Environmental statements

ENVIRONMENTAL KEY FIGURES*

	UNIT	NOTES	2012	2013	2014	2015	2016
Metal emissions to water (load)	kg	E2	5,701	5,560	5,639	4,459	**3,738**
Metal emissions to water (impact units)		E2	245,935	313,883	543,332	328,013	**339,001**
Metal emissions to air (load)	kg	E2	16,615	12,522	13,309	14,544	**1,761**
Metal emissions to air (impact units)		E2	135,670	130,169	128,465	135,660	**86,098**
SOx emissions	tonne	E2	487	686	1,189	1,197	**892**
NOx emissions	tonne	E2	399	386	425	452	**365**
CO_2e emissions (scope1+2) – Market based**	tonne	E3	701,898	690,767	664,568	710,143	**666,814**
CO_2e emissions (scope1+2) – Location based**	tonne	E3	–	–	–	–	**739,820**
Energy consumption	terajoules	E4	7,315	7,557	7,304	7,742	**6,760**
Water use	thousand m^3	E5	4,310	4,343	4,645	4,904	**4,851**
Total waste produced	tonne	E7	69,702	68,575	76,810	72,663	**77,625**
Hazardous waste	tonne	E7	47,789	45,668	54,824	51,525	**59,437**
of which recycled	%	E7	7.5	16.9	7.5	7.8	**3.8**
Non hazardous waste	tonne	E7	21,914	22,906	21,986	21,138	**18,188**
of which recycled	%	E7	54.7	60.2	60.4	56.3	**57.8**
Compliance excess rate	%	E9	1.1	0.8	0.9	0.8	**0.9**
Environmental complaints	N°	E9	24	25	31	25	**19**
Sites ISO 14001 certified	%	E9	93	97	97	92	**88**

* Data for 2015 and previous years includes the divested business unit Zinc Chemicals, while 2016 data does not.

** CO_2e emissions data for 2015 and previous years is an aggregation of market-based and location-based scope 2 emissions. A direct comparison to 2016 data is not possible. If such comparison were to be made, the most meaningful approximation is to use the market-based 2016 figure (see section E4 for details).

NOTES TO THE ENVIRONMENTAL KEY FIGURES

E1 SCOPE OF ENVIRONMENTAL STATEMENTS

The environmental key figures include data from consolidated industrial sites where Umicore has operational control. Due to the completion of the divestiture of the business unit Zinc Chemicals (Discontinued Operations) and the closure of one further site in 2016, the following sites are no longer reported compared to 2015: Angleur, Heusden-Zolder, Overpelt (all Belgium), Changsha (China), Eijsden (The Netherlands), Larvik (Norway), Pasir Gudang (Malaysia) (all Zinc Chemicals) and Yokohama (Japan, Platinum Engineered Materials). Two sites were added to the reporting scope: Nowa Ruda (Poland, Automotive Catalysts) and Qingyuan (China, Thin Film Products). This brings the total number of consolidated industrial sites that report environmental data to 59 compared to 65 in 2015.

Within the scope of Umicore's reporting framework, the majority of the sites report their environmental data at the end of the 3rd quarter together with a forecast for the 4th quarter. In January, the forecasted values are checked by the site for significant deviations and, if needed, corrected. The six sites with the largest environmental impact for 2016 are: Hanau (Germany; Catalysis, Recycling), Olen (Belgium; Energy & Surface Technologies, Group R&D), Hoboken (Belgium; Recycling), Jiangmen (China; Energy & Surface Technologies), Cheonan UMK and Cheonan UMAK (both South Korea; Energy & Surface Technologies). They report their full year figures. A sensitivity analysis undertaken for the 2016 data on energy consumption data indicates that the potential deviation of the Group environmental performance would be less than 4% in case of a 20% error in the forecasted data.

Please note that due to improved analytical and reporting methods, some of the data published in the 2015 annual report has been restated in the 2016 report. Unless mentioned otherwise, environmental KPIs for 2015 and previous years include the business unit Zinc Chemicals that was divested during the course of 2016, while 2016 KPIs do not include Zinc Chemicals.

