainless steel production.

The amount of tailing sands from the mining operation increased in 2018 compared to the previous year, as the production of chrome concentrate increased. 65.6% of waste was tailing sand deposited in the pond of mining area itself and further 25.5% was landfilled waste according to the permit of the landfill. 4.5% of waste could be recycled and 4.4% recovered. Other recovered material like lime, bricks and some sludges are mostly used in our melting shops to substitute virgin additive materials like slag formers.

Total waste development

### Turning slag into by-products

Outokumpu used 1.4 million tonnes of slag as the main by-product of operations. Slag is essential material in the steel melting process, and it is made from limestone or other natural minerals. One of the most important ways to reduce the amount of waste of steel production is to turn slag into products for useful use.

Outokumpu has developed slag-based mineral products for road construction, refractory and concrete production and for water treatment. The use of our slag by-products reduces the amount of waste, saves virgin materials and leads to lower $CO_2$ emissions. For example, in road construction, slag is both environmentally and economically sustainable solution.

In 2018, the use rate (including use, recovery and recycling) of all slag was 89.9%*. The remaining 160,000 tonnes of slag were sent to landfill. The use rate depends on the local market for construction materials and on the acceptance of secondary material instead of virgin materials.

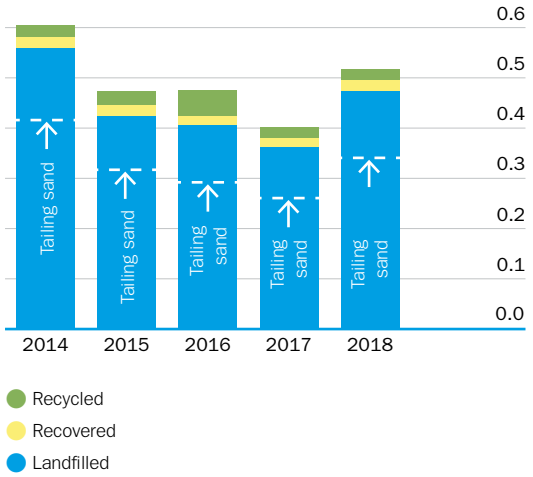
*Restated compared to the indicator in the company's Review by the Board of Directors as the data for slag use for one site was not available before finalization of the Review.

### Total and hazardous waste

| Tonnes | 2018 | 2017 | 2016 |
|---|---|---|---|
| Tailing sand | **991,391** | 784,585 | 856,245 |
| Other waste | **519,786** | 423,383 | 966,281 |
| of which hazardous waste | **163,555** | 144,617 | 139,224 |
| recycled | **15,414** | 14,506 | 13,224 |
| recovered | **47,700** | 41,171 | 43,521 |
| landfilled | **100,442** | 88,939 | 82,485 |

2017 data has been restated for continuing sites.

### Total waste development, tonnes per tonne steel



# Protecting the climate

Climate change is one of the major challenges in today's world. For Outokumpu, it means both the reduction of our carbon profile and the possibility to offer solutions for low carbon society and reduce carbon emissions during the use phase.

## Reduced carbon profile with stainless steel

The use of Outokumpu cold rolled stainless steel products reduces the carbon footprint of our customers' products. Our environmental product declarations (EPDs) offer life-cycle inventory data of our main products, making it possible for our customers to calculate sustainability performance over their products' life cycle. EPDs are standardized and verified externally.

## Where do our emissions come from?

The greenhouse gas emissions from Outokumpu operations are limited to $CO_2$ emissions. These emissions come directly from the production (scope 1), indirectly from the use of electricity (scope 2) and mainly from upstream emissions of the use of materials (scope 3).

Direct emissions originate from the carbon content of our raw materials in our operations – reducing agent, ferroalloys and graphite electrodes, which are used in the melting process of ferrochrome and stainless steel production. The use of these materials causes process-related $CO_2$ emissions, which cover about 20% of our direct $CO_2$ emissions. The other direct emissions come from the use of fossil fuels as the energy source in furnaces for the process heat and the use of CO gas from ferrochrome production in several processes.

Indirect emissions are caused by the use of electricity. These emissions are followed by market-based emission factors from suppliers of Outokumpu's electricity mix. Electricity emissions are also published on location-based emissions factors.

