

Befesa Aluminio S.L.  
Valladolid Centre.

# Environmental statement 2014





**Befesa Aluminio CT Valladolid.**

This document constitutes the environmental statement for the Valladolid plant of Befesa Aluminio S.L.

It was prepared taking into account the requirements provided for in the ISO 14001:2004 environmental management standard and Regulation 1221/2009 of the European Union.

This environmental statement is valid for 12 months, and the following statement will be validated in July 2015.

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## **1. Description of the organisation's EMAS registration.**

### **1.1 EU Regulation 1221/ 2009.**

Regulation No. 1221/ 2009, which repeals Regulation No. 761/ 2001 and Decisions 2001/ 681/ EC and 2006/ 193/ EC of the Commission and EMAS (Eco-Management and Audit Scheme), is a system which allows organisations to voluntarily join a community management and environmental audit system.

This regulation has three fundamental commitments:

- Internal control of the environmental impacts of the process and their corresponding registration, under the basic premise of compliance with the applicable environmental legislation.
- Continuous reduction of these impacts, defining and publishing the objectives and actions to achieve them, as well as monitoring and results through continuous environmental audits.
- Commitment to full transparency to society and other stakeholders.

### **1.2 Environmental statement.**

It is the essential element of the system, because it means making the environmental data of the company available to society:

- Consumption of raw materials, water, electricity, fuel, emissions, effluents, etc.
- The company's environmental policy, ensuring compliance with the applicable regulations and at the same time the commitment to continuous improvement based on quantifiable objectives.
- Compliance with the applicable legal requirements.
- Validation of the audit of the system, as well as compliance with the regulation, all through an authorised verifier.

In short, to allow society to know about our activity, provide key data and ensure the



## **Befesa Aluminio CT Valladolid.**

environmental compliance of our company.

### **1.3 Inclusion of Befesa Aluminio S.L. CT Valladolid in the system.**

Pursuant to the resolution of December 30, 2014, the General Directorate for Environmental Quality and Sustainability, as a competent body of the autonomous community of Castile and Leon, certifies that Befesa Aluminio S.L., for its work centre in Valladolid, is registered on the EMAS Register with number ES-CL-000034, in accordance with Regulation (EC) No. 1221/ 2009 of the European Parliament and Council of November 25, 2009, relating to the voluntary participation of organisations in a community eco-management and audit scheme (EMAS) for the activities of:

**"Recycling, recovery and reuse of waste from the primary and secondary production of aluminium."**

Befesa Aluminio S.L. CT Valladolid conducts its activities in an environmentally friendly manner.

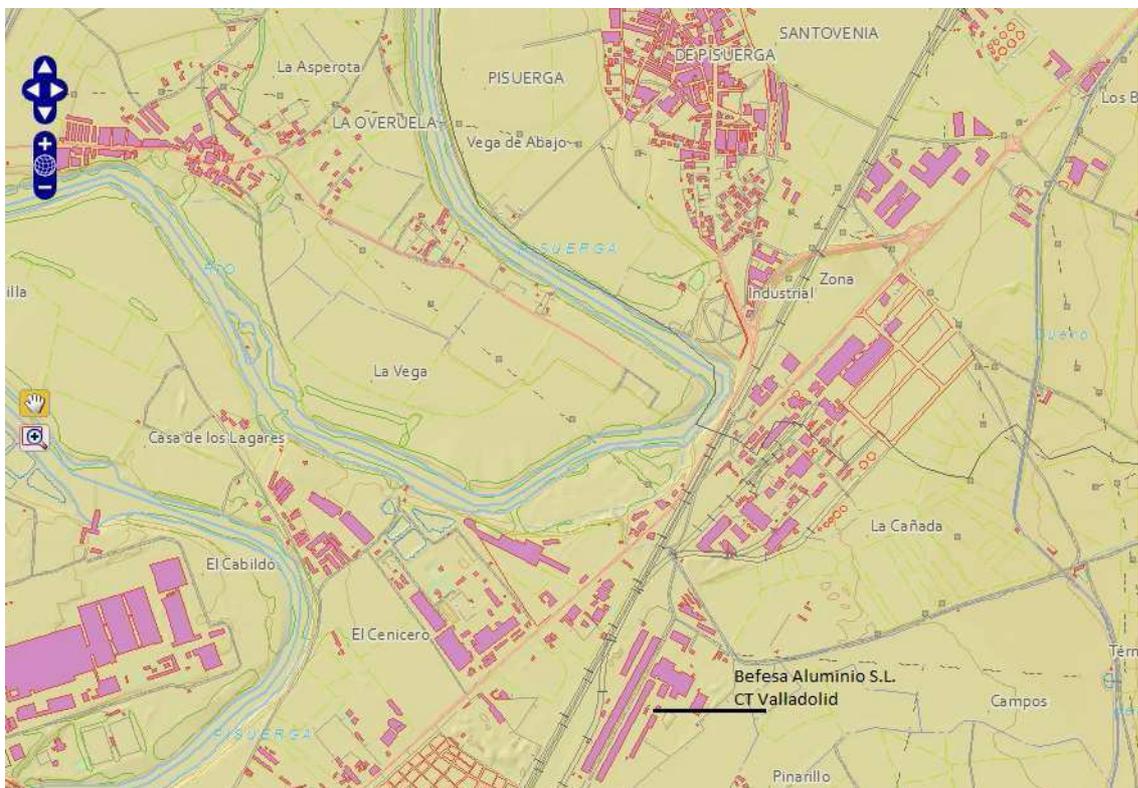
From the receipt of industrial waste, its storage and its subsequent treatment, at all times our company try to minimise any potential environmental effects or impacts that it may generate.

Adopting the rules allows a better understanding of the different activities of the centre, enabling better control and minimisation of any potential environmental effects that arise.

The regulation is a good tool to demonstrate to society the different commitments made by Befesa Aluminio S.L. CT Valladolid in the area of the environment.

## 2. Location and site

Befesa Aluminio S.L. CT Valladolid is located in the municipality of Valladolid. Specifically, it is located about 5 km from the city centre of Valladolid, occupying an area of approximately 106,700 m<sup>2</sup> of the former grounds of Endasa. The closest population centres to the facilities of Befesa Aluminio S.L. CT Valladolid are the San Pedro Regalado district of Valladolid, 1.4 km away, and Santovenia de Pisuerga, 1.9 km away.



2.1. Map of the location of Befesa Aluminio S.L. CT Valladolid.

### **3. Description of the activity.**

The industrial activity of Befesa Aluminio S.L. CT Valladolid is the recycling, recovery and reuse of waste from the primary and secondary production of aluminium and is divided into two processes described below:

**Process 1:** the recycling process operated by Befesa allows the recovery of free metal and salt fluxes and the formation of inert products, mainly composed of aluminium oxide.

The process consists of the mechanical grinding and separating of metals, the reaction of hazardous components and an aqueous solution of salts, the filtering of inert material and subsequent crystallisation of salts.

The phases of the production process are:

- ✓ Grinding: the purpose of this treatment is, on the one hand, to extract aluminium metal and, on the other, to reduce the size of particles to an optimum to ensure the perfect reaction of hazardous components and dissolution of salts contained.

It consists of breaking large-sized blocks using a hydraulic hammer, then passing them on to a mill that only allows blocks with a maximum size of 750 kg to enter. Once the material has been ground down, it passes to a sieve, where the first product is obtained (aluminium concentrate), and the optimum material for the next grinding phase, in which, on the one hand, the material is reduced to powder and, on the other, more aluminium concentrates of different particle sizes are obtained

- ✓ Dissolution-Reaction: the material (powder) obtained from grinding or received already ground down is mixed with water to dissolve the salts. The dissolution is carried out with part of the condensates from the crystallisation with the filtering of alumina concentrate.

The mixture is pumped to reactors, where the aluminous compounds react by controlling the temperature. The gases produced in the reactors are burnt off.

The pulp is sent to decanters, which separate the oxides from the brine through the addition of a flocculant. The reacted oxides are dried in filters. The water from the filtrate is recirculated to be used again.

The resulting cake is sent to the end product warehouse, as the "Paval" (salt slag) that is used in ceramic and refractory products, rock wool, etc.

The brine is purified in a clarifier prior to going on to the next phase.

- ✓ Crystallisation: to separate salts from the water contained in the brine that was obtained in the previous phase, which is done by using evaporating and then condensing the vapours. A salt is produced in this way, a mixture of NaCl and KCl and condensates which are reused in the process.

Natural gas boilers are used to produce the vapour.

- ✓ Drying: both the salt and the Paval can be dried using a rotary dryer in contact with hot gases. This stage is only used at the request of the end customer.

The main waste treated in this process is salt slag, aluminium slag, filter dust and SPL.

**Process 2:** the recycling process operated by Befesa allows the recovery of free metal, the treatment in process 1 of fines from grinding and the segregation of metals.

The phases of the production process are:

- ✓ Grinding scrap metal: the purpose of this treatment is the extraction of aluminium metal from scrap aluminium, eliminating, as much as possible, any type of pollution that interferes in the smelting process to which it will be submitted later.
  
- ✓ Slag grinding: the slag from the aluminium smelting furnaces is subjected to a grinding and sieving process with the object of separating aluminium metal (aluminium concentrates) from the oxides, which are treated in process 1 described above.

This process is used for treating aluminium slag and aluminium scrap.

The list of raw materials treated in the last three years is as follows:

Material treated	European Waste Code	2012	2013	2014
Salt slag (process 1)	100,308	107,811	96,149	117,117
SPL (process 1)	161,101	10,360	7,369	9,029
Aluminium slag (process 1)	100,322	3,790	2,128	3,632
Aluminium slag (process 1)	100,321			
Filter dust (process 1)	100,319	921	1,025	240
Foundry sand (1)	101,106	7,697	8,064	1,225
Aluminium scrap (process 2)	Various	18,736	18,063	8,600
Slag scrap (process 2)	Various	15,174	18,145	14,480

3.1 Tons of raw material processed in the past three years.

The following table shows the total tons per process and the total of both for 2014.

These amounts will be those that will be used to show the data (figure B) in this environmental statement.

Material treated	Quantity [t]
Process 1	131,243.02
Process 2	23,080
Total	154,323.02

3.2 Tons of raw material processed in 2014.

#### **4. Integrated management system for health & safety quality, environment and the GHG inventory.**

With our ISO 9001, ISO 14001, OHSAS 18001 and ISO 14064 management systems we ensure the quality of our products and/ or services, our commitment to respecting and protecting the environment, as well as the health and safety of the people who make up society.

Our management system is mainly composed of:

- Integrated health & safety and GHG inventory policy: formally describes the guidelines and commitments made by Befesa Aluminio S.L. CT Valladolid. This policy is reviewed periodically based on changes in the organisation, legislation, stakeholders, etc. The last review and modification of the policy was in November 2014.
- Management programme, which lists the activities required to be carried out to fulfil the objectives.
- Integral graphical management scorecard, which monitors the activities of the management program

**Policy.**

The main commitments of the policy of Befesa Aluminio S.L. CT Valladolid are:

- To generate value for stakeholders in a sustainable and sustained manner.
- To offer a comprehensive service in the treatment of waste from the aluminium industry.
- To provide quality products and advisory services to our customers.
- To ensure compliance with legal requirements.
- To promote sustainable development
- To promote continuous improvement.

