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# Environmental Profile

## Landis+Gyr at a Glance

Landis+Gyr helps people, organizations and communities around the globe to "manage energy better". With worldwide demand for energy – both renewable and non-renewable – growing in complexity, Landis+Gyr is committed to providing energy utilities with smart solutions that help to successfully address this challenge while at the same time contributing to preserving natural resources by constantly seeking to reduce the environmental and social impact of all its business activities.

## **Five-year Key Figures**

	2011	2012/13	2013/14	2014/15	2015/16
Turnover in USD billion	1.6	1.7	1.5	1.5	1.6
Employees	5,210	5,313	5,527	5,755	6,036
m³ water	167,239	132,710	135,395	107,265	116,340
t waste	2,319	2,441	3,104	2,771	3,949
t chemicals	n.a.	23.2	21.0	17.4	13.6
tCO <sub>2</sub> e	35,060	33,921	34,600	34,005	32,296
Kg CO <sub>2</sub> e/USD 100 turnover	1.9	1.7	1.8	1.8	1.7
t CO2e per employee	5.7	5.4	5.1	4.8	4.3

Because of the acquisition of the Landis+Gyr Group by the Toshiba Corporation in 2011, the reporting period was changed from the calendar year to Toshiba's fiscal year, which runs from 1 April to 31 March.

#### About Landis+Gyr

Landis+Gyr is the leading global provider of integrated energy management products tailored to energy company needs and unique in its ability to deliver true end-to-end Advanced Metering solutions. Today, the Company offers the broadest portfolio of products and services in the electricity metering industry, and it is paving the way for the next generation of the Smart Grid.

With annual sales of more than USD 1.6 billion, Landis+Gyr, an independent growth platform of the Toshiba Corporation (TKY: 6502) and 40% owned by the Innovation Network Corporation of Japan (INCJ), operates in 31 countries across five continents, and employs more than 6,000 people whose sole mission is to help the world manage energy better. More information is available at www.landisgyr.com.



## The Global Industry Leader in Metering Solutions

**5.0%** Reduction in GHG emissions

**21.8%** Reduction in use of chemicals

**300+** Million Eletricity Meters installed base **120** Years in business

**26** Years of Smart Metering innovation

**6,000+** Total employees

1,200+ R&D employees

approximately \$150 Million Annual R&D spend

**1,3 Billion** Meter datasets processed daily

**64** Locations certified by relevant ISO authority

**\$ 1.6 Billion** Total sales

## **Our solution offering includes**

Energy meters and load management solutions for electricity, gas and heat



Tools for network and infrastructure management and control



Communication networks and modules



Value adding data management and data analytics software



Cloud based software and services offerings



**Tailor-made services** 

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# Committed to the Environment, to Employees and to Society



"Landis+Gyr's smart product offering contributes to a sustainable society and the protection of natural resources for the well-being of current and future generations. With its solutions, Landis+Gyr is addressing the challenges of today's changing world."

Andreas Umbach, President and CEO

Landis+Gyr's mission is to help society manage energy better. This mission is coupled with respect for the environment and society and with a commitment to continually improve environmental and social impacts, built on a foundation of ethical behavior. By offering innovative technologies and solutions for securely and efficiently managing energy infrastructure and consumption, Landis+Gyr also does its part to protect natural resources and fight climate change.

Landis+Gyr assumes its responsibility as a corporate citizen and continues to undertake major efforts to meet the highest standards in environmental awareness as well as business ethics in all of its corporate activities and along the entire value chain for the Company's products and services. The entire staff is working extremely hard to preserve limited resources and promote the sustainable use of energy, thereby contributing to the collective welfare both today and in the future.

## **Smart and Responsible Company**

Landis+Gyr strives to strengthen the breadth and reach of its group-wide sustainability management systems on an ongoing basis. In 2007, Landis+Gyr started measuring its carbon footprint and it has gradually expanded the monitoring of its environmental impact over the past several years. In parallel, the Company began introducing measures to increase the awareness of and engagement for sustainability topics among its teams. This has been achieved by direct input and focus from the employees, improving the work environment, minimizing risks and investing in education, training, health and safety. Landis+Gyr is currently encouraging all local sites to further expand engagement with local communities. The Company and its employees are increasingly engaged in a wide range of activities to promote community projects and strengthen relationships with local communities, customers, business partners, employees and other important stakeholders.

## **Managing Energy Better**

As an independent growth platform within Toshiba Corporation, Landis+Gyr's sustainability targets are fully aligned with Toshiba Corporation's policies, initiatives and visions aimed at increasing the degree of improvement in overall eco-efficiency by a factor of 10 by 2050, compared to the 2000 levels, therefore contributing to the creation of tomorrow's smart communities. Landis+Gyr is consistently improving productivity and implementing various measures to minimize the environmental impact of product, solution and service development and related manufacturing processes. More importantly, Landis+Gyr is helping to mitigate climate change on a global scale by developing state-of-the-art technologies and solutions. Smart Meters enable considerable energy efficiency gains and the integration of renewable resources into the supply network, which in turn makes it possible for utilities and end-consumers to reduce their CO<sub>2</sub> emissions considerably

#### **Energy World in Transition**

Technological, economic, social and demographic developments spurred by megatrends are having a transformative impact on the energy sector. Among them are the increasingly comprehensive digitalization of many business models and facets of life, a growing awareness of environmental impact and sustainability, the rising importance of urban areas led by the emergence of megacities, and the empowerment of consumers. The staff of Landis+Gyr, in a commitment to create an ever-evolving Company, have made many forward-looking investments and developed technologies that enable utilities and end-users to address these challenges. We are committed to providing smart solutions through our business activities and social initiatives to expedite progress.

## Addressing Today's Challenges



"Landis+Gyr will continue its untiring and extensive efforts to mitigate the Group's environmental impact throughout the entire design and production process, and to develop as well as deliver market leading, environmentally conscious technologies and products."

Hans Sonder, Vice President and Environmental Officer

In the business year 2015/16, the execution of existing programs as well as new initiatives contributed to lower the Group's environmental footprint, by further reducing greenhouse gas emissions and the use of hazardous chemical substances.

Landis+Gyr has established standards to ensure socially balanced, healthy and safe working conditions throughout the Group's operations and its supply chain. These principles set the framework for an environmentally responsible and ethical business conduct in which employees are treated with respect and dignity. The common mind-set at Landis+Gyr has been a catalyst for the impressive improvements in performance the Company has achieved over the past few years.

## Major Contribution to a Green and Sustainable Future

A significant and special milestone in 2016 was the production of the 50 millionth Smart Electricity Meter for the ANSI market. This milestone was achieved by sales of Smart Meters in North, South and Latin America, as well as in the Asia Pacific region. In total, more than 300 million Electricity Meters manufactured by Landis+Gyr have been installed to date around the globe, among them a growing share of Smart Meters equipped with advanced functionalities. Landis+Gyr's Advanced Metering portfolio complements a full range of energy management and capacity optimization solutions, which include advanced analytics, load management, energy storage and increase consumer engagement. Various studies have concluded that the estimated energy savings of Advanced Meters vary between 2-10%. Actual results depend on a utility's and end-consumer's behavior change and the actual electricity mix offered, therefore results vary by customer and country.