Other indirect emissions for steel productions are mainly upstream emissions of material use as ferroalloys (except ferrochrome which is included in direct and indirect emissions of scope 1 and 2) and lime and to a lesser extent from transportation. At the moment, there are no estimation methods for the complex downstream emissions of stainless steel available.

## Towards less carbon usage

Improving our energy efficiency directly reduces the need of primary energy and leads to lower $CO_2$ emissions. Our efforts towards a circular economy reduce emissions by replacing raw materials and emissions from their productions processes. These are our main roadmaps towards low carbon production because in stainless steel and ferrochrome industries there are no signs of rapid new breakthrough technologies in this area.

Outokumpu is committed to the Science Based Targets Initiative. The initiative considers companies' greenhouse gas reduction targets "science-based" if they are in line with the level of decarbonization required to keep global temperature increase below 2°C compared to pre-industrial temperature. Outokumpu follows the convergence criteria of steel industry's decarbonization approach: to reduce emission intensity to 0.92 t $CO_2$ per tonne of crude steel by 2050. Specific electricity emissions follow the electricity decarbonization approach, where the specific emission reduction target is 95% by 2050.

At the beginning of 2019, the Science Based Target initiative approved Outokumpu's target: to reduce scope 1, 2 and 3 GHG emissions 20% per ton of stainless steel by 2023 from a 2014–2016 base-period. The baseline of the three years was chosen to get the most recent baseline after the restructuring of the company and to avoid the influence of yearly fluctuations. Emission intensity refers to emissions per tonne of produced steel.

## $CO_2$ emission intensity on target track

In 2018, Outokumpu consumed overall 29,500 TJ of primary fuels and electricity. This was an increase of about 5% mainly caused by an increase of the ferrochrome production and inclusion of a new site in Fagersta, Sweden. Accordingly, the intensity figure increased to 10.1 GJ per ton steel.

The high recycled content in our products contributes to the reduction of scope 3 emissions. For the whole year, the total specific $CO_2$ emissions reduced by 7.7% compared to baseline 2014–2016. Scope 3 emissions could significantly be reduced compared to 2017 as the ferrochrome production reached the expected level and could sell ferrochrome outside the company. Emissions allocated to sold ferrochrome were not included in the target report for the stainless steel.

Investments in productivity during the past few years have made Outokumpu's production sites highly efficient in their use of energy and other resources. This is also an opportunity to stay competitive under the emissions trading system.

All data on $CO_2$ emissions

## Emissions trading and fair competition

Besides voluntary commitments, Outokumpu's European mills fall under the European Union Emissions Trading Scheme. In total, almost 1.03 million tonnes of a total 1.27 million tonnes of $CO_2$ emissions are covered by the system.

The EU Emissions Trading Scheme (ETS) is continuing by the third trading period 2013–2020. Outokumpu's European operations under the EU ETS will continue to receive free emissions allocations according to efficiency-based benchmarks and historical activity. The total phase allocation will be sufficient for the European operations during the rest of the trading period 2018–2020, although individual plants are in deficit. Total free allocation for the year was below emissions in 2018.

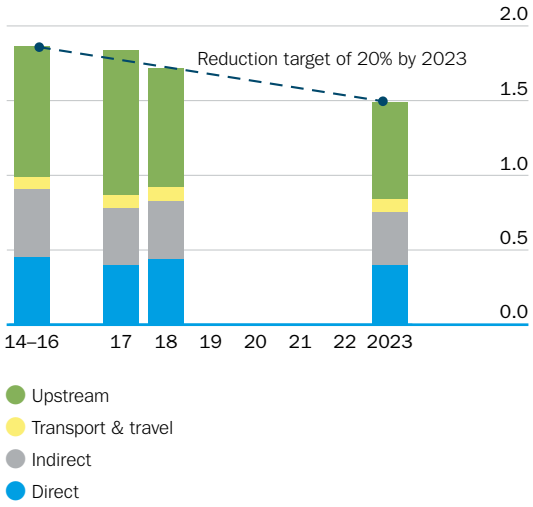
The main risk of the emissions trading system to Outokumpu involves the pass-through costs of allowances to the electricity price, which also depend on the allowance trading price. Therefore, national electricity price compensations are important for energy-intensive European industry also in the future. These small compensations are supporting producers in the intense international competition against non-European competitors who do not have additional carbon costs. Outokumpu collaborates with industry associations to determine and promote this position.