<b>BEFESA</b> Salt Slags Division	<b>Health and safety, quality and environmental company policy</b>	Date: 6/11/2014 Rev.: 01
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As a company leader in recycling and the recovery of wastes from the primary and secondary aluminium production industry, Befesa Salt Slags Recycling focuses its activity in the pursuit of excellence, through a safe, efficient and effective management, contributing to sustainable development.

The Management of Befesa Salt Slags Recycling is aware that the key factor for the success of their operations is the satisfaction of all their stakeholders (customers, suppliers, shareholders, direct and indirect employees, social environment, etc.) and according to this philosophy, adopts the following policy to develop the mission and vision of the company.

To create value for the shareholders focused in an appropriate and sustainable manner, ensuring the future for the business. To take advantage of our leading position to get the best results for the company.

To offer comprehensive services in waste treatment for the whole of the aluminum industry by applying the best available technologies, providing adequate resources and thus ensuring the full satisfaction of our internal and external customers.

In turn, offering to our customers, quality products and advisory services through the continual development of new applications.

To ensure compliance with legal requirements and any other commitments that the company subscribes.

To promote sustainable development by minimising the generation of wastes, and the reduction of air pollution, promoting the saving of natural resources.

To promote a greater awareness and contribution from all our employees in the continual improvement of our products and processes, thus reducing our impacts and the removal of risks by providing appropriate management structure to improve performance, enhance participation and ensuring knowledge management and creating a safe and healthy workplace.

To optimise all activities of the organization by managing them through approved documented processes, working towards continuous improvement, setting measurable objectives and evaluating the results periodically.

To establish effective communication channels to facilitate sustainable and stable long lasting relationships, with our employees, customers, stakeholders and suppliers.

The Management of Befesa Salt Slags Division will ensure they maintain and apply this policy and that it is understood and accepted by all the employees and subcontractors.

This policy will be available on request, to any interested party.

Managing Director



Valladolid/Whitchurch/Hannover, November 2014

In accordance with the requirements of the internationally recognised ISO 14001:2004 standard, the general manager of Befesa Aluminio S.L. CT Valladolid appointed the following person to ensure the implementation and maintenance of the environmental management system established:

- Ruth Vasco López, the head of HSE and GHG inventory, as a representative of the management, to establish, implement and maintain the management system and at the same time ensure compliance with all of the applicable environmental requirements.

It should be noted that the management of the HSE and GHG inventory systems have been integrated in order to move forward together across all four fields, by streamlining our efforts while at the same time maintaining strict standards and diligence in these individual areas so as not to compromise the welfare of future generations.

**5. Summary of 2014 environmental objectives and targets.**

Every year, Befesa Aluminio S.L. CT Valladolid sets a number of environmental objectives that are included in the annual management plan, which defines the goals associated with each and the corresponding allocation of human and material resources. Below is a description of the environmental objectives defined for 2014, with a brief summary of their final degree of implementation.

- a) Reduction in power consumption by 1 % compared to 2013.

Rationalising the use of machines and eliminating bad practices has resulted in a reduction in power consumption.

Furthermore, the increase in production, arising in part from changes made to our grinding facility, has led to a significant reduction in the rate of power consumption so that the annual average has improved by 3.86 %.

Below is a graph of power consumption in 2013 and 2014.

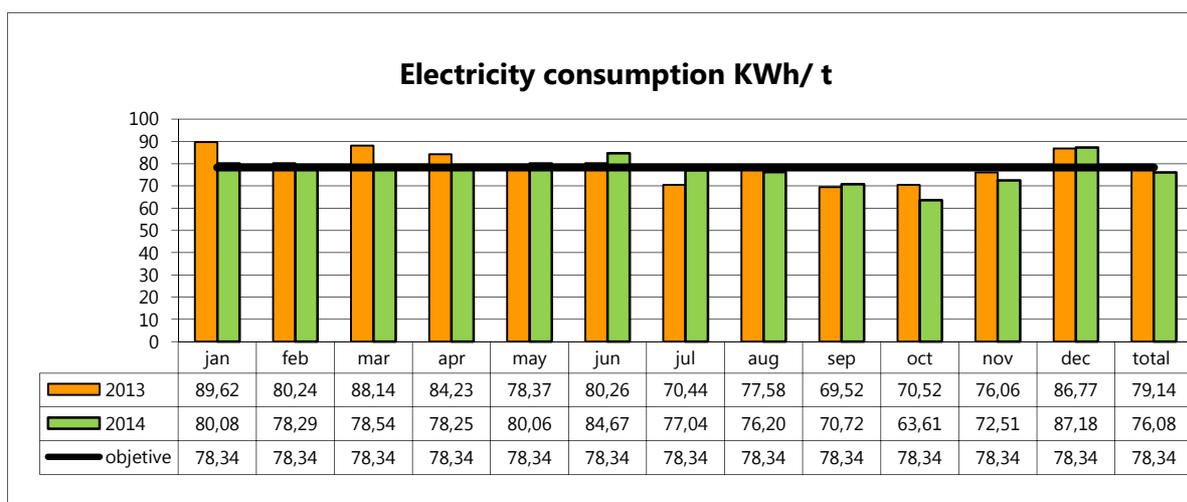


Table 5.1. Electricity consumption 2013 and 2014.

b) Reduction in the consumption of process 1 water by 1% compared to 2013.

Throughout the year, work was carried out to monitor the process in order to minimise stoppages and start-ups and optimise both.

Improved incident management has led to a reduction in water consumption. Below is a graph of water consumption in 2013 and 2014.

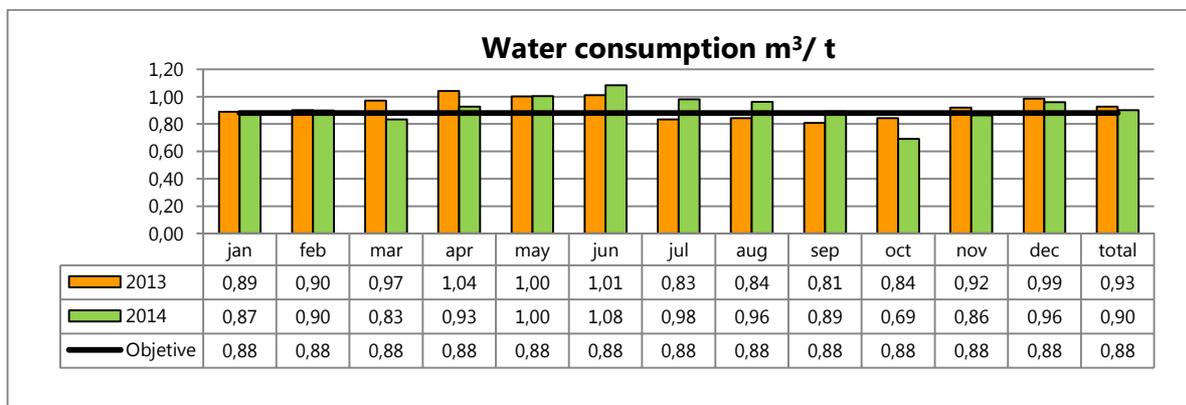


Table 5.2. Water consumption 2013 and 2014.

c) Reduction in gas consumption by 1 % compared to 2013.

The goal of reducing gas consumption per ton of salt has not been achieved.

The results were marked by a decrease in the salt contained in salt slag.

There is no significance in analysing gas consumption compared to the production of salt, as a result of which in successive years it will be compared to tons of processed salt slag.

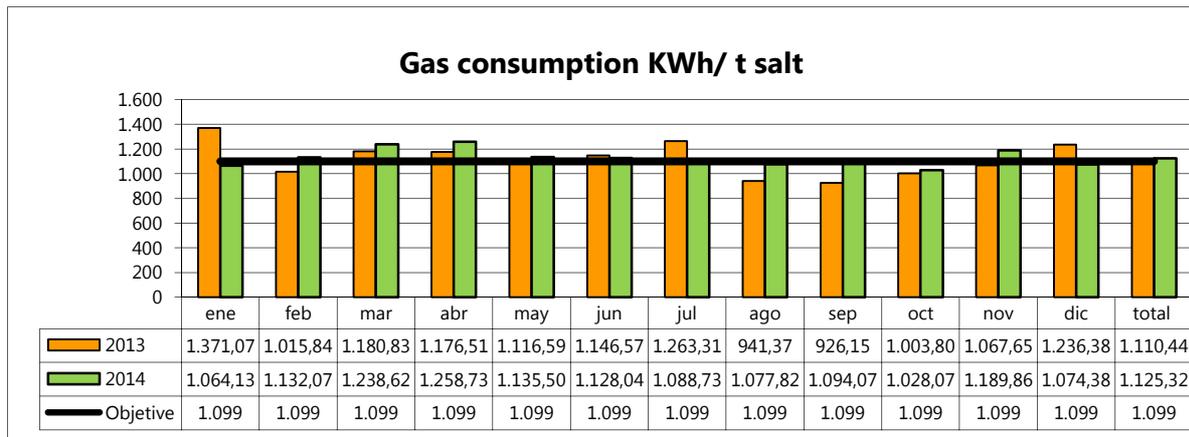


Table 5.3. Gas consumption 2013 and 2014.

d) Consolidation of greenhouse gas inventory.

The audit process was successfully carried out at the start of 2015, so the goal of consolidation was fulfilled 100 %.

This inventory includes both generation sources of greenhouse gas emissions controlled by society and those arising from the generation of electricity acquired and consumed by the company. The ISO 14064 verification process for 2014 was successfully completed during the early months of 2015.

## **6. Significant environmental aspects.**

To identify and evaluate environmental aspects, every element from the work centre activities that may interact with the environment in any way was included. These elements are:

- Materials.
- Energy.
- Emissions, discharges and waste.
- Products and services.
- Regulatory compliance.
- Transport.

Environmental aspects are evaluated in normal, abnormal and emergency conditions.

Environmental aspects in normal conditions are evaluated on the basis of the following three environmental parameters: amount, duration and danger.

- Amount: weight, volume, concentration, or extent of the environmental aspect.
- Duration: permanence or actual duration at the time of the environmental aspect.
- Danger: property that may characterise a substance and/or waste product, or how this aspect might have a negative effect or repercussion, increasing in significance the nearer it gets to the legal limits or applicable reference points

Environmental aspects in abnormal or emergency conditions are evaluated on the basis of the following three environmental parameters: probability and environmental impact.

- Probability: possibility that the event will take place, based on previous emergency situations.
- Environmental impact: intensity of the environmental impact as a result of an accident or emergency situation associated with the protective measures at the facility.