More details on Umicore's management approach are available in the corresponding section on pages 62-67.

E2 EMISSIONS TO WATER AND AIR

Umicore's Vision 2015 achievements of reducing our metal emissions to water and air in terms of impact by 26% and 37%, respectively, marks a great step towards sustainable operations. We consider the emission levels achieved in 2015 our future frame of reference in the context of sustainable operations that include the management of the emissions to water and air.

The aim for Horizon 2020 is to build on the Vision 2015 achievements by reducing the impact of metal emissions while taking into account growing volumes of production. In practice this means that we aim to at least maintain the level of metals emitted to water and air in terms of impact that we achieved as part of Vision 2015.

Metal emissions to water are defined as the total amount of metals emitted after treatment to surface water from effluent(s) expressed in kg/year. If sites make use of an external waste water treatment plant, the efficiency of that treatment is taken into account if known to the site.

Metal emissions to air are defined as the total amount of metals emitted to air in solid fraction by all point sources expressed in kg/year. For mercury and arsenic, additional vapour/fume fractions are counted as well.

For each of the metals emitted to water and air, an impact factor is applied to account for the different toxicity and ecotoxicity levels of the various metals when they are emitted to the environment. The higher the impact factor, the higher the toxicity is to the receiving water body (for water emissions) or to human health (for air emissions).

The impact factors for water emissions are based upon scientific data generated ('predicted no effect concentrations' or PNECs) for the REACH regulation. An impact factor of 1 was attributed to the antimony PNEC of 113 µg/l. The impact factors for emissions to air are based upon the occupational exposure limits (OEL) (reference: American Conference of Industrial and Governmental Hygienists, 2011). An impact factor of 1 was attributed to the zinc (oxide) OEL of 2 mg/m^3. Subsequently, an impact factor for all relevant metals was calculated based upon these references. The metal impact to air and to water is expressed as 'impact units/year'.

We identified the sites that contribute at least 95% in terms of load (for SO_x and NO_x) or impact units (for metals emissions to water and air) of the total 2015 Group figures (excluding the divested business unit Zinc Chemicals). For emissions to water and air, data collection for 2016 was restricted to the identified material sites (ten or fewer). All other sites were requested to only submit data in case of significant upward deviations from the 2015 baseline for the site.

The aim of improving on 2015 levels of metal emissions to water and air is measured by way of comparing emissions of the current reporting year (i.e. 2016) with those of the reference year 2015 and using the same scope of activities as 2015 for the material sites.

In order to calculate the change in metal emissions to water and air in comparison with the reference year 2015, a baseline has been established for each site in scope. The baseline is established by multiplying the actual activity level of the current reporting year (i.e. 2016) by the 2015 emission intensity (see example below). The baseline 2015 is then calculated by adding all site-level baselines for the sites in scope. Examples of activity parameters at sites are: tonnes produced per year, machine hours per year, tonnes of input material in recycling process per year.

Example

In 2015 site A produced 20 t of product X and emitted 5 kg of metal Y (impact factor of Y = 8 impact units/kg) to air, resulting in a metal emissions intensity of 2 impact units/t of product X. In 2016 site A produced 22 t of product X and emitted 5 kg of metal Y, resulting in a metal emissions intensity of 1.8 impact units/ton of product X.

The 2015 baseline reported in 2016 is then: activity level of 2016 (22 t) x 2015 emissions intensity (2 impact units/t) = 44 impact units.

Therefore the measured 5 kg – equivalent to 40 impact units – emitted in 2016 represents a reduction of 10% compared to what it would have been under 2015 operating conditions.

The baseline 2015 is recalculated yearly (2016 and the following years). It is defined as the metal emissions that would have been expected with the activity volumes of the reporting year (i.e. 2016), but with the metal emissions intensity of the reference year 2015. The performance for each year is expressed as a percentage in comparison to the calculated 2015 group baseline applicable to each year.