The next trading phase from 2020–2030 is decided and further details are in preparation. The general rules for Outokumpu will remain the same as in the ongoing period. The company will fall in short position as the product benchmark significantly reduces and the fuel input benchmark will end up with zero free allocation. Significant cost increase is expected as the electricity price increase will follow the allowances price increase and, additionally, allowances have to be bought and paid in this period.

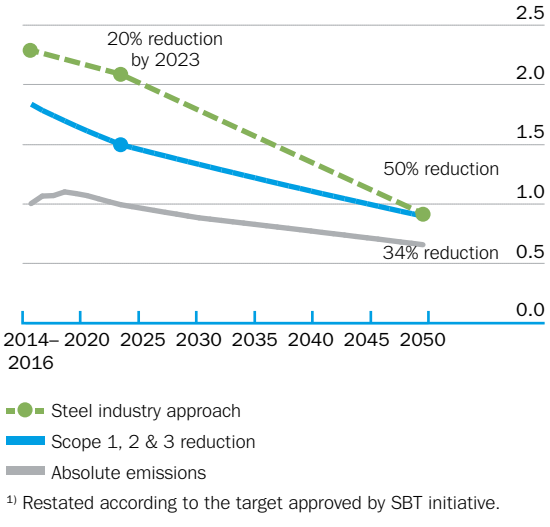
The EU Emissions Trading Scheme was originally built on production emissions and especially thinking on incineration of fossil fuel. It does not take into account the product life span. This is misleading for metal and steel products because they decrease $CO_2$ emissions during their life span more than their production phase causes. There is no positive correction factor or credit for such products or industry in the system.

### Target for science based target criteria

**Outokumpu's $CO_2$ emission intensity, tonnes of $CO_2$ per tonne steel**




**Outokumpu's emissions forecast under SBT conditions, tonnes of $CO_2$ per tonne steel [1)]**




[1)] Restated according to the target approved by SBT initiative.

# Long-lasting customer relations

## Delivering the best customer experience and improving customer satisfaction are important focus areas for Outokumpu.

We work with our customers and partners to create long lasting solutions for businesses, modern life and the world's most critical problems such as clean energy, clean water, and efficient infrastructure.

By choosing Outokumpu's stainless steel, our customers can be certain that they get the highest quality products manufactured with lowest environmental impact. We adhere to the strictest sustainability and corporate responsibility guidelines to ensure world-class, high quality operations and materials.

### We enable more sustainable business to our customers

Outokumpu has a strong customer base spread across the globe on every continent and balanced over a range of industries. Our customers operate for example in building and construction, produce energy and manufacture appliances and cars. The majority of our customers are based in areas where we have our own production: Europe, the US and Mexico. We also have a global sales and service center network that serves customers on all main continents.

Achieving commercial excellence is one of our six must-win battles. This means we need to take care of our customer relations successfully and act in a responsible manner. Our goal is to increase our customers' competitiveness with our products by improving their efficiency, profitability and sustainability. Continuous feedback and interaction with customers help us to improve our understanding of customers' needs, their challenges and their business environments.

With the right material choices, we aim for increased efficiency and profitability in a sustainable way. We continuously innovate and improve both our operations and our products so we can offer more benefits to our customers. Together with our customers we can find new application areas where stainless steel can make a positive impact as a more sustainable solution.

### Improving customer satisfaction

We collect feedback from our customers on a regular basis. This feedback helps us to achieve our growth targets and guides us in improving our performance, at both strategic and operational levels. The overall aim is to have a mutually beneficial process that helps us improve the three basic building blocks of customer satisfaction: customer support, delivery performance and product quality.

Our goal is to achieve the level of 75% in customer satisfaction by 2020. This goal is directly linked to our 2020 vision and must-win battle for commercial excellence. To track performance in this field, Outokumpu conducts customer satisfaction surveys approximately every second year. The latest survey was conducted in spring 2018.

In 2018, around 1,200 customers were interviewed for the survey. The overall customer satisfaction with Outokumpu improved considerably from the previous survey: 63% of respondents were absolutely or very satisfied with Outokumpu while the corresponding rate in previous survey conducted in 2016 was 57%. High product quality, competent sales personnel and ease of doing business were mentioned as Outokumpu's strengths.

The areas requiring development relate in particular to delivery performance and claims handling. Both topics are currently key focus areas for us, and we have several on-going initiatives to improve our performance in both areas. ■

# Sustainable stainless

As a material, stainless steel is strong, corrosion resistant, durable, safe and hygienic. It is also fully recyclable, and its quality does not degrade during reprocessing.