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Once the systems developed in the preceding paragraphs have been applied to all of the environmental aspects identified and having obtained the final outcome, significant environmental aspects under normal, abnormal and emergency conditions will be considered to be all those whose score is equal to or greater than 7. In the event that there are fewer than three aspects that exceed this score, the three highest scores will be considered significant.

To propose new goals and objectives or their review, the HSE and GHG inventory department will consider the significant environmental aspects, as well as the legal and other requirements, technological options and financial, operational and business requirements of the company. It will also take into account, where applicable, the views of stakeholders.

We consider aspects with a positive impact to be those which may have a beneficial impact on the environment.

Indirect environmental aspects, i.e. those over which the company does not have full control of the management, will be assessed only by taking the environmental impact into account.

The evaluation of all of the environmental aspects of Befesa Aluminio S. L. CT Valladolid was carried out between December 2014 and January 2015.

**6.1. Significant environmental aspects and impacts in normal conditions.**

Once the environmental aspects for 2014 have been identified and evaluated under normal conditions, those included in the table below are considered to be significant:

Ranking	Significant direct environmental aspects	Environmental impact	Total score
1	Consumption of groundwater - process 2 (limit 31,500 m <sup>3</sup> / year)	Use and depletion of a natural resource.	10
2	Discharge of water into the public waterways - process 2 (limit 31,500 m <sup>3</sup> /year)	Use and depletion of a natural resource.	8
3	Generation of used oil (generated waste)	Contamination of soil and aquifers.	7,3
4	Dust from grinding (positive impact)	Use and depletion of a natural resource.	7,3
5	BOD <sub>5</sub> (process 1)	Water pollution.	7,3
6	Consumption of additives for boilers	Greater waste management.	7
7	Nitrogen consumption	Atmospheric pollution.	7
8	Volume of internal waste water reused (positive impact)	Depletion of material resources.	7
9	Treatment of salt slag (positive impact)	Less contamination of surface water and soil by reducing discharge	7
10	Treatment of SPL (positive impact)	Less contamination of surface water and soil by reducing discharge	7
11	Treatment of aluminium slag (positive impact)	Less contamination of surface water and soil by reducing discharge	7
12	Treatment of filter dust (positive impact)	Less contamination of surface water and soil by reducing discharge	7

Table 6.1. Significant direct environmental aspects and impacts in normal conditions.

1) Consumption of groundwater.

During the first few months of 2014, one of the discharge authorisations for Befesa Aluminio S.L CT Valladolid was for 540,000 m<sup>3</sup>. In March of that year, the new IEA for process 2 was approved, with a discharge limit of 31,500 m<sup>3</sup>.

This discharge limit was exceeded in 2014, as a result of which it was considered our most significant environmental issue and a legal breach.

As will be discussed later in this statement, this excess was reported to the Duero Water Authority, including the corrective and preventive measures put in place to rectify this.

2) Discharge of water.

Due to the consumption of groundwater, the volume of waste water discharged into the river was also exceeded, so that, although all of the parameters analysed comply with the limits in our IEA, the amount of cubic meters discharged does not comply.

Befesa Aluminio S.L. Valladolid is taking both corrective and preventive measures to deal with this breach to avoid this happening again.

3) Generation of used oil.

Before the maintenance operations were outsourced and now they are carried out on site.

These first data will be taken as a reference for subsequent evaluation aspects.

4) Grinding dust/powder.

The grinding dust/powder generated in process 2 from treating aluminium slag is valued in process 1, as a result of which it is considered to be a positive impact.

5) Biochemical Oxygen Demand (BOD).

We still consider this parameter, which is analysed in our septic tank, to be significant, although it is now controlled and within the legal limits set out in our IEA, taking it into account when setting the preventive maintenance of our facilities, due to problems in previous years.

6) Consumption of additives for boilers.

Additives for boilers have increased due to constant stoppages and start-ups.

7) Nitrogen consumption. (N<sub>2</sub>).

At the Befesa Aluminio S.L. CT Valladolid facilities, there is a nitrogen tank that is property of the supplier. N<sub>2</sub> is used in inertisation operations in the reactors and for maintaining the seal in the flare system.

As mentioned in previous years, the nitrogen consumption is linked to the stoppages and start-ups of our activity during the year.

8) Volume of internal waste water reused.

Water is a fundamental part of the Befesa Aluminio S.L. CT Valladolid process. Water consumption is therefore proportional to the consumption of raw materials. As explained above, the water used in dissolving salts is evaporated to obtain NaCl and KCl by crystallisation, and is subsequently condensed to be used in new productive processes.

All condensates from the evaporation phase are sent to storage tanks, where water is fed to the various consumption points:

- Boilers for vapour production.
- Oxide washing and/or dissolution phase.

**Befesa Aluminio CT Valladolid.**

- Pump seals and cleaning of pipes and plant. After being used for the seals, this water is also sent to the dissolution phase.

The process has been designed to reduce the use of water from harvesting as much as possible, maximising the performance and recycling of water generated during the process and run-off water. The only fresh water that is added is used to compensate for water that is lost during the process, which we think is a significant positive environmental aspect as it reduces the external consumption of water and, therefore, reduces the consumption of a scarce natural resource. It also has an impact on reducing surface water contamination as it avoids and reduces discharges.

9) Treatment of waste.

Treatment of salt slag, SPL, aluminium slag and filter dust.

All of these are considered to be positive environmental aspects due to the treatment they receive at our facilities.

## **6.2. Significant direct environmental aspects and impacts in emergency conditions.**

Once the direct environmental aspects have been identified and evaluated under emergency conditions, those included in the table below are considered to be significant:

Ranking	Significant environmental aspects.	Environmental impact	Total score
1	Contamination of the cooling towers and/or air conditioning system by Legionella.	Contamination by Legionella.	6
2	Uncontrolled emissions and discharges in the event of a fire or explosion.	Increase in atmospheric pollution by combustion gases and increase in soil contamination.	6
3	Uncontrolled emissions and discharges due to faulty treatment systems.	Water pollution from discharges.	4
4	Discharges and spills in the event of damage to tanks or leaks at the plant (storage tanks for fuel or chemical products).	Water pollution from discharges. Generation of waste.	4
5	Generation of asbestos cement.	Generation of hazardous waste.	4

Table 6.2. Significant direct environmental aspects and impacts in emergency conditions.

The necessary preventive measures have been implemented in order to reduce the likelihood of these situations occurring. As well as environmental issues arising from them.

During 2014, Befesa Aluminio S.L. CT Valladolid informed the civil protection service of Valladolid of its emergency plan (self-protection plan) covering all of its facilities, which will be kept properly updated and be reviewed at least once every three years, in accordance with RD 393/ 2009.

### **6.3. Significant indirect environmental aspects**

The environmental aspects identified as indirect are those associated with the transport of people and goods. Neither of them is considered significant.

Both the consumption of diesel oil and natural resources and the generation of combustion gases are considered to be impacts arising from indirect environmental aspects, such as the transport of goods, which are beyond the control of Befesa Aluminio S.L. CT Valladolid.

Other indirect environmental aspects are those caused by contractors working at the plant, whose impacts are associated with the use of natural resources, such as water, power or electricity.

## 7. Objectives and targets 2015.

In order to fulfil the commitment of Befesa Aluminio S.L. CT Valladolid to continuous improvement in all aspects, including environmental aspects, a number of environmental objectives have been formulated for 2015.

The environmental objectives and their corresponding indicators for 2015 are as follows:

<b>Objective: 1</b>	<b>Reduction of water consumption</b>		Associated indicator: m <sup>3</sup> / t	Annual target value: 0.908
Process:	Waste treatment	Person	Period	Resources
Goal 1:	Use of water from bubbling tanks	DMG / JRH	February	€ 1,000
Goal 2:	Use of water from Filters	DMG / JRH	February	€ 1,000
Goal 3:	Use of water from tower	DMG / JRH	April	€ 1,000

<b>Objective: 2</b>	<b>Reduction of power consumption</b>		Associated indicator: KWh/ t	Annual target value: 84.409
Process:	Waste treatment	Person	Period	Resources
Goal 1:	Installation of more efficient motors	DMG / JRH / JII	January - December.	€ 70,000
Goal 2:	Installation of magnetic separator	DMG / JRH / JII	March 2015	

<b>Objective: 3</b>	<b>Reduction of natural gas consumption</b>		Associated indicator: KWh/ t ES	Annual target value: 474.033
Process:	Waste treatment	Person	Period	Resources
Goal 1:	Standardisation of washing process and reduction of downtime to 3.5 hours.	DMG / JRH	April	€ 500
Goal 2:	Training and information on goal 1	DMG / JRH	April	N/A

<b>Objective: 4</b>	<b>Reduction of water discharge.</b>		Associated indicator: m <sup>3</sup>	Annual target value: < 30,000
Process:	Quality, Environment and Occupational Health and Safety	Person Responsible	Period	Resources
Goal 1:	Eliminating leaks in the water system - Aluminium plant currently in very poor condition	III	April 2015	€ 20,000
Goal 2:	Expansion of water supply capacity in Salts plant	III	March 2015	
Goal 3:	Monitoring results	RVL	December 2015	N/A

<b>Objective: 5</b>	<b>Analysis of environmental risk arising from our activity.</b>		Associated indicator: No. of environmental	Annual target value: 100 %
Process:	Quality, Environment and Occupational Health and Safety	Person Responsible	Period	Resources
Goal 1:	Application of tools of proven reliability (MMA, etc.)	RVL	March	€ 100
Goal 2:	ID of environmental risks and selection of environmental risks to be evaluated.	RVL	May	€ 100
Goal 3:	Analysis, evaluation and management of risks identified.	RVL	May - November	€ 4,000
Goal 4:	Presentation of report with results	RVL	December	€ 100

## **8. Environmental performance 2014.**

The following section reflects the environmental performance of the company.

All of the indicators presented below are represented by a figure A in the unit appropriate to each case, a figure B in tons of raw material processed, the total figures for which are shown on page 10 in this statement, and a figure  $R=A/B$  in the appropriate units per ton of total raw material processed, always differentiating between process 1 of the process 2.

In addition this year, to order to provide traceability in years subsequent to this environmental statement, the relative figure is presented compared to the total tons for both processes in 2014.

### **8.1 Atmospheric emissions**

Befesa Aluminio S. L. CT Valladolid currently has nine authorised focus points associated to the main facilities that are part of the production process:

#### **Process 1:**

- Point no. 1: boiler B.
- Point no. 2: boiler C.
- Point no. 3: extraction through belt filter.
- Point no. 4: flare pipe.
- Point no. 5: grinding extraction through bag filter.
- Point no. 6: extraction through bag filter of the dryer.

Emissions from boilers are only made up of gases from the combustion of natural gas.

At Point 3, the vacuum belt filters, the vapours from washing the aluminium oxide cake are captured.

The gases produced in the reactors are burnt off at Point 4.

### **Process 2:**

- Point no. 3 (a): slag grinding.
- Point no. 5 (a): grinding aluminium offcuts.
- Point no. 6 (a): operation of a furnace.

a) Emissions into the atmosphere.