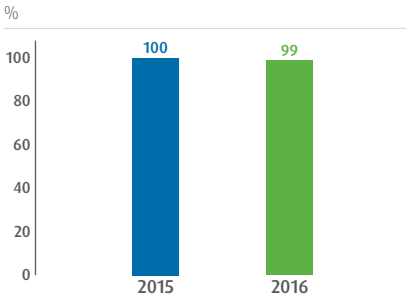
The calculation of metal emissions to water and air covers fully consolidated operations and activities that are part of the Group during the reporting year (2016 and the following years) and that were also part of the Group in 2015. Performance is reported only for the total of the material sites for each KPI.

SO_x and NO_x emissions are expressed in absolute numbers in tonnes/year.

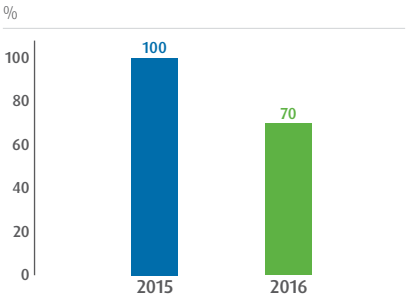
GROUP DATA – EMISSION SCOPE METAL EMISSIONS TO AIR AND WATER

	UNIT	BASELINE 2015 IN RELATION TO 2016	2016
Metal emissions to water	impact units	343,639	**339,001**
Metal emissions to air	impact units	123,779	**86,098**

METAL EMISSION REDUCTION PERFORMANCE (TO WATER)



METAL EMISSION REDUCTION PERFORMANCE (TO AIR)



METAL EMISSIONS TO WATER

The metal emissions to water in 2016 using the defined scope resulted in 339,001 impact units. Metal emissions to water in 2015 using the defined scope were 316,900 impact units. For the purpose of assessing progress on our commitment, this 2015 metal emissions level normalised for 2016 activity was 343,639 impact units. In 2016 we have therefore achieved a 1% reduction of metal emissions to water in terms of impact.

This evolution is a combination of differing trends observed at our sites. At our Hoboken plant (Belgium, Recycling), the increased efficiency of the waste water treatment plant due to investments in improvement projects over the last years has started to pay off, while further reductions are expected in the future due to additional planned improvement projects over the coming years. Equally, some efficiency improvements and scale-effects after ramp-up of precursor production at our new site in Cheonan (South Korea, Energy & Surface Technologies) have led to a notable decrease of the emission intensity in terms of impact by metals emissions to water. On the other hand, increases in water throughput at our sites in Olen (Belgium, Energy & Surface Technologies and Group R&D) and Jiangmen (China, Energy & Surface Technologies) in combination with some higher measured concentrations – all below the permitted discharge limits – have led to an increased load for some metals with higher impact factors.

METAL EMISSIONS TO AIR

The metal emissions to air in 2016 using the defined scope were 86,098 impact units. Metal emissions to air in 2015 using the defined scope resulted in 119,254 impact units. For the purpose of assessing progress on our commitment, this 2015 metal emissions level normalised for 2016 activity was 123,779 impact units. In 2016 we have therefore achieved a 30% reduction of metal emissions to air in terms of impact.

The reductions are observed across almost all of the sites in scope to a varying degree, and can be ascribed for the most part to efforts that improved air filter efficiency and to improvements in overall process efficiency.

LEAD EMISSIONS AT HOBOKEN (BELGIUM, RECYCLING)

The site in Hoboken (Belgium, Recycling) reported increased metal emissions from diffuse sources. This led to higher values of lead PM10-dust depositions in the surrounding residential area of Moretusburg. Infrastructure works at the lead refinery are thought to be one of the main causes of these increased lead depositions. Umicore reported these increased results to the authorities and neighbourhood.

Twice a year, the provincial authorities conduct a biological monitoring campaign among children living around the facility. At the end of 2016, this monitoring showed that 73 children out of a total of 194 participants had lead in blood levels exceeding the reference value of the Center for Disease Control and Prevention (USA) of 5.0 µg/dl. Of these children, four had values in excess of 20 µg/dl. The average lead in blood of all children was 5.3 µg/dl, which is down from 15.0 µg/dl in 1998.