In many ways, stainless steel is the perfect answer to the challenges the world is now facing – limited resources, urbanization, climate change, and scarcity of clean water.

## Recycling, durability, and improved performance

Due to its recycling characteristics, stainless steel is well poised to meet the demands of a future sustainable society: the possibility of recycling a product saves resources, as it reduces the need to extract new minerals from the ground. Stainless steel is 100% recyclable and Outokumpu stainless steel has one of the highest contents of recycled materials in the industry.

Durability is also important. Manufacturing an application only once, instead of several times during a certain time period due to breakdowns and repair, naturally consumes a lower amount of resources. Stainless steel helps to prolong the lifetime of applications, such as in bridges which are susceptible to corrosion or in components like a car's exhaust pipe system.

Outokumpu strives to improve the properties of stainless steel even further and support customers to utilize them in their applications. An example is a modular concept for wastewater treatment tanks that makes them much more flexible for expansion. Water is an increasingly scarce resource, and the worldwide rising consumption of fresh water makes wastewater treatment more and more important. Innovative wastewater treatment tanks are made from Outokumpu Forta Duplex stainless steel.

Outokumpu has made environmental assessments on its steel and revised its Environmental Product Declarations (EDPs) for its main products. The new EPDs also include Business Area Americas. EDPs describe the main environmental effects and energy needs of our stainless steel throughout their supply chain and help customers to calculate sustainability performance over their products' life cycle. EPDs are standardized and verified externally.

## Safe stainless

Stainless steel in its manufactured forms – as delivered by Outokumpu to our customers – is inert, non-reactive, and non-toxic. The industrial processes of reprocessing stainless steel by, for instance, welding and pickling, can release substances or fumes. Outokumpu provides customers with a safety information sheet or safety data sheets for all our products. This safety information helps our customers to process our stainless steel products in a safe manner. Outokumpu also complies fully with European regulations on REACH and RoHS requirements.

## Product, application, and technical market development

The direction of Outokumpu's product, application, and technical market development is driven by global megatrends, such as economic and population growth, mobility, urbanization, climate change, and limited resources. We work closely with our customers in order to align our activities with their current and future needs. The key focus is the development of long-lasting, sustainable material solutions providing advantages over the entire product life cycle.

## Partnership with customers

Outokumpu responds to customer needs. As an example, we performed testing according to the new Chinese food contact standard to insure that our product is in line with the requirements. ■

# Scope of the report

## Outokumpu has published its sustainability review as part of the Annual Report 2018. Sustainability information is also available at www.outokumpu.com/sustainability.

Outokumpu reports on the material developments of continuing sites and changes in 2018 as part of the Annual Report. Data reported includes all continuing sites and half year's data of the new site in Fagersta, Sweden. Additional information is published on the company's website. The Annual Report 2017, including Sustainability Review, was published in February 2018.

Outokumpu's report has been prepared in accordance with the GRI Standards: Core option according to the GRI Standards reporting requirements. The materiality assessment from 2018 and continuous communication with stakeholders were the basis for the decision on material topics and relevant disclosures.

Full GRI disclosure

The independent practitioner's assurance report on the limited assurance conclusion is available on page 23 in the Sustainability review. The Financial Statements 2018 have been audited, and the auditor's report is available on page 67 in the Review by the Board of Directors and Financial statements section.

## Measurement and estimation methods

### Economic responsibility

Most figures relating to economic responsibility presented in this report are based on the consolidated financial statements issued by the Outokumpu Group and collected through Outokumpu's internal consolidation system. Financial data has been prepared in accordance with International Financial Reporting Standards (IFRS). Outokumpu's accounting principles for the Group's consolidated financial statements are available in note 2 to the consolidated financial statements.

All financial figures presented have been rounded, and consequently the sum of individual figures may deviate from the presented aggregate figure. Key figures have been calculated using exact figures. Using the GRI guidelines as a basis, economic responsibility figures have been calculated as follows:

#### Direct economic value generated

Direct economic value generated includes all revenues received by Outokumpu during the financial year. The sources of revenue include sales invoiced to customers, net of discounts and indirect taxes, revenues reported as other operating income (including gains from the disposal of Group assets), and revenues reported as financial income, mainly dividend and interest income.