According to the environmental terms and conditions relating to emissions into the atmosphere, described in both environmental authorisations, the parameters and frequency of emissions measurements are either annual or every two years.

### **Process 1.**

Point no. 1 is currently not in service as it is only used for emergencies if Point no. 2 fails.

Emissions are controlled at Point no. 2.

Point no. 3, extraction through belt filters, is controlled three times a year, due to the company's concerns about greenhouse gas emissions, as a result of which it comfortably exceeds the control defined in the environmental authorisation.

With regard to Point no. 4 (flare), the IEA considers the emission point but does not set emission limits. This is because the point was previously controlled in the pipe, i.e. before the final processing of the gases, as a result of which, although there is an annual control, it is not included.

All of the inspection chimneys comply with the Order of October 18, 1976 on the prevention and correction of pollution. The installation, layout and dimensions of connections and accesses are suitable for taking measurements and samples. The results from the last inspection were fully within the current regulations.

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The average results of emissions measurements taken during 2014 and their correlation with the total tons treated by process and total tons are shown below. These average values are used as it indicates in our IEA that the minimum measurements are annual or every two years depending on the source/point and, in terms of measurements, Befesa Aluminio S.L takes three measurements per year for process 1 and two measurements, also per year, for process 2.

The emission limit values for the points established in the IAE are also shown.

Point no. 1: boiler B.

The last measurements for this point were taken in 2013. The concentrations of CO and NO<sub>x</sub> were 20 and 108 respectively. Values are not shown in kg/ t as it was only in operation to take this measurement.

Point no. 2: boiler C.

Parameter evaluated	2012	2013	2014	2014 (*)	Emission Limit Values (ELV)
CO mg/ Nm <sup>3</sup>	18	20	30	30	100
CO kg/ t	0.043	0.170	0.054	0.045	N/ A
NO <sub>x</sub> mg/ Nm <sup>3</sup> as NO <sub>2</sub>	36	84	127	127	200
NO <sub>x</sub> kg/ t as NO <sub>2</sub>	0.079	0.724	0.229	0.194	N/ A

Table 8.1. Average annual results and relative values of pollutant content per total treated ton from inspections for Point no. 2: boiler C. (\*) total tons for both process.

Point no. 3: suction through belt filter

Parameter evaluated	2012	2013	2014	2014 (*)	Emission Limit Values (ELV)
HCl mg/ Nm <sup>3</sup>	10	7	60	60	230
HCl kg/ t	0.015	0.012	0.086	0.72	N/ A
NH <sub>3</sub> mg/ Nm <sup>3</sup>	6	8	29	29	40
NH <sub>3</sub> kg/ t	0.009	0.014	0.042	0.035	N/ A

Table 8.2. Average annual results and relative values of pollutant content per total treated ton from inspections for Point no. 3: extraction through belt filters. (\*) total tons for both processes.

Point no. 5: grinding extraction.

Parameter evaluated	2012	2013	2014	2014 (*)	Emission Limit Values (ELV)
Particles, (PM <sub>10</sub> ) mg/ Nm <sup>3</sup>	12	12	12	12	40
Particles, (PM <sub>10</sub> ) kg/ t	0.011	0.012	0.053	0.045	N/A

Table 8.3. Average annual results and relative values of pollutant content per total treated ton from inspections for Point no. 5: grinding. (\*) total tons for both processes.

Point no. 6: extraction through sleeve filter of

Parameter evaluated	2012	2013	2014	2014 (*)	Emission Limit Values (ELV)
Particles, (PM <sub>10</sub> ) mg/ Nm <sup>3</sup>	11	10	16	16	40
Particles, (PM <sub>10</sub> ) kg/ t	0.060	0.016	0.039	0.031	N/A
CO mg/ Nm <sup>3</sup>	16	20	20	20	100
CO kg/ t	0.092	0.031	0.047	0.039	N/A
NO <sub>x</sub> mg/ Nm <sup>3</sup> as NO <sub>2</sub>	21	21	21	21	200
NO <sub>x</sub> kg/ t as NO <sub>2</sub>	0.121	0.033	0.049	0.041	N/A

Table 8.4. Average annual results and relative values of pollutant content per total treated ton from inspections for Point no. 6: dryer. (\*) total tons for both processes.

The data collected in the tables was extracted from the measurement reports made by the Cartif Foundation, and accredited by ENAC.

The codes of these reports are as follows:

IM-LAE-I-20007/ 14

IM-LAE-I-20010/ 14

### Process 2:

Point no. 3 (a): slag grinding.

Parameter evaluated	2012	2013	2014	2014 (*)	Emission Limit Values (ELV)
Particles, (PM <sub>10</sub> ) mg/ Nm <sup>3</sup>	10	8	7	7	20
Particles, (PM <sub>10</sub> ) kg/ t	7.23*10 <sup>-3</sup>	5.58*10 <sup>-3</sup>	3.03*10 <sup>-4</sup>	0.002	N/ A

Table 8.5. Average annual results and relative values of pollutant content per total treated ton from inspections for Point no. 3 (a): slag grinding. (\*) total tons for both processes.

Parameter evaluated	2012	2013	2014	2014 (*)	Emission Limit Values (ELV)
Particles, (PM <sub>10</sub> ) mg/ Nm <sup>3</sup>	10	10	7	7	20
Particles, (PM <sub>10</sub> ) kg/ t	3.96*10 <sup>-4</sup>	4.09*10 <sup>-4</sup>	2.31*10 <sup>-4</sup>	9.84*10 <sup>-5</sup>	N/ A

Table 8.6. Average annual results and relative values of pollutant content per total treated ton from inspections for Point no. 5 (a): furnace. (\*) total tons for both processes.

Point no. 6 (b): Grinding aluminium offcuts.

Parameter evaluated	2012	2013	2014	2014 (*)	Emission Limit Values (ELV)
Particles, (PM <sub>10</sub> ) mg/ Nm <sup>3</sup>	14	7	9	9	20
Particles, (PM <sub>10</sub> ) kg/ t	1.42*10 <sup>-1</sup>	4.84*10 <sup>-2</sup>	6.10*10 <sup>-2</sup>	2.97*10 <sup>-3</sup>	N/A

Table 8.7. Average annual results and relative values of pollutant content per total treated ton for Point no. 6: grinding. (\*) total tons for both processes.

The data collected in the tables was extracted from report IM-LAE-I-2003/ 15 prepared by the Cartif Foundation.

**Befesa Aluminio CT Valladolid.**

The facilities included in process 2 were beset by maintenance problems during most of 2014 and it was impossible to take the measurements in time, so they were taken at the start of 2015.

During 2014, a total of 9,811.25 kg (0.74 kg/ ton treated in this process and 0.063 kg/total tons treated) of PM<sup>10</sup> and 30,091.92 kg of NO<sup>2</sup> (0.229 kg/ ton treated and 0.194 kg/total tons treated) were emitted for process 1.

For process 2, the value of these emissions was 992.12 kg of PM<sup>10</sup> (0.22 kg/ ton treated in this process and 0.0064 kg/ total tons treated).

In relation to the annual greenhouse gas emissions, the direct (range 1) and indirect emissions for energy (range 2) by Befesa Aluminio S.L. CT Valladolid totalled 19,027.37 tons of CO<sub>2</sub>eq, or 0.123 tons of CO<sub>2</sub>eq per ton of material treated. These data were verified by AENOR through the GHG inventory report required by the ISO 14064 standard.

The annual emissions of each type of greenhouse gas are as follows:

Greenhouse gas	Emissions (t of CO <sub>2</sub> equivalent)	t of CO <sub>2</sub> equivalent/ t processed
CO <sub>2</sub>	15,651.38	0.10
CH <sub>4</sub>	24.29	1.57*10 <sup>-4</sup>
N <sub>2</sub> O	81.77	5.29*10 <sup>-4</sup>
HFC	0	0
SF <sub>6</sub>	0	0

Table 8.8.Total of greenhouse gas emissions.

- b) Measures implemented for the prevention, reduction and control of atmospheric emissions.

Thanks to its integrated management system, Befesa Aluminio S.L. CT Valladolid defined a number of procedures which reflect measures to prevent reduce and control atmospheric emissions and the way to act in abnormal operation situations due to both leaks and malfunctions, such as any emergency that may occur at the plant:

- Identification, evaluation and updating of environmental aspects (PG-01).
- Monitoring and measuring of operations (PG-05).
- Operational control (PG-06).
- Prevention and control of environmental emergency situations (PG-04).
- Self-protection plan (PG-29).
- GHG inventory (PG-41).

In addition, throughout its history the company has implemented a number of measures to reduce the pollutant content of its emissions. Those implemented in the last three years are listed in the table below:

Measures implemented	Objectives	Year
Shutting-off the caissons for transferring liquids.	Reduction of ammonia emissions.	2012
Dust suction on belt 9.	Reduction of dust emissions.	2012
Change of suction filter bags in grinding.	Reduction of dust emissions.	2012
Dust suction on belt 6.	Reduction of dust emissions.	2013
Cleaning of reaction and decanting suction pipes.	Reduction of dust emissions.	2013
Change of suction filter bags in grinding.	Reduction of dust emissions.	2013
Change of bag and purifier filters	Reduction of dust emissions.	2014

Table 8.9. Measures implemented for the prevention, reduction and control of atmospheric emissions.

## 8.2 Noise.

The noise and vibrations that are emitted are those from the plant activity due to machinery in motion and moving trucks.

- a) noise emissions into the atmosphere.

Both processes were included in the evaluation of atmospheric noise emissions, taking both the existing legislation and the emission limits in the IAE of Befesa Escorias Salinas S.A. as a reference, which sets noise emission limits as follows:

- Night time noise: 55  $L_{a_{eq}}$  dB (A).
- - Day time noise: 65  $L_{a_{eq}}$  dB (A).

As stated in the IAE, the main sources of noise pollution are:

- Grinding waste.
- Machinery in motion.
- Movement of vehicles.
- Auxiliary equipment: transformers, compressors, extractors.

In this document, the maximum noise levels are set in accordance with the Regulation for the protection of the environment against the emission of noise and vibration from Valladolid City Council. This also states that a technical report must be submitted every four years, attesting to compliance with this regulation.

Law 5/ 2009 of June 4, 2009 on noise in Castile and Leon has also been taken into consideration, in which article 13 establishes that, in the event of making corrections due to the presence of emerging low frequency tonal components or noise with an impulsive character, the limits are 5 dB(A) higher than the corresponding value in Annex I.

In this case, the limit would increase from 65 to 70 dBA in daytime hours and from 55 to 60 dBA at night.

The last noise study was carried out in 2013 due to the merger of Befesa. The study was carried out by an authorised inspection agency and the results were as follows:

Date:	Point 1 dB	Point 2 dB	Point 3 dB	Point 4 dB	Point 5 dB	Point 6 dB
26/09/2013						
Day time	65.3	59.3	52.4	54.9	50.1	56.4
Night time	56.4	57.1	53.8	55.2	56.2	58.6

Table 8.10.Noise measurement results 2013 (\*).