Landis+Gyr is the world leader in Smart Metering and combined with its other product, solutions and services portfolio, is making real contributions to the environmental responsibility.

#### **Expansion of Reporting Scope**

In addition to the environmental footprint analysis prepared since 2007, Landis+Gyr expanded its reporting scope to include additional data in 2015/16. Through its clear commitment to an ethical business conduct and social engagement, Landis+Gyr aims to actively contribute to overcoming today's challenges in the world in general and in the energy marketplace in particular.

# 50 Million Advanced Meters Milestone

Landis+Gyr completed production of the 50 millionth unit of its industry-leading Advanced Electricity Meters at its North American manufacturing plant. The advanced residential and commercial solid state meters for use in Smart Grid deployments in the US and other ANSI based markets, as well as higher function grid meters for distribution management include various functionalities such as advanced sensing, data collection and analysis.

In 2007, Landis+Gyr revolutionized Advanced Metering by introducing the E350 FOCUS AX-SD, an Advanced Electricity Meter with integrated service switch and metrology features previously found only in light commercial meters. The E350 FOCUS AX-SD went on to become one of the primary residential meters deployed in the largest Advanced Metering projects in North America, which also rank among the largest projects worldwide.







## Providing Solutions for Tomorrow's Energy Challenges

For more than a century, Landis+Gyr has helped the world manage energy better and it is now paving the way to a sustainable energy future with its innovative suite of solutions.

Key components for achieving a reduction in the environmental impact of energy production and consumption include efficiency, the so-called 'fifth fuel', maturing renewable technologies and greater consumer engagement. To realize efficiency gains and successfully integrate renewable sources, grids need to become highly flexible. This calls for dynamic bi-directional grids with virtual grid architecture.

As a global leading designer and manufacturer of Smart Metering equipment and solutions, Landis+Gyr today enables utilities and consumers to make informed decisions about energy usage, improve their energy efficiency and contribute to the sustainable use of resources. Smart Metering systems are an essential component of global efforts to upgrade energy distribution systems and master the transition towards an increasingly decentralized grid architecture. By offering the suitable hardware and software, Landis+Gyr provides utilities worldwide with the tools to address the energy challenges of today and tomorrow as well as to meet and further raise their sustainability targets by enhancing the efficiency and reliability of power distribution, intelligently managing demand response, increasing network protection and empowering a consumer base that is showing a growing interest in having greater control over its power consumption, thereby reducing carbon emissions while benefiting from lower energy costs.

## A Comprehensive Solution Anticipating Future Needs

Gridstream®, Landis+Gyr's comprehensive solution suite, progressively evolved from insights and requirements identified within the global marketplace and provides a range of flexible tools that can be tailored to meet energy utilities' unique needs. This suite of proven solutions encompasses a two-way flow of data, real-time analytics, applications, infrastructure and expertise, bringing intelligence to all levels of the utility universe. It therefore supports utilities and grows with them in adapting their business models for the future. A future that is more connected and sustainable, while ensuring that people around the world have access to clean, affordable and reliable energy. By offering flexibility, scalability, interoperability, common and open standards, reliability and security, Landis+Gyr's comprehensive Gridstream® Advanced Metering and intelligence solutions provide the tools utilities need for mastering the transition to an energy world driven by innovative technology and data as well as ecological requirements and social trends.

# Gridstream serves as a total energy management solution. Entirely flexible, the avenues to success are limitless.





## Harnessing Solar Power in Arizona, USA

With more than 300 days of sunshine per year, Arizona is among the areas with the highest potential for harnessing solar energy worldwide. Acknowledging the growing importance of solar energy, Arizona Public Service Company (APS) has selected Landis+Gyr as its partner for a comprehensive grid management project. The project includes Advanced Metering and Meter Data Management and enables integration of distributed energy resources. The grid modernization will give APS the means to further increase the amount of renewable energy in its generation portfolio, thereby paving the way to Arizona's energy future.

## Innovative Energy Storage Investigated in Finland

With the growing diffusion of renewable energy resources, the significance of energy storage is increasing. A pilot project by Helen Ltd investigates new business opportunities provided by a megawatt-scale energy storage system delivered by Landis+Gyr and Toshiba. Flexible intermediate electricity storage solutions will be studied and tested and market-based pricing and business models for stored energy developed. The facility will be part of the developing Smart Grid of the future. By addressing the technical, operational and business challenges deriving from the integration of distributed energy resources, this project will help to increase grid stability in a dynamic environment.



## Green and Fair Smart Meters for the Netherlands

Alliander, one of the biggest energy network companies in the Netherlands, together with three partner grid operators, took another step toward realizing the Smart Grid by launching a project to have Smart Meters installed in every consumer's home by the end of 2020. The Smart Meters will feature a communication port that enables consumers to monitor their energy consumption on an in-home display or, alternatively, that can be connected to a home energy management system (HEMS). In addition, a Green Deal Fair Meter contract has been signed that includes obligations on traceability and transparency regarding the components used in Landis+Gyr products as well as quality, labor conditions and recyclability requirements.



## Contributing to Energy Efficient Megacities in Asia

Tokyo Electric Power Company (TEPCO), Japan's largest electric utility, deploys Landis+Gyr's Gridstream® solution, building the world's largest utility internet of things (IoT) communications network. TEPCO aims to establish a new electricity business model in response to Japan's efforts to reform its electricity system. Landis+Gyr's smart technology supports TEPCO's efforts at better managing supply, demand and frequency by offering systems and tools for advanced distribution network monitoring and control. With 27 million meters upon completion in 2020, it will be the largest Advanced Metering deployment in the world, reporting 1.3 billion interval meter reads per day.

## **Awards**

## FROST & SULLIVAN

#### Frost & Sullivan AMI Company of the Year

Landis+Gyr has earned, for three years in a row, this award for providing a highly successful endto-end solution to utilities that helps improve the efficiency of their energy networks, reduce energy costs, and contribute to the sustainable use of resources, ultimately helping them realize the full potential of the Smart Grid.



A Wood Mackenzie Business

## **Greentech Media's Grid Edge 20**

Landis+Gyr has been recognized as one of the 20 most innovative companies that are believed to have the potential to shape the power market and thereby contribute to building the grid of the future. Its innovative products and forward-looking vision are helping utilities meet the challenges of maintaining an efficient, reliable and adaptive grid, while managing changing business models and renewable energy integration.



#### **APICS Company of the Year**

Landis+Gyr has been honored by APICS, a global professional association dedicated to promoting the principles of operations and supply chain management through research, education and professional certifications. The certification is testament to Landis+Gyr's dedication to and investment in the professional development of its teams across all levels of the organization.



SUPPLIER SUSTAINABILITY RATINGS

#### **EcoVadis Gold Recognition**

Landis+Gyr UK Ltd. has been awarded gold recognition level by EcoVadis and is among the top 5% performers evaluated. EcoVadis' CSR scorecards help companies monitor environmental, ethical, and social practices of suppliers and business partners.