#### Economic value distributed

Operating costs include the cost of goods and services purchased by Outokumpu during the financial year. Employee benefit expenses include wages and salaries, termination benefits, social security expenses, pension and other post-employment and long-term employee benefits, expenses from share-based payments and other personnel expenses. Taxes paid to the government include income taxes. Deferred taxes are excluded from the figure. Payments to providers of capital include interest costs on debt and other financial expenses during the financial year. Capitalized interest is deducted from this figure. The dividend payout is included in the payments to providers of capital according to the proposal by Outokumpu's Board of Directors.

Community investments consist of donations to and investments in beneficiaries external to the company.

#### Local suppliers

In this report, vendors are defined as local if they are located in the same city or municipality as the Outokumpu location. Significant locations for suppliers are production units that have a melt shop, ie. Avesta, Sweden; Calvert, the US; Sheffield, the UK and Tornio, Finland.

### Environmental responsibility

Outokumpu's climate change target is based on science and approved by the Science Based Target initiative. The target includes $CO_2$ intensity of direct and indirect emissions of electricity and upstream emissions. Emissions are consolidated on production control.

$CO_2$ emissions of electricity are calculated and monitored by the emissions factor of Outokumpu's electricity mix of 239 kg $CO_2$/MWh (2017: 254 kg $CO_2$/MWh, restated with emission from site in San Louis Potosi, Mexico), given by the electricity supplier for the used electricity and calculated as weighted average. Where supplier does not communicate on customers delivery published e-factors are taken. In addition, the location-based electricity emissions are disclosed. They are calculated by the published country-specific emissions factors of the electricity generation of 2016 or 2015.

$CO_2$ emissions outside the company (scope 3), except electricity, are covered by more than 96%. They are calculated as follows:

- For alloys: by emissions factors of the life-cycle assessment of relevant association.
- For used gases, lime and dolomite, electrodes and coke: by emissions factors of ISO 14404.
- For upstream emissions of coke and oil: by emissions factors of World Steel Association.

- For internal and product transport: by typical distances and type of transport with the corresponding emissions factors. The coverage of reporting includes all modes of transport. In 2018, internal concentrate transportation is included and restated back to the baseline period 2014–2016.
- For business travel: by estimated driven kilometers with emissions factors for the car, and for flights by $CO_2$ reports of the flight companies. Rental car emissions are included by the rental car company report.

Upstream transport was assessed on data of environmental product declaration of 2014 but excluded from scope 3 emissions.

The recycled content is calculated as the sum of all recycled steel and metals from own waste streams entering the melt shop compared to stainless steel production.

Energy efficiency is defined as the sum of specific primary and electricity energy of all processes calculated as energy consumption compared to the product output of that process. It covers all company productions: ferrochrome, melt shop, hot rolling and cold rolling processes. Used heat values and the consumption of energy are taken from supplier's invoices. Water withdrawal is measured for surface water, taken from municipal suppliers and estimated for rainwater amount.

## Social responsibility

### Health and safety figures

Health and safety figures reflect the scope of Outokumpu's operations as they were in 2018.

Safety indicators (accidents and preventive safety actions) are expressed per million hours worked (frequency). Safety indicators include Outokumpu employees, persons employed by a third party (contractor) or visitor accidents and preventive safety actions. A workplace accident is the direct result of a work-related activity and it has taken place during working hours at the workplace.

### Accident types

- Lost-time incident (LTI) is an accident that caused at least one day of sick leave (excluding the day of the injury or accident), as the World Steel Association defines it. One day of sick leave means that the injured person has not been able to return to work on their next scheduled period of working or any future working day if caused by an outcome of the original accident. Lost-day rate is defined as more than one calendar day absence from the day after the accident per million working hours.
- Restrictive work incident (RWI) does not cause the individual to be absent, but results in that person being restricted in their capabilities so that they are unable to undertake their normal duties.
- Medically treated incident (MTI) has to be treated by a medical professional (doctor or nurse).
- First-aid treated incident (FTI), where the injury did not require medical care and was treated by a person himself/herself or by first aid trained colleague.
- Total recordable incident (TRI) includes fatalities, LTIs, RWIs and MTIs, but FTIs are excluded.
- All workplace accidents include total recordable incidents (TRI) and first aid treated incidents (FTI)

### Proactive safety actions

Near-miss incidents and hazards refer to events, situations or actions that could have led to an accident, but where no injury occurred. Safety behavior observations (SBOs) are safety-based discussions between an observer and the person being observed. Other preventive safety action includes proactive measures.