All measurements are within the legal limits.

### **8.3 Discharges into water.**

Befesa Aluminio S.L. CT Valladolid has two different authorisations depending on the process.

Process 1: there is no discharge point into waterways as the sum of industrial waters from production processes and rain water and run-off are collected at a single point, from which it is pumped back into the process.

Outside the process, we have an authorisation from the Duero Water Authority to discharge sanitary water into the ground, once it has been treated. This discharge is characterised as "urban".

Process 2: The company discharges its water directly into the River Pisuerga through the Duero drainage channel.

This discharge should be only of clean rain water, i.e. without adding significant amounts of any pollutants.

- a) Water quality.

A periodic statement must be made on both processes to the Duero Water Authority on the analysis of the discharge in terms of the flow and composition of the effluent. The analysis must be carried out by a "partner company", as provided for in article 253 of the Regulation of the Public Water Domain. The results of the analysis carried out for both processes were:

Process 1:

Parameter	2012	2013	2014	IEA limit
DBO <sub>5</sub>	55	40	50	60 mg O <sub>2</sub> / L
COD (chemical oxygen demand)	162	118	130	200 mg O <sub>2</sub> / L
Solids in suspension	20.5	29	63	90 mg/ L

Table 8.11. Annual results of the quality of the discharge and reference values.

As can be seen in the table above, the results obtained last year were within the parameters defined in our IEA.

During 2014, the checks carried out in recent years continued to be done, due to their good results.

Measures implemented	Objectives	Year
Manual cleaning of the septic tank.	Ensure the levels required by the IAE.	2012
Information and training for workers.	Ensure the levels required by the IAE.	2012
Manual cleaning of the septic tank.	Ensure the levels required by the IAE.	2013
Manual cleaning of the septic tank.	Ensure the levels required by the IAE.	2014

Table 8.12. Measures implemented for the prevention, reduction and control of discharges.

Process 2:

Due to the new frequency of the new IEA set by the government of Castile and Leon, the values issued for 2014 are average data from the analytical results of water samples.

Parameter	2012	2013	2014	IEA limit
pH	7.42	7.08 ± 0.33	7.33	6-9
Aluminium	0.0401 ± 0.006	0.238 ± 0.060	0.12	0.5 mg/ L
Solids in suspension	6.4 ± 1.2	< 5	< 5	35 mg O <sub>2</sub> / L
COD (chemical oxygen demand)	< 50	< 50	< 50	125 mg O <sub>2</sub> / L

Table 8.13. Measures implemented for the prevention, reduction and control of discharges.

As can be seen in table 8.13, all of the results are within the limits of our IEA.

In addition, Befesa Aluminio S.L. CT Valladolid has implemented a number of procedures which reflect prevention, reduction and control measures for the discharges generated, as well as the way to act in abnormal operational situations due to both leaks or malfunctions and any other type of emergency that may occur at the plant.

**8.4 Generation of waste.**

For the purposes of Law 10/ 1998, of April 21, on waste and Royal Decree 833/ 1988, of July 20, approving the Regulation for implementing Basic Law 20/ 1986 on Toxic and Hazardous Waste, the plant is classified as a producer of hazardous waste, with the following authorisation numbers.

- Producer no. PCL A-04066411/ VA for the process 1 plant (previously Befesa Escorias Salinas)
- Producer no. PCL A-47056858/ VA for the process 2 plant (formerly Befesa Aluminio)

During this year, assuming that we have the new IEA requested in 2013, we have integrated the management of the majority of the waste at the plants for which it is not possible to do a comparison with previous years. These data will serve as the basis for future environmental statements.

The data on hazardous waste managed during 2014 is shown below.

- Hazardous waste

Hazardous waste	2014
Big bag (t) and (t / t)	4.98
	$3.27 \cdot 10^{-5}$
Contaminated material (t) and (t / t)	1.735
	$1.12 \cdot 10^{-5}$
Lead batteries (t) and (t / t)	0.315
	$2.04 \cdot 10^{-6}$
Absorbent, filtration materials (t) and (t / t)	0.22
	$1.42 \cdot 10^{-6}$
Packaging with traces of hazardous substances (t) and	0.115
	$7.45 \cdot 10^{-7}$
Used light bulbs (t) and (t / t)	0.02
	$1.26 \cdot 10^{-7}$
Metal packaging (t) and (t / t)	0.02
	$1.29 \cdot 10^{-7}$
Chemical products (t) and (t / t)	0.015
	$9.79 \cdot 10^{-8}$
Plastic packaging (t) and (t / t)	0.01
	$6.47 \cdot 10^{-8}$

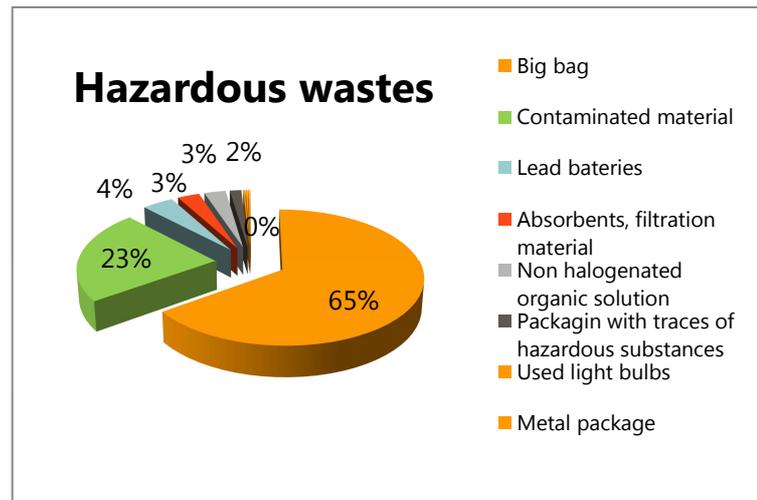


Table 8.14. Hazardous waste generated and waste generated per ton of material treated.

Moreover, for reasons of authorising European Waste Codes in the IEA, the following hazardous waste has been managed through process 2.

Hazardous waste	2014	2014 (*)
Grinding dust/powder (t) and (t / t)	3127.37	3127.37
	$1.03 \cdot 10^{-1}$	$6.57 \cdot 10^{-7}$
Used oil (t) and (t / t)	4.22	4.22
	$1.39 \cdot 10^{-4}$	$2.73 \cdot 10^{-5}$
Non-halogenated organic solvent (t) and (t / t)	0.215	0.215
	$7.11 \cdot 10^{-6}$	$1.39 \cdot 10^{-6}$

Table 8.15. Hazardous waste generated and waste generated per ton of material treated. (\*) total tons from process.

- Non-hazardous waste.

Non-hazardous waste	2014
Wood (t) and (t / t)	33.84
	$0.2 \cdot 10^{-4}$
Sludge from septic tank (t) and (t / t)	8.34
	$5.40 \cdot 10^{-5}$
Municipal solid waste (t) and (t / t)	6.82
	$4.41 \cdot 10^{-5}$
Rubber (t) and (t / t)	4.16
	$2.69 \cdot 10^{-5}$
Plastic (t) and (t / t)	1.2
	$7.77 \cdot 10^{-6}$
Cardboard and paper (t) and (t / t)	1.04
	$6.73 \cdot 10^{-6}$

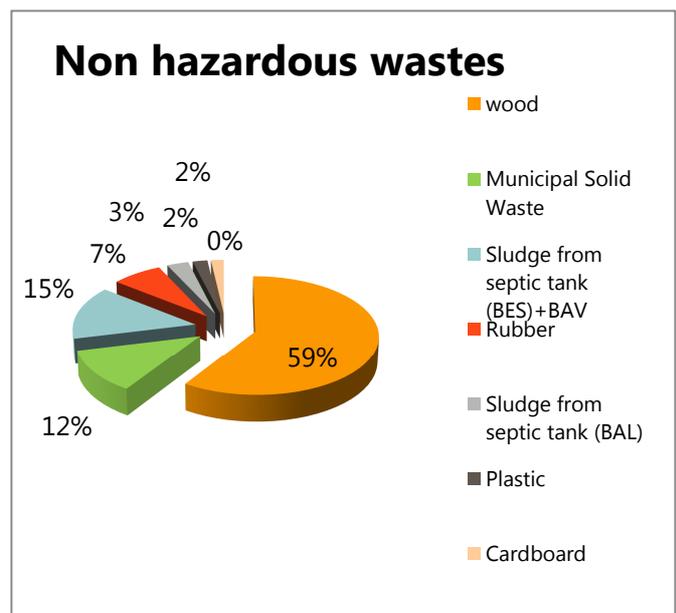


Table 8.16. Non-hazardous waste generated per ton of material treated.

All waste produced was passed on for its treatment and/or elimination to authorised managers, so that all potentially recyclable or recoverable waste is used for these purposes, avoiding its destruction whenever possible.

The most significant waste generated at the of Befesa Aluminio S.L. CT Valladolid plant., in terms of the total quantities generated, are the big bags used to transport filter dust, aluminium slag, SPLs and contaminated material from filter fabric.

The quantities of waste generated for these concepts are directly linked to the company's production process so that the total annual amount generated directly depends on how much of this type of material is treated.

In accordance with ISO 14001:2004 certification, within the general procedures on quality and the environment, procedure PG-14 deals with waste management. This procedure details and specifies both hazardous and non-hazardous waste, the procedure for segregating and storing waste and its transportation to the facilities of the authorised manager. It also specifies the documentary control and environmental records that are generated.