A comprehensive action plan has been launched with the authorities including an investment to better ventilate and filter the air at the lead refinery. An initial improvement action was completed by March 2017 with more significant improvements set to be finalised by the end of 2017. Other measures are being taken such as a further improvement to the management of diffuse sources during storage and transport of input materials.

Umicore is also working closely with the authorities to implement specific precautionary hygiene measures such as the cleaning of the homes of the children with the highest levels of lead concentration.

OTHER EMISSIONS

	UNIT	2012	2013	2014	2015	2016
SO_x emissions	tonne	487	686	1,189	1,197	**892**
NO_x emissions	tonne	399	386	425	452	**365**

The SO_x emissions for the Group decreased from 1,101 t in 2015 (excluding the divested business unit Zinc Chemicals) to 892 t in 2016, a reduction of 19%.

The NO_x emissions remained relatively stable at 365 t in 2016, in comparison to 373 t in 2015 (excluding the divested business unit Zinc Chemicals).

E3 GREENHOUSE GASES

The introduction of our energy efficiency and carbon footprint policy in 2011 guided us to a 26% reduction in CO_2 equivalent emissions within the defined scope in Vision 2015 and to permanent attention and awareness of energy efficiency at the sites and in the business units' management processes.

Under Horizon 2020, Umicore's improvement focus is on energy efficiency. The efforts to increase energy efficiency are expected to contribute to further reducing our carbon footprint.

Umicore reports its absolute CO_2e emissions as per the scope outlined in E1. The absolute CO_2 equivalent (CO_2e) emission volumes are calculated using the Greenhouse Gas Protocol definition and reporting methodology for scope 1 and 2 (WBCSD and WRI 2004, and amendment for scope 2 of 2015). Scope 2 for Umicore includes not only purchased electricity but also steam and compressed air purchased from third parties (e.g. from industrial parks). CO_2e includes the greenhouse gases CO_2, CH_4 and N_2O for scope 1 and major process emissions. Other greenhouse gases are not relevant in Umicore's operations. The scope 2 emissions take only CO_2 into account.

The calculation of scope 2 emissions for each site is done in two ways: once using market-based CO_2 emission factors and once using location-based CO_2 emission factors. The market-based emission factors allow calculating the CO_2 emissions based on the particular contracts that sites have in place with their energy suppliers, taking into account the relevant energy mix for these contracts (including green energy attributes, where applicable). The location-based CO_2 emission factors facilitate calculating the CO_2 emissions based on the residual energy mix in a country/region (where this data is available), thus explicitly excluding green energy attributes that are sold by the power producers in dedicated supply contracts. The total CO_2 emissions for the group are then presented as two separate values based on this differentiation, and the metrics are abbreviated as: CO_2e market-based and CO_2e location-based.

The WBCSD Chemical Sector Working Group on GHG Measurement and Reporting established additional guidance to cope with observed anomalies in GHG reporting. Umicore has implemented these guidelines already since the 2012 reporting. The publication of the sector guidelines can be found on their website.

GROUP DATA

	UNIT	2012	2013	2014	2015	2016
CO_2e emissions (scope1+2) – Market based	tonne	701,898	690,767	664,568	710,143	**666,814**
CO_2e emissions (scope1+2) – Location based	tonne	–	–	–	–	**739,820**

Total CO_2e market-based emissions in 2016 were 666,814 t. Total CO_2e location-based emissions were 739,820 t. The difference between these two figures, 73,006 t, is due to particular energy contracts with a favourable energy mix that our sites have in place, which result in a lower carbon footprint than the residual energy mix for the country/region that the site is located in.

Total CO_2e emissions in 2015 (excluding the divested business unit Zinc Chemicals, which represented 16% of the 2015 emissions) were 596,540 t. No differentiation between market-based and location-based values was made in 2015. We consider that a direct comparison between the two reporting years as such cannot be made, but that the most meaningful approximation of such comparison is to use the market-based 2016 figure. The 2015 data included the market-based CO_2 emission factors as much as this was possible.