# Gartner

#### Leader in 2015 Gartner Magic Quadrant

Gartner, Inc. has named Landis+Gyr as a Leader in its Magic Quadrant Report for Meter Data Management Products. Landis+Gyr's MDMS platform validates, manages and controls data from Advanced Meters and Smart Grid devices. The validated data provided by Landis+Gyr's solution is driving efficiency and energy management activities and helping utilities realize true value from their data.



## President's Award by the Royal Society for the Prevention of Accidents

Landis+Gyr UK Ltd. has been awarded the President's Award for 10 consecutive gold awards by the Royal Society for the Prevention of Accidents (RoSPA) in recognition for its commitment to continuous improvement in accident prevention and the promotion of occupational health and safety.



## Intra.NET Award 2015

Second place in the category Innovative Technology Integration was awarded to Landis+Gyr for its Global Intranet Relaunch, moving to a userfriendly and feature-rich Intranet which improves collaboration, enhances workflow, increases productivity and connects Landis+Gyr's employees at the various locations around the globe.

## Landis Gyr manage energy better

## **Global Management Awards**

Four essential company values - Customer focus, Innovative spirit, Trusted partner and Committed to quality - guide every action the Company and its employees take to develop and offer market leading products and solutions that deliver real business value to its customers and their end consumers. Therefore, Landis+Gyr once a year honors outstanding performance and achievements of its employees with an extra award in each one of those categories.



The winners of the Landis+Gyr Global Management Awards with Landis+Gyr's top leadership team at Landis+Gyr's top management conference in Berlin.



## Award for Best Overall Product developed by an Indian or Overseas Exhibitor

Landis+Gyr India has received an award for the Best Overall Product developed by an Indian or Overseas Exhibitor from the Indian Electrical & Electronics Manufacturers Association (IEEMA) at the 2016 Elecrama exhibition. Landis+Gyr's Consumer Energy Portal and AMI Pulse excel by empowering consumers to monitor and manage their energy usage and by increasing the operational efficiency of utilities.

## **Sustainability Reporting Guidelines**

Landis+Gyr is increasingly expanding its reporting on the environmental impact of its business activities and, since 2013, all sustainability-related data have been integrated and reported via Toshiba's corporate sustainability report.

#### **Reporting Period**

Landis+Gyr's sustainability report mainly focuses on the activities in financial year 2015 within the period from April 1, 2015 to March 31, 2016.

## **Data Collection**

Progress is monitored by collecting and constantly analyzing detailed information to identify further potential for improvement. A web-based software and reporting system is used for data collection, aggregation and analysis. The system is well integrated into the Landis+Gyr Group and its sites worldwide. Data collection was expanded during recent years to capture a broader range of sustainability indicators.

#### **Reporting Boundaries**

Landis+Gyr aims to cover all employees, business activities and locations worldwide in its sustainability reporting, including wholly owned subsidiaries. In 2015/16, the social reporting covers all Landis+Gyr employees. The environmental reporting covers all CO<sub>2</sub> emissions whereas data for waste and the use of chemicals exclude the group's level-3 sites, which account for negligible amounts.

Data recording activities for waste and the use of chemicals were expanded from level-1 to level-2 sites (all 26 major sites) in 2013/14. Recording of water consumption data had already been expanded to include all production levels in 2012/13.

#### **Calculating the Carbon Footprint**

In quantifying its carbon footprint, Landis+Gyr is guided by the Greenhouse Gas Protocol, which distinguishes between direct and indirect emissions and categorizes them into three broad scopes. Scope 1 includes direct emissions from sources that are owned or controlled by the Company. Scope 2 comprises indirect emissions associated with the generation of purchased electricity consumed by the Company as well as district heating and process steam. Scope 3 measures all other indirect emissions that occur as a consequence of the activities of the Company from sources not owned or controlled by the Company. The carbon footprint is calculated by converting all GHG emissions to metric tons expressed in CO<sub>2</sub> equivalents (CO<sub>2</sub>e), using appropriate GWP (Global Warming Potential) factors as published by the Intergovernmental Panel on Climate Change (IPCC).

#### **Sustainability Policies and Principles**

Landis+Gyr has implemented a Quality, Environmental, Health and Safety Policy as well as a Code of Business Conduct and Ethics. The policies include references to international standards. They include directives related to the sustainable use of resources, to the prevention of emissions and pollution by modification of design and production processes, and to the substitution, recycling and re-use of materials in order to mitigate the environmental impact of its business activities. Further, they define standards to ensure socially balanced, healthy and safe working conditions within the Group's operations and its suppliers.

# Committed to the Environment

## Water

Fresh water is one of the most valuable resources on the planet, being essential and necessary for life. Therefore, resource efficiency and conservation of water deserve utmost attention within all business activities of Landis+Gyr.

In the reporting period, Landis+Gyr undertook major efforts to reduce water withdrawals and consumption. However, more water was used than in the previous year due to higher production volumes in Melbourne and Stockport. In 2015/16, water consumption within the Landis+Gyr Group increased by 8.5 % to 116,340 m<sup>3</sup> from 107,265 m<sup>3</sup> in the prior year. While 68.4 % (2014/15: 63.1 %) of total water spending was used by level-1 sites, consumption at level-2 sites amounted to 24.6 % (2014/15: 29.1 %). Level-3 sites accounted for 7.0 % of the total amount (2014/15: 7.8 %). The amount of rain water collected and used onsite increased by 12.5 % to 16,646 m<sup>3</sup> in 2015/16 from 14,793 m<sup>3</sup> in 2014/15.

m <sup>3</sup>	2011	2012/13	2013/14	2014/15	2015/16
Total	167,239	132,710	135,395	107,265	116,340
per Region					
Americas	32,945	35,299	29,324	27,091	27,832
APAC	81,726	64,323	64,427	44,566	51,205
EMEA	52,568	33,088	41,644	35,609	37,303
per Site Level					
Level 1	107,963	86,986	89,089	67,678	79,573
Level 2	32,571	37,480	32,730	31,246	28,568
Level 3	26,705	8,244	13,576	8,342	8,199
Water used from public water supply	n.a.*	66,753	66,848	61,483	64,314
Water used from own wells	n.a.*	56,040	51,234	33,907	35,379
Rain water collected	n.a.*	9,917	13,855	14,793	16,646
Total waste water	56,447	65,043	68,949	70,635	89,397
Water reused	n.a.*	0	0	0	1,199
Water recycled	n.a.*	9,494	10,443	5,499	891

\* Data collection since 2012/13



## Sewage Treatment in Curitiba, Brazil

Landis+Gyr decided to reduce total waterconsumptionatitssiteinCuritiba, Brazil. To achieve that, a sewage treatment station was installed onsite. Most of the sewage is generated by the site's restaurant and sanitary sewer system and it is treated with the help of specific microorganisms and mechanical agitation. In a first step, biodegradable organic matter is removed from sewage and is sent to a composting site together with other organic waste from the restaurant and the garden. In a second step, the liquid sewage is separated from the solid sewage by settling in an aeration tank. Thanks to the highly effective treatment process, the treated waste water is of such a high quality that it can be reused for irrigation and cleaning purposes.