The most important measures implemented during the last three years to prevent, reduce and control waste are:

Measures implemented	Objectives	Year
Information and training for all Befesa Escorias Salinas staff on waste management.	Improvement in the segregation of waste.	2012
Waste management by segregation.	Improvement in environmental best practices.	2012
Integration of waste management of the two plants.	Improvement in waste management.	2013
Improvement in waste management. Less destruction, more recovery.	Improvement in waste management.	2014

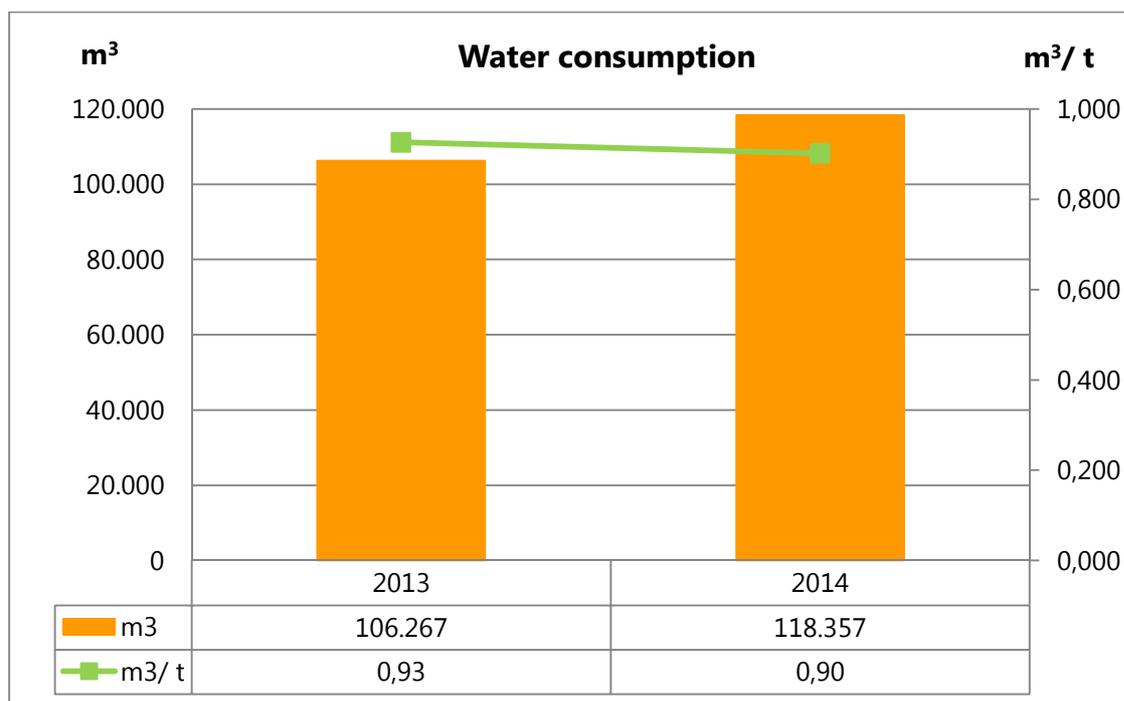
Table 8.17. Measures implemented to prevent, reduce and control waste generated.

During 2015, a new plan for minimising waste will be issued, as the previous version was prepared in 2010 and as required by the IEA.

### 8.5 Water consumption.

As discussed earlier, water is a fundamental part of the Befesa Aluminio S.L. CT Valladolid process. Water consumption is therefore proportional to the consumption of raw materials. The water consumption for the last three years expressed in total m<sup>3</sup> and per tons of total processed raw material is shown below.

Process 1:



8.18. Water consumption in the last two years.

There is no data for 2012 due to a problem with the water meter. As can be seen, it meets the limit set by the Duero Water Authority at 119,300 m<sup>3</sup> per year. Moreover, there was a considerable increase in the consumption of water in this last year. This is due to the fact that the management of certain types of waste requires more water intake. We will try to reduce this consumption for 2015.

**Befesa Aluminio CT Valladolid.**

Water consumption for process 1 in relation to the total tons for both processes is 0.36 m<sup>3</sup>/ t.

Process 2:

The total water consumption for the other Befesa Aluminio facilities was 88,654 m<sup>3</sup> for 2014, which exceeds the consumption set in the IEA of March 2014.

This increase in water consumption was also due to all of the leaks that are suspected due to the age of the facilities when the location of the locker rooms and offices was changed.

This incident was reported to the Duero Water Authority, establishing a number of measures to rectify this legal breach.

These measures include connecting to the municipal water network, because in this area water is only used for the workers' locker rooms and the office building, and cancelling the groundwater harvesting in this area because it is not needed.

**8.6. Energy consumption.**

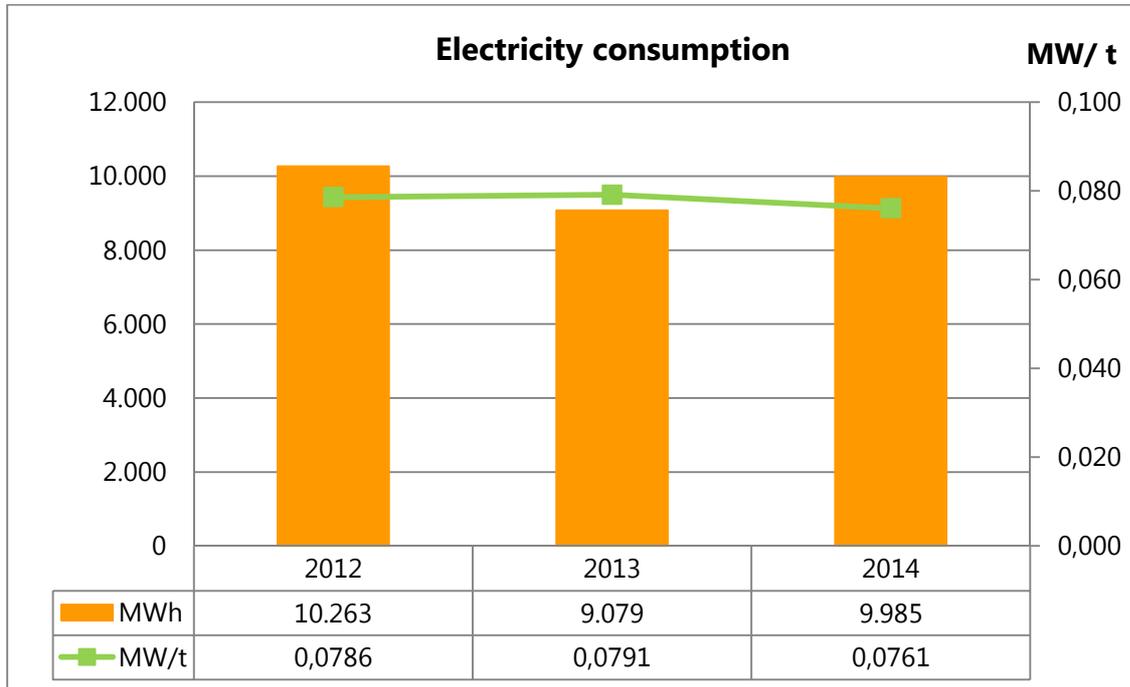
The main fuel used by Befesa Aluminio S.L. CT Valladolid is natural gas, which is used in the steam-generating boilers, the rotary dryer and the safety burners.

Electricity is used to power the motors of pumps, mills, conveyor belts, fans, etc., as well as for controlling the entire plant.

Diesel is not used in the productive process, but it is used for internal transport (loaders and fork lift trucks) and nitrogen is used in inertisation operations in the reactors.

The annual energy consumption by processes and total processed tons is shown below.

- Electricity.

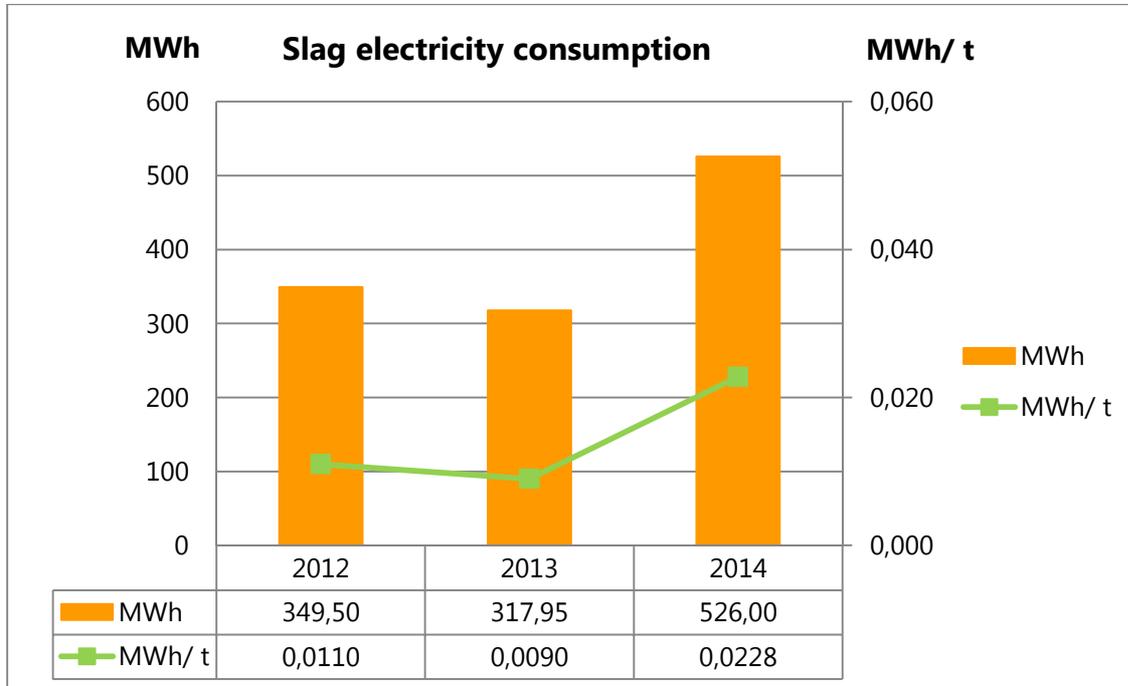


8.19. Electricity consumption for process 1 in last three years.

The consumption of electricity for process 1 has declined in relative terms, as stated in the summary of objectives.

The consumption of electricity in 2014 in total relative terms for both processes would be 0.064 MWh/ t.

The electricity consumption for process 2 in the last three years is as follows:



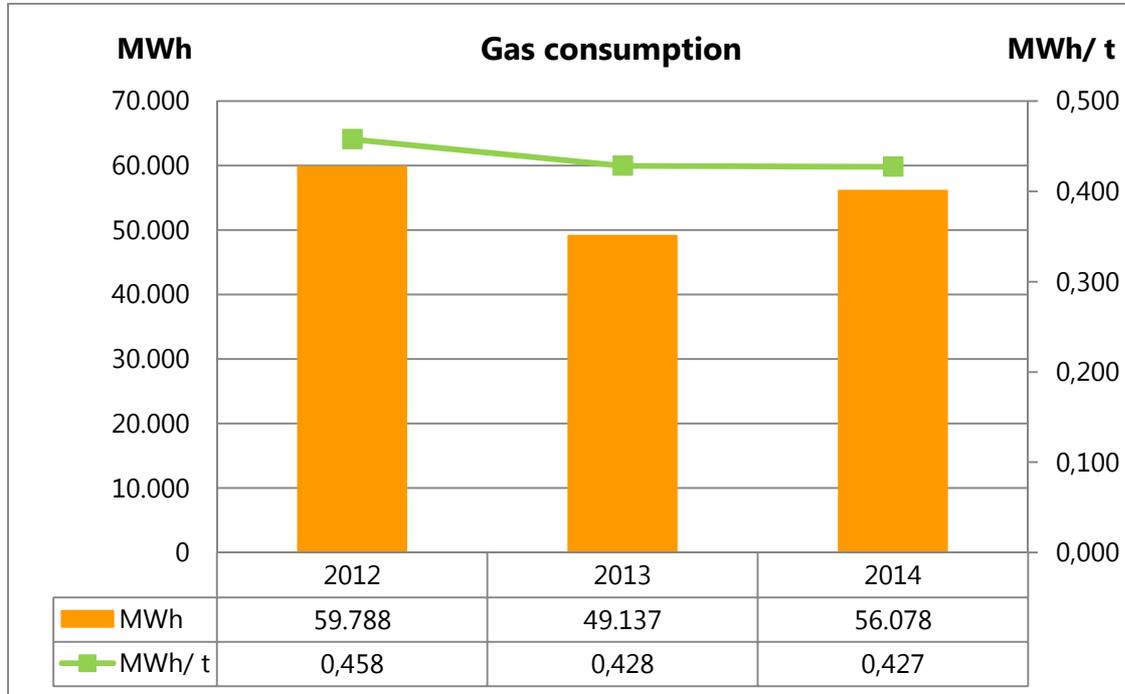
8.21. Electricity consumption for process 2 in last three years.