### Sick-leave hours and absentee rate

Sick-leave hours reported are total sick leave hours during a reporting period. Reporting units provide data on absence due to illness, injury and occupational diseases on a monthly basis. The absentee rate (%) includes the actual absentee hours lost expressed as a percentage of total hours scheduled.

### Total personnel costs

This figure includes wages, salaries, bonuses, social costs or other personnel expenses, as well as fringe benefits paid and/or accrued during the reporting period.

### Training costs

Training costs include external training-related expenses such as participation fees. Wages, salaries and daily allowances for participants in training activities are not included, but the salaries of internal trainers are included.

### Training days per employee

The number of days spent by an employee in training when each training day is counted as lasting eight hours.

### Bonuses

A bonus is an additional payment for good performance. These figures are reported without social costs or fringe benefits.

### Personnel figures

Rates are calculated using the total employee numbers at the end of the reporting period. The calculations follow the requirements of GRI Standards. The following calculation has been applied e.g.

Hiring rate = New Hires / total number of permanent employees by year-end

Average turnover rate = (Turnover + New Hires) / (total number of permanent employees by year-end × 2)

### Days lost due to strikes

The number of days lost due to strikes is calculated by multiplying the number of Outokumpu employees who have been on strike by the number of scheduled working days lost. The day on which a strike starts is included. ■

# Independent Practitioner's Assurance Report

## To the Management of Outokumpu Oyj

We have been engaged by the Management of Outokumpu Oyj (hereinafter also the Company) to perform a limited assurance engagement on selected sustainability disclosures for the reporting period 1 January to 31 December 2018, disclosed in Outokumpu Oyj's Sustainability Review 2018 and in Outokumpu Oyj's online sustainability tool. In terms of the Company's GRI Standards reporting and GRI Standards Content Index, the scope of the assurance has covered economic, social and environmental sustainability disclosures listed within the Topic-Specific Disclosures as well as General Disclosures 102-8 and 102-41 (hereinafter Sustainability Information).

## Management's responsibility

The Management of Outokumpu Oyj is responsible for preparing the Sustainability Information in accordance with the Reporting criteria as set out in the Company's reporting instructions and the GRI Sustainability Reporting Standards of the Global Reporting Initiative. The Management of Outokumpu Oyj is also responsible for such internal control as the management determines is necessary to enable the preparation of the Sustainability Information that is free from material misstatement, whether due to fraud or error.

## Practitioner's independence and quality control

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

PricewaterhouseCoopers Oy applies International Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

## Practitioner's responsibility

Our responsibility is to express a limited assurance conclusion on the Sustainability Information based on the procedures we have performed and the evidence we have obtained. Our assurance report has been prepared in accordance with the terms of our engagement. We do not accept, or assume responsibility to anyone else, except to Outokumpu Oyj for our work, for this report, or for the conclusions that we have reached.

We conducted our limited assurance engagement in accordance with the International Standard on Assurance Engagements (ISAE) 3000 "Assurance Engagements other than Audits or Reviews of Historical Financial Information". That standard requires that we plan and perform the engagement to obtain limited assurance about whether the Sustainability Information is free from material misstatement.

In a limited assurance engagement the evidence-gathering procedures are more limited than for a reasonable assurance engagement, and therefore less assurance is obtained than in a reasonable assurance engagement. An assurance engagement involves performing procedures to obtain evidence about the amounts and other disclosures in the Sustainability Information. The procedures selected depend on the practitioner's judgement, including an assessment of the risks of material misstatement of the Sustainability Information.

Our work consisted of, amongst others, the following procedures:

- Interviewing senior management of the Company.
- Visiting the Company's Head Office as well as one site in Finland.
- Conducting two video interviews with sites in Sweden and in the United States of America.
- Interviewing employees responsible for collecting and reporting the Sustainability Information at the Group level and at the site level where our site visits and video interview were conducted.
- Assessing how Group employees apply the Company's reporting instructions and procedures.
- Testing the accuracy and completeness of the information from original documents and systems on a sample basis.
- Testing the consolidation of information and performing recalculations on a sample basis.

## Limited assurance conclusion

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that Outokumpu Oyj's Sustainability Information for the reporting period ended 31 December 2018 is not properly prepared, in all material respects, in accordance with the Reporting criteria.

When reading our assurance report, the inherent limitations to the accuracy and completeness of sustainability information should be taken into consideration.