The benefits of the sewage treatment are manifold. Higher operating costs are outweighed by water savings amounting to 6% of overall water consumption at the site. At the same time, composting reduces both the total amount of waste generated and the emissions related to the transport of waste and landfill. Further, humus is generated that is used in the site's garden.

## Waste

Around the globe, the environmental impact of waste is becoming increasingly problematic. Growing volumes of waste are driven by various factors, including population growth, socioeconomic developments and rising prosperity. To curb the harmful effects of waste, Landis+Gyr aims to achieve constant operational improvements that reduce and prevent waste, for example through design and in-process modifications, the re-use of materials and recycling.

Landis+Gyr's waste management operations also include the final treatment and disposal of waste at landfills and incineration facilities. Nonetheless, the total produced waste in 2015/16 increased by 42.5% to 3,949 metric tons from 2,771 metric tons in the prior year. 78.9% of total waste came from level-1 (2014/15: 69.9%) and 21.1% from level-2 sites (2014/15: 30.1%). The significant volume increase is primarily due to non-operational one time activities including construction at Stockport, transfer of assets from Zug to Corinth and a change of measurement metrics in Reynosa. However, Landis+Gyr managed to further reduce landfill totals in 2015/16 by nearly doubling the amount of recycled materials compared to the previous year.

t	2011*	2012/13**	2013/14	2014/15	2015/16
Total	2,319*	2,441	3,104	2,771	3,949
per Region					
Americas	1,216	1,195	1,571	902	1,855
APAC	213	104	254	211	290
EMEA	890	1,142	1,279	1,658	1,804
per Site Level					
Level 1	1,811	2,441	2,409	1,936	3,118
Level 2	474	n.a.	695	835	831
Sold	n.a.	1,122	694	961	1412
Incinerated	n.a.	1	203	179***	193***
Landfill	n.a.	612	544	654***	490***
Recycled	n.a.	706	1,663	991	1864

\* Mixed site levels

\*\* Level 1 sites only

\*\*\* Approx. 5% landfill ash added



### Managing Waste Better at Landis+Gyr in Australia

At its Australian sites, Landis+Gyr is pursuing a number of initiatives designed to significantly reduce the amount of waste created and harmful materials used in production, thus enhancing health and safety, protecting staff and customers, and mitigating its impact on the environment.

Landis+Gyr has introduced a new waste management solution with three energy-efficient waste compactors at its core. The benefits of the solution are manifold - the amount of general waste Landis+Gyr is depositing in landfills has been nearly halved during the last four years and this has also had a positive impact on the related disposal costs. Further, considerable amounts of precious resources were saved and recycled thanks to the new waste management solution, namely 5100kg of paper and cardboard, 480kg of plastic, 5620kg of timber, 1176kg of metal and 12m<sup>3</sup> of e-waste.

## **Chemicals**

Chemicals play an essential role in everyday life, but they can also be harmful to nature and human health if not properly handled. Therefore, the sound management of chemicals throughout the entire value chain and the entire lifecycle of Landis+Gyr's products and services is essential to avoid significant and increasingly complex risks to human health.

As part of its corporate social responsibility, Landis+Gyr aims to progressively reduce and avoid the use of harmful materials. In 2015/16, the total use of chemicals decreased by 21.9% to 13.6 metric tons from 17.4 metric tons in the prior year. Level-1 sites accounted for most of the chemicals impact, whereas use of chemicals at level-2 and level-3 sites was negligible. Since 2012/13, the use of chemicals has decreased by 9.6 metric tons, which is equivalent to a reduction of 41.2%.

t	2011*	2012/13	2013/14	2014/15	2015/16
Total	n.a.	23.2	21.0	17.4	13.6
per Region					
A					
Americas	n.a.	8.3	6.8		6.8
APAC	n.a.	0.5	1.1	0.9	0.8
EMEA	n.a.	14.4	13.1	7.1	6.0
per Site Level					
Level 1	n.a.	23.2	20.9	17.3	13.5
Level 2	n.a.	n.a.	0.1	0.1	0.1

\* Data collection since 2012/13



## Removal of Dichloromethane from E110 Meter

The E110 single phase BS standard credit meter is a low-cost, compact and lightweight electronic kilowatt-hour meter, designed to meet a utility's basic single-phase metering needs. The meter used to be sealed for life by a chemical welding process using dichloromethane (DCM), a substance banned under Toshiba's guidelines, and therefore didn't carry an external wire seal.

To remove the DCM while maintaining highest sealing standards in the E110 meter, Landis+Gyr's R&D specialists in Stockport, UK, tested different mechanical fastening systems, including seal screws, tamperproof screws, clips and heat stakes. Ultimately, the DCM was successfully replaced by a mechanical solution.

## **Carbon Footprint**

Energy generation and consumption account for two-thirds of overall global greenhouse gas (GHG) emissions. Mitigation of climate change effects by limiting global warming is part of the agreement reached in 2015 in Paris. Landis+Gyr's greatest contribution to the reduction of GHG emissions is through its smart and energy efficiency-improving products and solutions. Additionally, with the support of all its employees, Landis+Gyr is continuing to working hard reducing the carbon footprint of its own operations.

Total CO<sub>2</sub> emissions within the Landis+Gyr Group amounted to 32,296 metric tons CO<sub>2</sub>e in 2015/16, down by 5.0% compared to 34,005 metric tons CO<sub>2</sub>e in 2014/15. The decrease in overall emissions can mainly be attributed to Scope 1 (direct emissions, down by 26.9% to 3,516 metric tons CO<sub>2</sub>e accounting for 10.9% of total) and was mainly related to reduced gasoline consumption in company vehicles. Scope 2 (indirect emissions associated with the generation of purchased electricity or district heating) decreased by 1.3% to 22,470 metric tons CO<sub>2</sub>e or 69.6% of the total. The improvement is attributed to reductions in electricity and district heating consumption in Asia Pacific, North and South America. Business air travel, as part of Scope 3 (indirect emissions from sources neither owned nor controlled by the Company), contributed 6,311 metric tons CO<sub>2</sub>e, down by 1.7% while amounting to 20.0% of Landis+Gyr's total carbon footprint.

t CO₂e	2011	2012/13	2013/14	2014/15	2015/16
Total	35,060	33,921	34,623	34,005	32,296
•••••••••••••••••••••••••••••••••••••••	••••••	•••••••••••••••••••••••••••••••••••••••	· · · · · · · · · · · · · · · · · · ·	•••••••••••••••••	
per Region					
Americas	16,446	15,442	15,153	15,456	14,113
APAC	7,629	7,161	7,143	7,263	6,659
EMEA	10,985	11,318	12,328	11,286	11,524
		•••••••••••••••••••••••••••••••••••••••	·····	••••••	
per Scope	••••••••••••••••	•••••••••••••••••••••••••••••••••••••••			
Scope 1	5,690	5,585	5,911	4,809	3,516
Scope 2	24,133	22,869	22,487	22,774	22,470
Scope 3	5,237	5,467	6,225	6,421	6,311
per Economic Intensity		· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	
kg CO <sub>2</sub> e per product	1.8	1.6	1.6	1.5	1.5
$t CO_2 e per employee$	5.7	5.4	5.1	4.8	4.3
t CO <sub>2</sub> e per 10m <sup>2</sup> floor area	1.6	1.5	1.5	1.4	1.4
kg CO <sub>2</sub> e per USD 100 turnover	1.9	1.7	1.8	1.8	1.7



## Reducing Emissions with Intelligent Linky Meter Packaging

Landis+Gyr's Montluçon, France, operation has taken many innovative approaches to achieve reductions in material usage within Linky meter design. Honey comb patterns have been used to reduce material usage while still maintaining the structural rigidity of the meter. The next question was what else could be done to achieve further reductions.