The data for 2014 on electricity consumption by total tons for both processes are: 0.0035 MWh/ t for the scrap grinder and 0.0034 MWh/ t for the slag grinder.

There was a change in the consumption of both grinders, largely due to the fact that the activity has changed in the last three years and also to the many stoppages and start-ups due to technical problems.

- Natural gas.

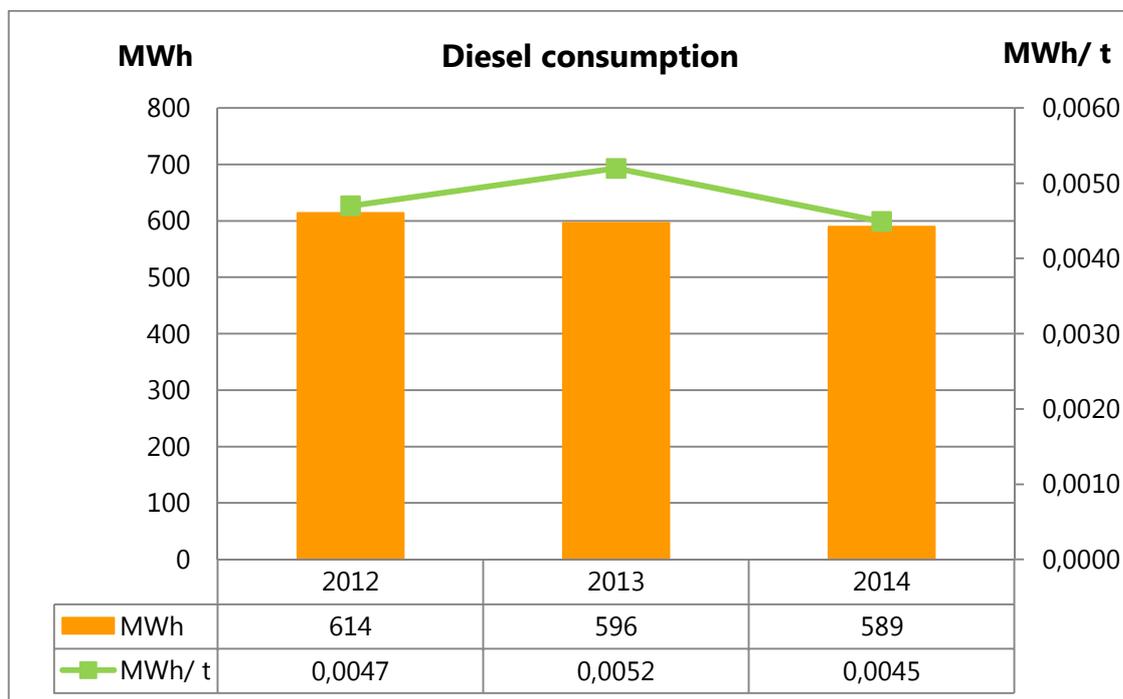
Gas consumption in the last three years is as follows:



8.22. Gas consumption for process 1 in last three years.

In process 2, the only gas that is used is for the small furnace, where smelting tests are carried out. The gas consumption of this furnace is included in the gas bill for process 1, which means that the figure for gas consumption per tonne processed cannot be calculated.

- Diesel.



8.23. Diesel consumption for process 1 in last three years.

Diesel consumption for both processes was 789 MWh and 0.515 MWh/ t total ground. These data, like the others, will be taken as a reference for future environmental statements.

The conversion from L to MWh has been made using the LHV (lower heating value) of diesel, obtaining the value of 9.98 MW from the corresponding page of Petromercado (information about the oil sector).

Befesa Aluminio S.L CT Valladolid is marked sets targets to decrease its consumption every year, which helps us to systematically improve our use of these resources year-on-year.

- Nitrogen.

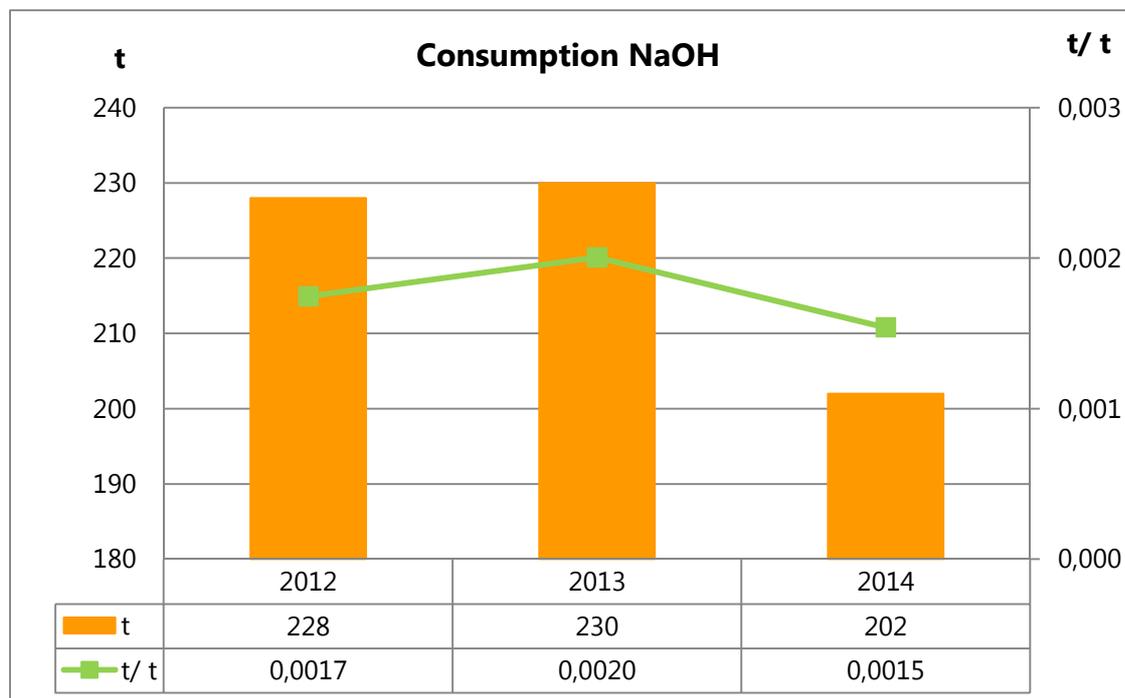
The consumption of nitrogen in the last year was 69.79 t and  $5.31 \cdot 10^{-4}$  t / t treated in process 1 or  $4.52 \cdot 10^{-4}$  t / t.

**8.7 Consumption of additives.**

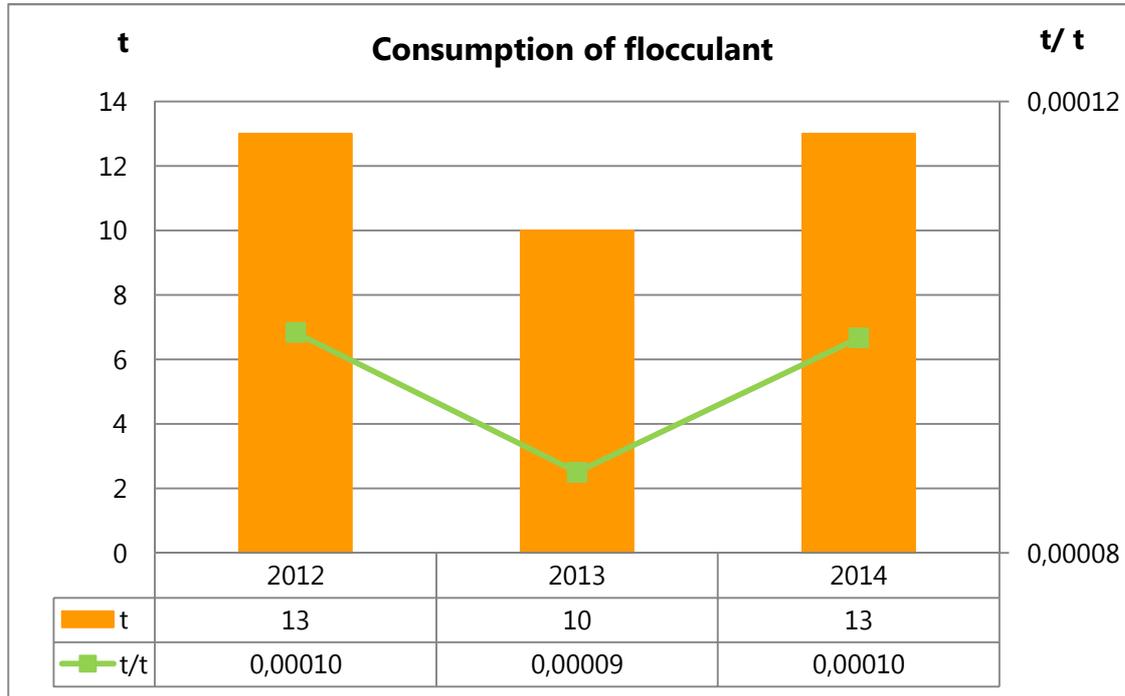
In addition to the aforementioned raw materials, Befesa Aluminio S.L. CT Valladolid also uses additives, such as the following chemicals:

- NaOH: used in order to maintain a basic pH in the brine, lowering the co-crystallisation point of alumina.
- Flocculant: used in the reaction-decanting process to help separate the solid-liquid interphase.
- Saline anti-foaming agent: used in the salt crystallisation process to reduce foam formation.