The comparison shows an increase by 12% year on year. About half of this increase is due to higher N_2O emissions at our plant in Hoboken (Belgium, Recycling), while the other half can be mostly attributed to higher activity levels across several sites in our business units Automotive Catalysts and Rechargeable Battery Materials.

BUSINESS GROUP DATA

	UNIT	CATALYSIS	ENERGY & SURFACE TECHNOLOGIES	RECYCLING	DISCONTINUED OPERATIONS	UMICORE GROUP
CO_2e emissions (scope1+2) – Market based	tonne	113,527	209,957	327,195	15,605	**666,814**
CO_2e emissions (scope1+2) – Location based	tonne	130,627	219,803	373,719	14,906	**739,820**

E4 ENERGY

Umicore is committed under Horizon 2020 to an even more efficient use of energy in its operations. In practice this means that we aim to further increase the energy efficiency level that we achieved as part of Vision 2015.

The WBCSD Chemical Sector Working Group on GHG Measurement and Reporting established additional guidance to cope with observed anomalies in GHG and energy reporting. Umicore has implemented these guidelines already since the 2012 reporting. Publication of the sector guidelines can be found on the WBCSD website.

In the scope of Horizon 2020 a greater emphasis will be put on those sites that are contributing the most to Umicore's total energy consumption, and certain parameters such as activity indicators have been thoroughly reviewed for those sites and updated where required. Monitoring and reporting of the energy consumption continues to be done at all sites. The bigger contributors are additionally encouraged and required to report on their energy efficiency projects.

An analysis of the contributions of the sites to the energy consumption at group level identified 27 sites that contributed more than 95% to the 2016 total.

GROUP DATA – IN THE CONTEXT OF THE ENERGY EFFICIENCY OBJECTIVE

The aim of improving on 2015 levels of energy efficiency is measured by way of comparing the energy consumption of the current reporting year (i.e. 2016) with the energy consumption of the reference year 2015 and using the same scope of activities as 2015.

In order to calculate the change in energy consumption in comparison with the reference year 2015, a baseline has been established for each site in scope. The baseline is established by multiplying the actual activity level of the current reporting year (i.e. 2016) by the 2015 energy intensity (see example below). The baseline 2015 is then calculated by adding all site-level baselines for the sites in scope. Examples of activity parameters at sites are: tonnes produced per year, machine hours per year, tonnes of input material in recycling process per year.

Example

In 2015 site A produced 200 t of product X and consumed 80,000 GJ, resulting in an energy intensity of 400 GJ/t of product X. In 2016 site A produced 220 t of product X and consumed 80,000 GJ, resulting in an energy intensity of 364 GJ/ton of product X.

The 2015 baseline reported in 2016 is then: activity level of 2016 (220 t) x 2015 energy intensity (400 GJ/t) = 88,000 GJ.

Therefore the 80,000 GJ consumed in 2016 represents an improvement of 10% compared to what it would have been under 2015 operating conditions.

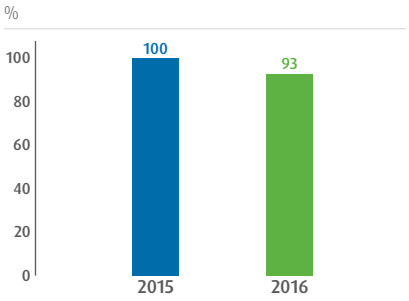
The baseline 2015 is recalculated yearly (2016 and the following years). It is defined as the energy consumption that would have been expected with the activity volumes of the reporting year (i.e. 2016), but with the energy intensity of the reference year 2015. The performance for each year is expressed as a percentage in comparison to the calculated 2015 group baseline applicable to each year.

The calculation of this KPI covers fully consolidated operations and activities that are part of the Group during the reporting year (2016 and the following years) and that were also part of the Group in 2015. It should be noted that the sites of the former business unit Zinc Chemicals (which represented 5% of the total energy consumption for the Group in 2015) and sites that were added to the reporting in 2016, i.e. Nowa Ruda (Poland, Catalysis) and Qingyuan (China, Energy & Surface Technologies), are therefore not in the reporting scope for this KPI. The energy consumption data also includes the two main office buildings in Brussels (Belgium) and Bagnolet (France).