One aspect of the design that Landis+Gyr's mechanical team addressed was part and product stacking with the objective of achieving savings with respect to packaging and transportation. The plastic parts for packaging the Linky meters are produced in France and transported by truck some 160 km to the factory in Montluçon. The idea consisted in reducing the carbon footprint associated with producing and transporting the molded parts. By optimizing part geometry so that the parts could be stacked together, the overall volume being transported could be minimized, allowing more parts to be transported per cubic meter of packaging, which means fewer journeys to transport the same number of parts. Overall, the modification helped reduce transport related emissions significantly.

# Committed to its Employees

## **Committed to its Employees**

Landis+Gyr's employees are the key to the Company's success. Their expertise, capabilities and engagement lay the foundation for future success. That's why Landis+Gyr's strives to offer its employees an attractive working environment while ensuring occupational health and safety.

Landis+Gyr's long-term plan for remaining competitive is to attract and retain the brightest and most motivated talent worldwide, and who also bring a strong sense of commitment and passion to work. At the same time, Landis+Gyr aims to ensure that employees can perform their roles, are adequately trained, are offered the opportunity to expand their competencies and realize their potential and that compensation is linked to performance.

### **Value of Diversity**

It is the Company's policy to ensure equal employment opportunities without discrimination. With employees from various nationalities at more than 70 different locations worldwide, Landis+Gyr has long acknowledged the benefits of having a diverse workforce and it remains committed to improving its performance on diversity and inclusion.

#### **Safeguarding Health and Safety**

Landis+Gyr has established standards to ensure socially balanced, healthy and safe working conditions within the Group's operations. These principles set the framework for an environmentally responsible and ethical business conduct in which workers are treated with respect and dignity.

## **Education and Training**

Landis+Gyr encourages all its employees to develop their competencies and qualifications. In 2015/16, Landis+Gyr has made substantial investments in promoting education to extend the knowledge and capabilities of its employees regarding leadership, compliance, sustainability or operational health and safety.

Employees	2011	2012/13	2013/14	2014/15	2015/16
Total	5,210	5,313	5,527	5,755	6,036
•••••••••••••••••••••••••••••••••••••••					
per Region					
Americas	2,045	2,085	2,092	2,141	2,158
APAC	1,188	1,182	1,228	1,342	1,323
EMEA	1,977	2,046	2,207	2,272	2,555
per Function					
Operations	3,078	3,073	3,309	3,417	3,603
R&D incl. Product Management	953	1,034	1,135	1,200	1,244
SG&A	1,179	1,206	1,083	1,138	1,189



#### Bike to work in Zug, Switzerland

Landis+Gyr's employees working at the Company's headquarters in Zug, Switzerland, were encouraged to participate in the "bike to work" program, a nationwide employee motivation program mainly dedicated to the promotion of health through increased physical activity. At the same time the program has positive effects on health awareness, improves team spirit and reduces carbon footprint and traffic congestion.

During the period from the beginning of May to the end of June, 40 Landis+Gyr employees participated in the program by using their bike for a substantial part of their way to work on at least half of their working days – and braved some difficult weather conditions with frequent rain. The total distance covered by bike by Landis+Gyr's participants amounts to 10,108 km and on average they used their bike on 92% of the possible days, thereby actively contributing to their physical well-being and protecting the environment by saving 2.9 tons in  $CO_2$  emissions.



## **Committed to Society**

Every day, more than 6,000 employees of Landis+Gyr develop and provide innovative products and solutions for customers so they can manage energy better. By doing so, they are contributing to a more sustainable world for themselves and the communities they live in.

Landis+Gyr is committed to providing its customers with highest quality products and services. It constantly strives to develop state-of-the-art products that make everyone's lives better through more efficient use of energy. It does this while working in harmony with the environment and at the same time making sure that all activities strictly adhere to all applicable health and safety regulations.

### **Supplier Assessment**

By closely cooperating with its suppliers Landis+Gyr ensures that they comply with and provide evidence of their compliance with Landis+Gyr's Quality, Environmental, Health and Safety Policy and Code of Business Conduct and Ethics using agreed policies and procedures, which include declarations of compliance, self-assessment and third-party assessment and auditing. In addition to ISO 14001 certification at all its key suppliers, Landis+Gyr requires its tier one suppliers to acknowledge and implement the EICC (Electronics Industry Citizenship Coalition) Code of Conduct.

#### **Full Respect of Local and International Legislation**

Landis+Gyr is committed to conducting its business in accordance with the highest standards of business conduct and ethics and in full compliance with all applicable laws and regulations of the countries in which it operates. Therefore, Landis+Gyr has implemented a strong set of internal and external control measures for ensuring good governance and appropriate courses of action.

## **Code of Business Conduct and Ethics**

The Company's stringent integrity standards subsumed under the Company's Code of Business Conduct and Ethics stipulate zero tolerance of corruption and prohibit violations of the principles of fair competition and human rights. The Code also reflects the guidance and regulations of Toshiba's Standards of Conduct.



## Support of Smart Cities Initiative Envision America

Landis+Gyr is supporting Envision America, a new nationwide nonprofit, in its efforts to coordinate and accelerate deployment of innovative technologies for energy, water, waste and air challenges. As part of its engagement, Landis+Gyr was represented at the Smart Cities Forum hosted at the White House.

The White House Smart Cities Forum brought together representatives from government, academia and industry to diagnose needs and discuss how technology could be applied to a number of issues cities face, including congestion, crime, service delivery and sustainability, and to accelerate the development of Smart Cities.

Envision America selected 10 participating cities in the US that will leverage technology collaborators and businesses to address the challenges of climate change and improve city services. In 2016, the selection included Cambridge, MA; Dallas, TX; Greenville, SC; Los Angeles, CA; Milwaukee, WI; New York City, NY: Pittsburgh, PA; Portland, OR; San Diego, CA and Spokane, WA.