Helsinki, 21 February 2019

PricewaterhouseCoopers Oy

Sirpa Juutinen
Partner
Sustainability &
Climate Change

Jussi Nokkala
Director
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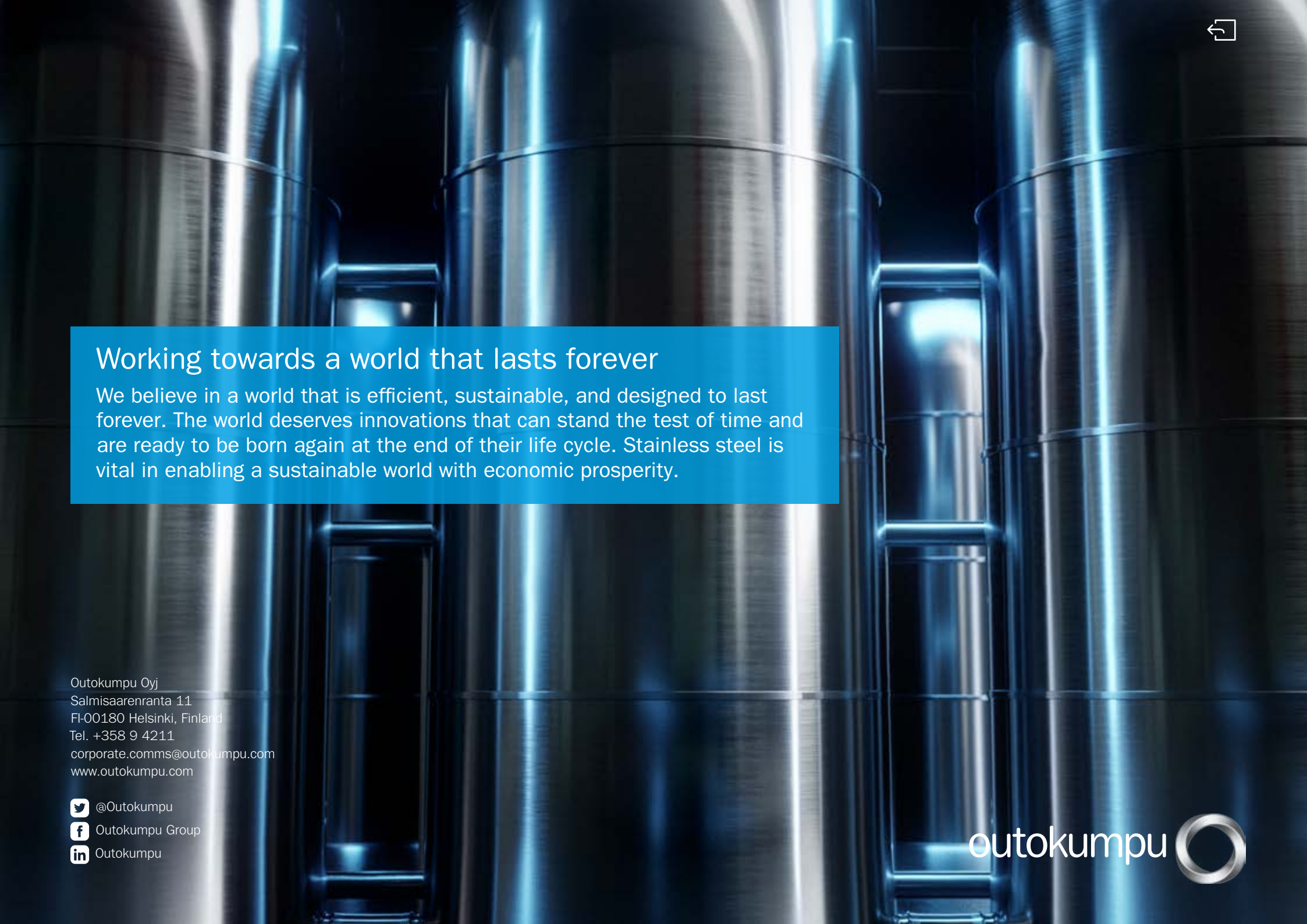

## Working towards a world that lasts forever

We believe in a world that is efficient, sustainable, and designed to last forever. The world deserves innovations that can stand the test of time and are ready to be born again at the end of their life cycle. Stainless steel is vital in enabling a sustainable world with economic prosperity.


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