ENERGY EFFICIENCY OBJECTIVE

	UNIT	BASELINE 2015 IN RELATION TO 2016	2016
Energy consumption	terajoules	6,726	**6,264**

NORMALISED ENERGY CONSUMPTION



The energy consumption 2016 using the defined scope was 6,264 TJ. The energy consumption in 2015 using the defined scope was 5,998 TJ. For the purpose of assessing progress on our commitment, this 2015 energy consumption level normalised for 2016 activity was 6,726 TJ. This means that for equivalent production levels we consumed 7% less energy. In other words, the energy efficiency has improved by 7% year on year.

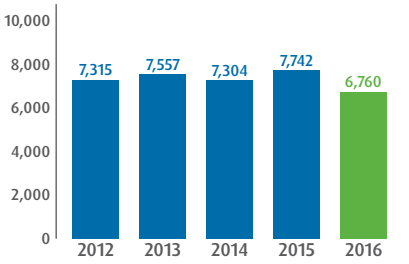
This improvement is in part due to scale-effects after ramp-up of precursor production and to general process efficiency improvements at our two sites in Cheonan (South Korea, Energy & Surface Technologies). Further improvements at other sites also contributed to the overall decrease in energy intensity, including additional process efficiencies at our Hoboken plant (Belgium, Recycling).

Energy efficiency projects have been implemented at the most important sites in line with foregoing sustainable development objectives since 2006. In 2016, 27 sites represented more than 95% of the Group's energy consumption. At these sites, 36 energy efficiency projects have been reported as being implemented during 2016 and contributed significant savings.

ABSOLUTE ENERGY CONSUMPTION

ENERGY CONSUMPTION (ABSOLUTE)

terajoules



Total energy consumption increased from 6,449 TJ in 2015 (excluding the divested business unit Zinc Chemicals) to 6,760 TJ in 2016, a 5% increase year on year.

Indirect energy consumption by primary energy source (purchased electricity, steam and compressed air) for production sites and office buildings in 2016 was 2,726 TJ. Direct energy consumption by primary energy source (fuel, gas oil, natural gas, LPG, coal and cokes) was 4,034 TJ.

BUSINESS GROUP DATA

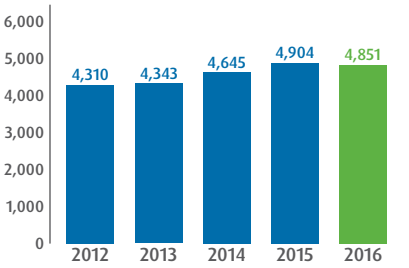
	UNIT	CATALYSIS	ENERGY & SURFACE TECHNOLOGIES	RECYCLING	DISCONTINUED OPERATIONS	UMICORE GROUP
Energy consumption	terajoules	1,008	2,537	2,792	414	**6,760**

E5 WATER USE

GROUP DATA

WATER USE

thousand m^3



Water use is defined as the total volume of water expressed in thousand m^3/year from domestic water supply, groundwater wells, surface water and rainwater. Groundwater extraction for remediation purposes and cooling water returned to its original water body are not counted.

The total water use for the Group increased slightly, from 4,735 thousand m^3 in 2015 (excluding the divested business unit Zinc Chemicals, which represented 3% of the total water use for the Group in 2015) to 4,851 thousand m^3 in 2016. This was mainly due to an activity increase at the site in Jiangmen (China) and the newer of the two sites in Cheonan (South Korea) (both Energy & Surface Technologies).