## **Compliance Organization**

At Landis+Gyr, compliance is firmly anchored at all regional and organizational levels. The Company therefore has installed Regional Compliance Officers who ensure the compliance program is implemented at operating level and directly report to Landis+Gyr's Chief Compliance Officer. The Chief Compliance Officer is responsible for assessing compliance risk to proactively identify and mitigate risk exposure, assures that compliance policies and training materials are up to date and handles all compliance topics. The Compliance Officer reports directly to the Audit and Risk Committee of the Board of Directors.

## **Anti-Bribery Policy**

Landis+Gyr works against bribery and corruption in all its forms and does not tolerate any of these practices in any of its business dealings, whether with public officials or private sector business partners. Employees must not offer, give or receive any type of bribe, kickback or payoff either directly, through personal involvement, or indirectly, through a third party such as an agent or consultant acting on their behalf. The Company has implemented a third-party due diligence process for all its associated parties and offers specialist training to all employees who deal directly with customers.

## **Whistleblower Policy**

Landis+Gyr fosters a speak-up culture. Therefore, the Company has installed multiple reporting channels for reporting suspected violations. In addition to a 24-hour hotline and online reporting tools, the Company ensures all employees can seek assistance from their Compliance Officer whenever needed. Landis+Gyr makes sure any information reported will be treated confidentially and does not condone any kind of retaliation for reports or complaints made in good faith regarding misconduct.

## **Partner of Local Communities**

In its role as a corporate citizen, Landis+Gyr engages in a wide range of social activities and aims to contribute to resolving issues in the local communities where it operates. In 2015/16 Landis+Gyr and its staff again contributed to community projects and charities worldwide with donations and by volunteering.



## Celebrating Earth Day in Stockport, UK

Landis+Gyr aims at advancing the sustainable development of the communities in which it operates. In Stockport, UK, Landis+Gyr initiated an event with local St. Joseph's Primary School to launch a garden in celebration of Earth Day 2016 on April 22, 2016.

Landis+Gyr volunteers engaged in supporting on-site construction of planter boxes made from recycled wooden pallets that were destined for landfill and setting up the boxes at the school.

The event included a presentation from Landis+Gyr to the pupils about Earth Day, followed by the inauguration of the garden during which the pupils planted vegetable and flower seeds. By taking care of plants, the green garden offers the pupils the opportunity to create awareness for and promote their education on environmental topics, especially on the importance of conservation of plant and insect biodiversity and use of recycled materials.



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## Americas

Regional HQ Alpharetta (USA)	v 🖒 Ø
Centers of Competence Alpharetta (USA) Bloomington (USA) Lafayette (USA) Pequot Lakes (USA) San Antonio (USA)	- 00 - 00 - 00 - 00 - 00
Center of Manufacturing Reynosa (MEX)	v 🖒 Ø
Sales Offices & Service Cent Austin (USA) Colorado Springs (USA) Indianapolis (USA) King of Prussia (USA) Lenexa (USA) Milwaukee (USA) Montréal (CAN) Morrisville (USA) New Haven (USA) Pittsburgh (USA) Roseville (USA) Seattle (USA) St. Louis (USA) Waukesha (USA)	ters
<b>Subregional HQ</b> Curitiba (BRA)	v 🖒 Ø
Center of Competence & Manufacturing Curitiba (BRA)	<ul><li>✓ <sup>(1)</sup> Ø</li></ul>
Sales Offices & Service Centers Belem (BRA) Curitiba (BRA) Rio de Janeiro (BRA) São Paulo (BRA) São João de Meriti (BRA)	¥ () Ø

## EMEA

Regional HQ
Zug (SUI)
Centers of Competence &
Manufacturing
Corinth (GRE)
Holte (DAN)
Johannesburg (RSA)
Jyskä (FIN)
Manchester (GBR)
Montluçon (FRA)
Northfields (GBR)
Nuremberg (GER)
Prague (CZE)
Stockport (GBR)
Zug (SUI)
Sales Offices
Austria
Belgium
Czech Republic
Denmark
Finland
France
Germany
Greece
Italy
Netherlands
Poland
Russia
Slovakia
Slovenia
South Africa
Spain
Sweden
Switzerland
United Arab Emirates
United Kingdom

## APAC

Regional HQ	
Sydney (AUS)	V 🖒 Ø
Centers of Competence	
Melbourne (AUS)	🗸 🖒 Ø
Noida (IND)	V 🖒 Ø
Sydney (AUS)	V 🖒 Ø
Tokyo (JAP)	V 🖒 Ø
Zhuhai (CHN)	v 🖒 Ø
Centers of Manufacturing	
Baddi (IND)	V 🖒 Ø
Joka (IND)	V 🖒 Ø
Melbourne (AUS)	V 🖒 Ø
Zhuhai (CHN)	V 🖒 Ø
Sales Offices	
Australia	🗸 🖒
China	🗸 🖒
Hong Kong	×
India	<ul> <li>✓ <sup>(1)</sup></li> </ul>
New Zealand	<ul> <li>✓ <sup>(1)</sup></li> </ul>
Singapore	

- ✓ ISO 9001 (Quality Management)
- ISO 14001 (Environmental Management)
- 🖒 OHSAS 18001 (Operational Health and Safety)



## Appendix

## Table 1: Global Energy Consumption ofLandis+Gyr Group in 2015/16

		L+G	Americas	APAC	EMEA
Energy Consumption				· · · · · · · · · · · · · · · · · · ·	
Electricity (national grid mix) - daytime	[MWh]	26,454	12,670	4,055	9,729
Electricity (national grid mix) - nighttime	[MWh]	1,131	0	0	1,131
Electricity (renewable sources)	[MWh]	1,123	0	165	958
Electricity by on-site power generator	[MWh]	95	0	95	0
Steam (district heating)	[MWh]	2,882	0	0	2,882
Heavy fuel oil	[MWh]	0	0	0	0
Light fuel oil	[MWh]	72	0	0	72
Gasoline: not for vehicle	[MWh]	0	0	0	0
Emergency power diesel	[MWh]	449	0	386	25
Town gas (natural gas)	[MWh]	4,441	2,124	722	1,595
LPG (50/50)	[MWh]	0	0	0	0
LPG (70/30)	[MWh]	1	1	0	0
Process Emissions					
CO	[ka]				
	[kg]	1 654			1 654
	[kg]	1,034			1,034
	[kg]		0	0	0
	[kg]	0	0	0	0
9E	[kg]	0	0	0 	0
SF <sub>6</sub>	[Kġ]				
Business Travel (own fleet)					
Gasoline consumption	[m³]	564	516	4	43
Diesel consumption	[m³]	253	15	0	238
CNG consumption	[m³]	0	0	0	0
Alcohol consumption	[m³]	0	0	0	0
Gasoline [< 1.4 I]	[km]	168,675	0	83,400	85,275
Gasoline [1.4 - 2.0 l]	[km]	116,567	0	37,200	79,367
Gasoline [> 2.0 l]	[km]	27,372	0	27,372	0
Diesel [1.4 - 2.0 I]	[km]	914,306	0	10,800	903,506
Diesel [> 2.0 I]	[km]	133,122	0	60,000	73,122
Truck Diesel [7.5 t]	[km]	0	0	0	0
Business Travel (other)					
Airplane (short haul)	 [pkm]	4.832.070	1.635.198	1.585.685	1.611.187

 Airplane (long haul)
 [pkm]
 46,487,173
 23,825,441
 9,639,829
 13,021,903

## Table 2: Total Group Emissions, by Scope and Source, 2011 – 2015/16 [t $CO_2e$ ]

The table illustrates the contribution of individual energy sources to the global carbon footprint:

Electricity and district heating is the major contributor, accounting for 70% of the company's total emissions. On-site consumption of natural gas and other fuels accounts for an only minor part of overall GHG emissions.