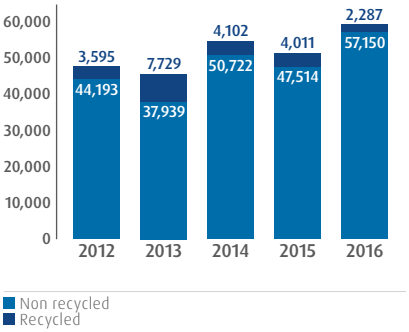
BUSINESS GROUP DATA

	UNIT	CATALYSIS	ENERGY & SURFACE TECHNOLOGIES	RECYCLING	DISCONTINUED OPERATIONS	UMICORE GROUP
Water use	thousand m^3	569	2,174	1,692	416	**4,851**

E6 WASTE

GROUP DATA

HAZARDOUS WASTE



Waste is defined as the total volume of generated waste expressed in tonnes/year.

The waste recycling rate is the ratio of the waste recovered by third parties (including waste recovered as energy through incineration) and the total waste.

The distinction between hazardous and non-hazardous waste is made on the basis of the local regulation for the region where the reporting entity is located.

In 2016, a total of 77,625 tonnes of waste were generated compared to 68,800 tonnes in 2015 (excluding the divested business unit Zinc Chemicals, which represented 5% of total waste for the Group in 2015), an increase of 12%.

The total volume of hazardous waste increased from 50,653 tonnes in 2015 (excluding the divested business unit Zinc Chemicals, which represented 2% of total hazardous waste for the Group in 2015) to 59,437 tonnes in 2016, an increase of 17%. The recycling rate of hazardous waste has decreased from 7% in 2015 to 4% in 2016.

The total volume of non-hazardous waste has remained at similar levels at 18,188 tonnes in 2016 compared to 18,147 tonnes in 2015 (excluding the divested business unit Zinc Chemicals, which contributed 14% to the total non-hazardous waste in 2015).

BUSINESS GROUP DATA

	UNIT	CATALYSIS	ENERGY & SURFACE TECHNOLOGIES	RECYCLING	DISCONTINUED OPERATIONS	UMICORE GROUP
Total waste produced	**tonne**	**5,740**	**27,515**	**41,291**	**3,079**	**77,625**
Hazardous waste	tonne	3,854	18,973	34,614	1,997	**59,437**
of which recycled	%	8.25	1.06	3.94	20.26	**3.85**
Non hazardous waste	tonne	1,886	8,542	6,677	1,083	**18,188**
of which recycled	%	50.97	28.99	93.66	75.31	**57.77**

E7 HISTORICAL POLLUTION

Actively participating in the management and remediation of risks that resulted from historical operations is an integral part of the Umicore Way. Over the past 15 years, Umicore's pro-active programme for assessing and remediating, where necessary, soil and groundwater contamination has made significant progress. The following section illustrates the main ongoing programmes and the progress made during 2016.

BELGIUM

Background: On 23 April 2004, Umicore signed a Covenant with the regional waste authorities (OVAM) and the Regional Minister of the Environment in the Flemish Region of Belgium by which Umicore committed to spend EUR 62 million over 15 years to remediate the historical pollution at four sites, of which two – Balen and Overpelt – now belong to Nyrstar, a business divested by Umicore in 2007.

2016 Activities: In Hoboken, an agreement was reached with the competent authorities to extend the on-site storage facility, so that on-site remediation works (excavation) can restart. An alternative concept for the groundwater remediation has been discussed and agreed upon with the authorities.

In Olen, the on-site groundwater remediation programme that was started in 2007 continued in 2016. In 2016, contaminated soil was further excavated at different locations where infrastructure works were needed, such as the construction of two new warehouses.

Umicore continued with other actions as part of the Covenant including the excavation of zinc ashes from private driveways within the entire 9 km perimeter covered by the covenant. A pilot project was initiated to capture and precipitate metals from the groundwater flowing into surface water.

In 2014, Umicore and the competent authorities signed an agreement to prolong by 5 years the period to complete the necessary risk reduction action within the 9 km perimeter. The agreement also contains an important clause through which Umicore and the authorities will tackle the remediation of the former Bocholt site, a former arsenic plant that was shut down and dismantled in the early 1970s.