	2011	2012/13	2013/14	2014/15	2015/16	
Scope 1	·····			· · · · · · · · · · · · · · · · · · ·		Δ
Heavy fuel oil	33	42	41	21	0	
Light fuel oil	56	26	22	26	19	
Emergency power diesel	729	685	1,222	409	341	
Natural gas	957	941	995	987	903	
LPG (50/50)	37	0	0	0	0	
LPG (70/30)	41	43	43	36	0	
Process emissions	182	52	37	38	41	
Gasoline consumption	2,544	3,035	2,580	2,275	1,325	
Diesel consumption	511	489	503	607	676	
Gasoline: Not for vehicle	0	0	6	24	0	
Gasoline [< 1.4 I]	1	6	5	34	25	
Gasoline [1.4 - 2.0 I]	240	58	72	65	22	
Gasoline [> 2.0 I]	131	85	76	53	7	
Diesel [1.4 - 2.0 l]	176	78	232	223	130	
Diesel [> 2.0 l]	45	46	49	11	26	
CNG [1.4 - 2.0 I]	6	0	5	0	0	
CNG [< 1.4 l]	0	0	22	0	0	
Truck Diesel [7.5 t]	0	0	0	0	0	
Total [t CO2e]	5,690	5,585	5,911	4,809	3,516	-26.9%
Scope 2	·····			· · · · · · · · · · · · · · · · · · ·		Δ
Electricity	23,387	22,018	21,659	21,956	21,636	
District heating	746	851	849	818	833	
Total [t CO <sub>2</sub> e]	24,133	22,869	22,508	22,774	22,470	-1.3%
Scope 3		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·			Δ
Airplane (short haul)	705	935	847	842	952	
Airplane (long haul)	4,532	4,532	5,379	5,579	5,358	
Total [t CO <sub>2</sub> e]	5,237	5,467	6,225	6,421	6,311	-1.7%
by Source						Δ
Electricity / District heating	24,133	22,869	22,508	22,774	22,470	
Fuels (diesel oil)	818	752	1,286	479	360	
Fuels (natural gas, LPG)	1,036	984	1,044	1,023	904	
Direct process emissions	182	52	37	38	41	
Road travel	3,654	3,797	3,545	3,270	2,211	••••••
Air travel	5,237	5,467	6,225	6,421	6,311	
Total [t CO,e]	35,060	33,921	34,644	34,005	32,296	-5.0%
· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	·····	· · · · · · · · · · · · · · · · · · ·	

# Table 3: Carbon Footprint by Region, 2011 - 2015/16 [t CO<sub>2</sub>e]

	2011	2012/13	2013/14	2014/15	2015/16
Americas					
Scope 1	3,196	3,060	2,813	2,454	1,714
Scope 2	10,726	9,962	9,254	9,701	9,330
Scope 3	2,525	2,421	3,086	3,301	3,068
Total	16,446	15,442	15,153	15,456	14,113
APAC					
Scope 1	970	866	707	630	489
Scope 2	5,423	4,719	5,000	5,012	4,746
Scope 3	1,236	1,576	1,435	1,622	1,424
Total	7,629	7,161	7,143	7,263	6,659
EMEA					
Scope 1	1,524	1,659	2,391	1,725	1,312
Scope 2	7,985	8,189	8,253	8,062	8,394
Scope 3	1,477	1,470	1,704	1,498	1,818
Total	10,985	11,318	12,349	11,286	11,524
L+G Total	35,060	33,921	34,644	34,005	32,296
Percentage at Regional Level					
Americas	46.9%	45.5%	43.7%	45.4%	43.7%
APAC	21.8%	21.1%	20.6%	21.4%	20.6%
EMEA	31.3%	33.4%	35.7%	33.2%	35.7%
	••••••	••••••	••••••	••••••	

## Table 4: Water Consumption by Region,2011 – 2015/16 [m³]

	2011	2012/13	2013/14	2014/15	2015/16
Americas					
Water consumption from public water supply system	28,831	34,060	24,091	23,710	20,835
Water from own wells (groundwater)	1,164	1,115	852	795	752
Water other (e.g. rain water)	2,951	124	2,558	2,585	6,245
Total waste water	17,567	18,084	15,765	15,923	15,032
Direct drain to public waters or ground	4,412	1,884	5,665	4,305	2,358
Water, to public sewage system (drain discharge)	13,155	16,200	10,100	11,618	12,674
Amount of water reused	0	0	0	0	1,199
Amount of water recycled	0	0	0	0	0
Total	32,946	35,299	29,324	27,091	27,832
APAC					
Water consumption from public water supply system	14,081	9,398	12,410	11,454	16,578
Water from own wells (groundwater)	67,645	54,925	50,382	33,112	34,627
Water other (e.g. rain water)	0	0	0	0	0
Total waste water	11,762	21,137	24,512	27,376	39,974
Direct drain to public waters or ground	416	0	0	0	0
Water, to public sewage system (drain discharge)	11,347	21,137	24,512	27,376	39,974
Amount of water reused	0	0	0	0	0
Amount of water recycled	0	9,494	10,443	5,499	891
Total	81,726	64,323	64,427	44,566	51,205
EMEA					
Water consumption from public water supply system	42,758	23,295	30,347	26,319	26,902
Water from own wells (groundwater)	0	0	0	0	0
Water other (e.g. rain water)	9,810	9,793	11,297	9,290	10,401
Total waste water	27,128	25,822	28,672	27,336	34,392
Direct drain to public waters or ground	20,198	15,820	13,715	9,895	10,486
Water, to public sewage system (drain discharge)	6,930	10,002	14,957	17,441	23,906
Amount of water reused	0	0	0	0	0
Amount of water recycled	0	0	0	0	0
Total	<b>52,568</b>	33,088	41,644	35,609	37,303

## Table 5: Waste Generation by Region, 2013/14 – 2015/16 [kg]

	2013/14	2014/15	2015/16
Americas			
Wood scrap	75,576	121,376	71,774
General waste	174,434	120,113	93,619
Metal scrap	28,174	14,978	67,849
Paper (recycled)	117,441	140,170	123,890
Plastic waste	37,552	54,835	49,458
Food leftover	97,666	64,206	88,874
Electrical and electronic waste	2,569	8,035	12,830
Sludge	0	0	0
Hazardous waste	6,465	8,056	10,052
Other waste	0	0	15,000
Debris	4,000	4,000	112,320
Oil waste	1,545	4,935	6,215
Textile waste	235	0	0
Alkali waste	0	0	0
Glass and ceramic waste	47	430	530
Acid waste	0	0	0
Medical waste	89	64	50
Mining waste	0	0	0
Cinder	0	0	0
Rubber waste	0	0	0
Soot & dust	0	0	0
Total	545,793	541,198	652,460