FRANCE

In Viviez, Umicore continued with its large-scale remediation programme that was started in 2011. The project consists mainly of removing, rendering inert and restoring safely more than one million cubic metres of contaminated soil and waste. By the end of 2016, 1,280,000 m^3 of contaminated soil and waste had been removed and treated. As the project is reaching its finalisation, Umicore took measures to relieve the VMZINC (Building Products) operations from post-remedial obligations by transferring them to a third party specialised in waste management and recycling.

The former mining concession Saint-Félix de Pallières in the South of France, was secured in full compliance with the applicable legislation and returned to the French Authorities in 2004. In recent years, more attention has been focused by certain stakeholder groups on the potential health effects linked to the former mining activities. Although the authorities, including the Ministry of Environment, acknowledged that the mining concession was returned to the French State according to the requirements of the applicable legislation, Umicore committed itself to support the authorities voluntarily in addressing the concerns of the local population.

USA

Umicore continued to treat drainage water at a former mining site in Colorado (USA). Umicore is currently reviewing alternative technologies aimed at decreasing the metal concentration in the discharge and thus decreasing the volume of solid waste produced.

After the closing down of the Maxton plant in North Carolina, soil and groundwater contamination was identified. Umicore entered into a voluntary remediation program with the authorities to fully address the issue by 2030.

BRAZIL

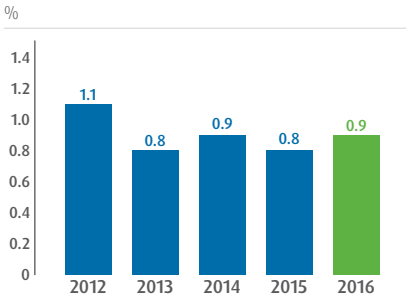
During an environmental assessment that was performed following its acquisition in 2003, groundwater pollution was detected at the Guarulhos site in Brazil. This historical pollution dates from before Umicore's purchase of the operations. Umicore took immediate measures to stop the spreading of this contamination to the neighbouring areas by installing a hydraulic barrier that has been in full operation since 2011. Targeted extraction systems were put in place on site in order to speed up the remediation.

Furthermore, Umicore has assessed the impact the historical contamination might have had to areas outside the operational plant. Umicore has worked with the local authorities to relocate the people living in the area adjacent to the facility and has turned the vacated space into a park, thereby reducing the potential exposure of the population. The park was officially inaugurated on 29 December 2016.

E8 REGULATORY COMPLIANCE AND MANAGEMENT SYSTEM

GROUP DATA

COMPLIANCE EXCESS RATE



The compliance excess rate is the ratio between the total number of excess results and the total number of compliance measurements. An excess result is a monitoring result that violates a limit value defined in a permit, regulation or other relevant regulatory standard.

The total number of measurements is the total number of environmental impact measurements as required by the operational permit, environmental permit or comparable standard in the region the reporting entity is operating. The total number means the number of measurements times the number of parameters per measurement.

In 2016, some 50,000 environmental measurements were carried out at all of Umicore's industrial sites compared to some 52,000 the year before (excluding the divested business unit Zinc Chemicals, which represented some 31,000 environmental measurements in 2015).

The number of measurements that did not meet the regulatory or permit requirements is very low at 0.95%for the Group, compared to 0.81% in 2015.

Three out of the 59 consolidated industrial sites are exempt from implementing a certified environmental management system. This is based on a strict procedure that confirms that the sites in question have no significant environmental impacts and would therefore not benefit substantially from installing such a system. Of the 56 remaining sites, 49 sites have put in place an environmental management system certified against ISO 14001. Six of the remaining seven sites are acquisitions that joined Umicore reporting in 2015/16, and all seven sites are planning the implementation of an environmental management system during 2017/18. With the exception of the newer of the Cheonan sites (South Korea, Energy & Surface Technologies), all major sites with significant environmental impacts have been certified against the ISO 14001 management system for many years. The Cheonan site, which joined Umicore reporting in 2015, is planning the implementation of a certified environmental management system during 2017/18.

In total, 19 environmental complaints were received in 2016. These were mainly related to noise and odour. Seventeen of the complaint files have already been closed.