## Table 5: Waste Generation by Region, 2013/14 – 2015/16 [kg]

	2013/14	2014/15	2015/16
APAC			
Wood scrap	70,115	218,465	320,318
General waste	432,177	529,090	386,312
Metal scrap	411,894	500,433	458,980
Paper (recycled)	237,533	294,663	459,249
Plastic waste	92,636	88,135	104,907
Food leftover	5,522	4,280	4,860
Electrical and electronic waste	16,119	5,192	49,208
Sludge	3,615	8,844	0
Hazardous waste	2,195	4,745	11,581
Other waste	4,490	0	0
Debris	0	0	0
Oil waste	1,245	2,565	620
Textile waste	0	0	0
Alkali waste	720	0	0
Glass and ceramic waste	317	200	7,195
Acid waste	320	0	0
Medical waste	0	82	0
Mining waste	0	0	0
Cinder	0	0	0
Rubber waste	0	1,082	1,391
Soot & dust	0	0	0
Total	1,278,898	1,657,776	1,804,620

## Table 5: Waste Generation by Region, 2013/14 – 2015/16 [kg]

	2013/14	2014/15	2015/16
EMEA			
Wood scrap	901,091	1,602	471,515
General waste	164,888	201,021	227,174
Metal scrap	8,780	51,797	28,138
Paper (recycled)	34,632	156,775	487,665
Plastic waste	42,012	53,304	96,224
Food leftover	2,150	2,700	3,050
Electrical and electronic waste	79,983	46,909	105,179
Sludge	41,237	54,431	69,794
Hazardous waste	3,543	2,111	2,118
Other waste	0	0	0
Debris	0	0	0
Oil waste	25	116	0
Textile waste	1,008	930	1,413
Alkali waste	0	0	0
Glass and ceramic waste	0	0	0
Acid waste	0	0	0
Medical waste	113	82	78
Mining waste	0	0	0
Cinder	0	0	0
Rubber waste	0	0	0
Soot & dust	0	0	0
Total	1,279,461	571,777	1,492,348

# Table 6: Chemicals Handled by Region, 2013/14 – 2015/16 [kg]

	2013/14	2014/15	2015/16
Americas			
Ethyl acrylate	0	0	0
Acrylic acid 2-hydroxyethyl	0	0	0
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	0	0	0
Ethylbenzene	0	0	0
Xylene	0	0	0
Silver and its water-soluble compounds	0	0	0
1,2-Dichloroethane	0	0	0
Dichloromethane (methylene chloride)	2,121.6	2,386.2	2,919.0
Tetrachloroethylene	0	0	0
Tetrahydromethylphthalic anhydride	0	0	0
Toluene	0	0	0.1
Bis (2-ethylhexyl) phthalate	0	0	0
n-Hexane	0	0	0
Manganese and its compounds	3.6	3.6	3.6
Acetone	6.8	5.4	5.8
Isobutane	0	0	0
Isobutyl alcohol	0	0	0
Isopropanol	58.7	2,035.5	3,170.2
Ethyl alcohol	64.6	42.7	78.2
Ethylene glycol	12.0	12.0	12.1
N-methyl-2-pyrrolidone	0	0	0.1
Hydrogen chloride	0	0	0
Chlorine	267.2	434.6	675.9
Paraffinic hydro-carbon	0	3.6	3.6
Cyclohexane	0	0	0
n-Butane	4,245.0	4,511.0	0.1
Propylene glycol monomethyl ether	0	0	0
Methyl alcohol	0	0	0.1
Methyl ethyl ketone	0	0	0
Sulfuric acid	0	0	0
Total	6,779.5	9,434.5	6,869.0

# Table 6: Chemicals Handled by Region, 2013/14 – 2015/16 [kg]

	2013/14	2014/15	2015/16
APAC			
Ethyl acrylate	0	0	0
Acrylic acid 2-hydroxyethyl	0	0	0
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	0	0	0
Ethylbenzene	0	0	27.8
Xylene	142.5	142.4	150.0
Silver and its water-soluble compounds	0	0	0
1,2-Dichloroethane	0	0	0
Dichloromethane (methylene chloride)	815.1	583.1	247.1
Tetrachloroethylene	0	0	0
Tetrahydromethylphthalic anhydride	0	0	0
Toluene	93.6	92.1	93.0
Bis (2-ethylhexyl) phthalate	0	0	0
n-Hexane	12.6	24.0	71.5
Manganese and its compounds	0	0	0
Acetone	6.8	12.2	4.5
Isobutane	0	0	0
Isobutyl alcohol	0	0	0
Isopropanol	0	0	0
Ethyl alcohol	48.9	46.0	40.0
Ethylene glycol	0	0	0
N-methyl-2-pyrrolidone	0	0	0
Hydrogen chloride	0	0	0
Chlorine	0	0	0
Paraffinic hydro-carbon	0	0	0
Cyclohexane	0	0	0
n-Butane	0	0	0
Propylene glycol monomethyl ether	0	0	0
Methyl alcohol	0	0	0
Methyl ethyl ketone	0	0	18.7
Sulfuric acid	33.7	35.2	157.4
Total	1,153.1	935.0	810.0

# Table 6: Chemicals Handled by Region, 2013/14 – 2015/16 [kg]

	2013/14	2014/15	2015/16
EMEA			
Ethyl acrylate	0	0	0
Acrylic acid 2-hydroxyethyl	0	0	0
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	0	0	0
Ethylbenzene	0	0	0
Xylene	2,449.0	1,612.0	2,032.0
Silver and its water-soluble compounds	10.5	11.1	13.0
1,2-Dichloroethane	0	0	0
Dichloromethane (methylene chloride)	1,758.0	842.2	419.0
Tetrachloroethylene	2,970.0	845.0	220.0
Tetrahydromethylphthalic anhydride	1,220.0	1,044.0	1,216.0
Toluene	0	0	0
Bis (2-ethylhexyl) phthalate	0	0	0
n-Hexane	830.0	1,073.0	710.0
Manganese and its compounds	0	0	0
Acetone	0	0	0
Isobutane	0	0	0
Isobutyl alcohol	0	0	0
Isopropanol	1,766.1	248.0	135.3
Ethyl alcohol	888.8	702.6	404.6
Ethylene glycol	0	0	0
N-methyl-2-pyrrolidone	0	0	0
Hydrogen chloride	520.0	414.0	606.0
Chlorine	0	0	0
Paraffinic hydro-carbon	0	0	0
Cyclohexane	655.0	225.0	152.0
n-Butane	0	0	0
Propylene glycol monomethyl ether	0	39.0	23.0
Methyl alcohol	0	0	0
Methyl ethyl ketone	20.0	23.0	23.0
Sulfuric acid	0	0	0
Total	13,087.4	7,079.0	5,953.8



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