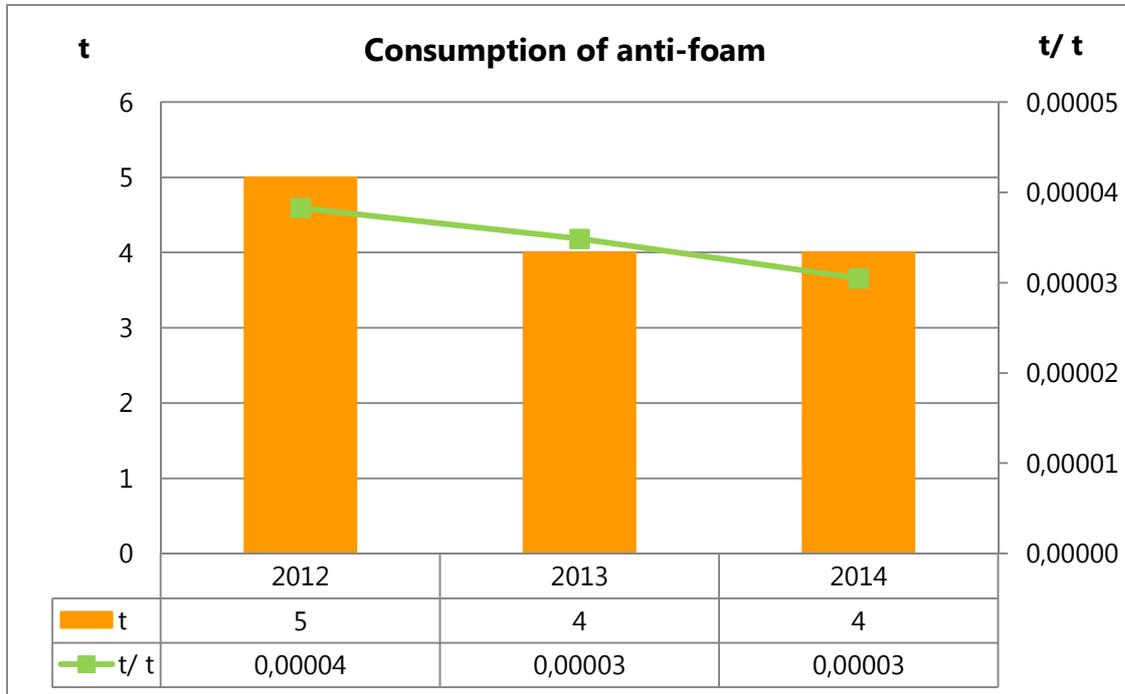
The average annual consumption (from January to December, inclusive) for the last three years, per ton of processed raw material for process 1, was:

**8.24. NaOH consumption for the last three years.**

The decrease in NaOH consumption is mainly due to the fact that the way of adding this additive has changed. During 2013, it was added manually and in 2014 a storage tank was installed.



8.25. Consumption of flocculant in the last three years.



8.26. Consumption of anti-foaming agent in the last three years.

The values for the consumption of additives per total tons processed in both processes were as follows:

NaOH: 0.00131 t / t

## Befesa Aluminio CT Valladolid.

Flocculant: 0.00008 t / t

Anti-foaming agent: 0.00003 t / t

With regard to the consumption of additives, we should point out the increased consumption of flocculant per tonne treated during 2014. This is due to the amount of stoppages and start-ups at the plant, as well as the search for new suppliers of this material.

### 8.8 Biodiversity.

The constructed floor areas at Befesa Aluminio S.L. CT Valladolid are shown below.

Building	Intended use	Useful floor area (m <sup>2</sup> )
Workshop 1	Process, warehouse for raw materials and finished products.	7,350
Workshop 2	Building for compressors and cooling units.	83.87
Workshop 3	Garage for vehicle fleet, spare parts storage, workshops, offices and changing rooms.	2,250
Workshop 4	Treatment of aluminium scrap.	1,263
Workshop 5	Slag grinding, warehouse for raw materials and finished products.	11,395
Workshop 6	Aluminium production workshop. Its equipment is currently being dismantled.	4,307
Workshop 7	Former electrical substation and disused workshops.	2,809
R&D.	Research laboratory	826
Building 1.	Offices and locker rooms.	1,916
Building 2.	Office and laboratory.	187.5

Table 8.28. Constructed floor areas in m<sup>2</sup>:

Our facilities occupy a total area of 106,700 m<sup>2</sup>. However, there has been no impact on biodiversity since land is not included and the plant is not close enough for any

environmental incident to affect any protected area.

In 2014, the relative land use refers to the total tons generated due to unifying the process.

Land	2012	2013	2014
Relative land use (m <sup>2</sup> /t)	0.075	0.706	0.690

Table 8.29.Relative land use.

## 9. Corporate social responsibility.

Befesa considers corporate social responsibility to be a strategic factor and one of the fundamental pillars of its current and future strategy. Therefore, and although it is not a requirement of the EMAS Regulation, the company would like to add that values of corporate social responsibility are being incorporated into its daily business that integrate naturally into the strategy, culture and organisation of the company, through all of the management systems.

a) Mission, vision and values.

<b>Mission</b>	<b>Vision</b>	<b>Values</b>
Befesa focuses its activity on the provision of environmental services to industry, carrying out the activities of waste recycling of aluminium, waste recycling of steel and galvanisation and industrial waste management.	Befesa provides industrial waste management solutions, bearing in mind its social responsibility to help create a sustainable world.	Befesa bases its management on the following values: <ul style="list-style-type: none"><li>· Integrity</li><li>· Legality</li><li>· Professionalism</li><li>· Confidentiality</li><li>· Quality of service</li><li>· Transparency</li></ul>

b) Dialogue with our stakeholders.

- Internal communication.

- Corporate tools like the SharePoint platform, based on document managers for all of the Befesa companies.

It can deal with both non-conformities and improvement actions, through which employees can report possible deficiencies or make suggestions via a computer or in paper format. These actions are monitored monthly in the committees with the general management of the company.

- Employee portal. Portal where the following enquiries can be made:

- View and print pay slips.
- Option to alter banking and personal details.
- Option to distribute salary payments into several bank accounts (by percentage or amount).
- View personal income tax, certificate issuance and option to increase the statutory rate.
- Consultation and management service on personal matters relating to labour relations.

-Whistleblowing Channel.

Compliance with laws and internal regulations and avoiding legal risks and their consequences is a top priority for Befesa.

The actions and conditions that may expose Befesa and its third parties should be detected before they are carried out. Through the Whistleblowing Channel on the Befesa website, any employee or external partner can bring all unfair behaviour to the attention of the company, ensuring their anonymity and confidentiality.

The Whistleblowing Channel via the Befesa website makes it possible to report any action against Befesa that causes:

1. Unfair competitive practices
2. Corruption, bribery, conflict of interest
3. Fraud, forgery of documents
4. Illegal payments, money laundering
5. Breach of environmental regulations
6. Harassment in the work place
7. Unfair employment practices
8. Other criminal matters

## **10. Legal compliance.**

Detailed below are the environmental authorisations and permits obtained by Befesa Aluminio S.L. CT Valladolid for both processes, together with information of interest relating to compliance with specific legal requirements and other legislative obligations.

### **Process 1 and Process 2.**

In April 2014, the environmental report was submitted to the government of Castile and Leon for the application to unify the integrated environmental authorisations after the absorption of Befesa Escorias Salinas.

#### **Process 1:**

Resolution of June 30, 2008 that grants Befesa Escorias Salinas S.A. its integrated environmental authorisation (IEA).

Resolution of December 2009 that grants a non-material amendment to the pre-treatment plant for filter dusts and for using the gases from the reaction between the salt slags, aluminium dross and filter dusts.

Resolution of 18 June 2011 which considers the inclusion of a new type of hazardous waste as a non-material amendment.

- ✓ Compliance with all requirements and presentation of the annual summary and environmental monitoring plan in February 2015.

Registration at the Registry of Hazardous and Non-hazardous Waste Management Companies with number G.R. CL 4/ 96 G.R.N.P. CL 8/ 02 respectively and registration at the Registry of Producers of Hazardous Waste no. PCL A-04066411/ VA.

- ✓ The annual reports as waste managers and producers were submitted in

February 2015.

- ✓ Waste minimisation studies for the period 2015-2017.

There is authorisation from the Duero Water Authority for discharging sanitary waste water into the ground.

- ✓ The annual declaration report has been submitted.
- ✓ Law 16/ 2002, of July 1, 2002, on the integrated prevention and control of pollution, which establishes the emission limit values (ELV).
- ✓ The measurements taken in 2014 have been submitted to the Regional Government of Castile and León, complying with the limits set in the IEA.

Under record CP 23302-VA, the Duero Water Authority has granted Befesa Escorias Salinas S.A. the right to use groundwater with a maximum annual volume of 119,300 m<sup>3</sup>.

- ✓ Volume of groundwater used within the limits set.
- ✓ Request on 22/ 12/ 2014 to the Regional Government of Castile and León to replace the existing groundwater harvesting with a single borehole at a depth of 110 metres for groundwater harvesting.

Regulation for the protection of the environment against noise and vibration emissions from Valladolid City Council.

- ✓ A technical report is submitted every four years accrediting technical compliance with noise levels. The last report was submitted in 2013 and all measurement points complied with night time levels.

Royal Decree 2085/ 1994, of October 20, approving the regulation of oil facilities (amended by Royal Decree 1523/ 1999, of October 1).

- ✓ The temporary authorisation for the 5,000 litre diesel oil tank has been obtained

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- ✓ Royal Decree 9/ 2005, of January 14, which establishes the list of activities that potentially, pollutes the soil and the criteria and standards for the contaminated soil statement.

Compliance with the requirement to submit a preliminary soil report dated 31/ 01/ 2007.

Royal Decree 508/ 2007, of April 20, which regulates the provision of information on emissions under the E-PRTR regulation and integrated environmental authorisation.

- ✓ All of the data on emissions and waste were reported to the Castile and Leon PRTR registry of the PRIP system in February 2015.

Royal Decree 2267/2004, of December 3, which approves the safety regulations on fire fighting in industrial establishments.

- ✓ Compliance with the conditions that industrial establishments and installations must fulfil for their safety in the event of a fire, to prevent fires from occurring and to provide an appropriate response; and in the event that they occur, to limit their spread and enable them to be extinguished in order to stop or reduce the damages or losses caused to people or property by fire.
- ✓ A new caustic soda tank was installed, complying with APQ-06 ( standard on storing chemical products) and an industry register on 27/ 04/ 2014.

Royal Decree 865/ 2003, of July, which establishes the hygiene and sanitary criteria for preventing and controlling legionella.

- ✓ Complies with all the notifications on functioning and maintenance operations.

Law 22/ 2011, of July 28, on waste and contaminated soil.

- ✓ All of the waste generated and processed at the facility complies with this RD.

Law 26/ 2007, of October 23, on environmental liability.

Law 11/ 2014, of July 3, amending Law 26/2007, of October 23, on environmental liability.

Royal Decree 337/ 2014, of May 9, approving the regulations on the technical conditions and safety assurances in high voltage electrical installations and their technical instructions.

### **Process 2:**

Order FYM/2014 of March 25, which amends the Order of November 28, 2008 of the Ministry for the Environment, granting the environmental authorisation for the aluminium waste recovery facility, located in the municipality of Valladolid, owned by Befesa Aluminio S.L, as a result of non-material amendment No. 2.

Resolution of November 28, 2008, of the Ministry for the Environment, which grants environmental authorisation to Befesa Aluminio Valladolid, S.A., for an aluminium waste recovery plant located in the municipality of Valladolid.

Resolution of November 30, 2011, granting an activity start-up licence to Befesa Aluminio, S.L., for its aluminium waste recovery activity, amending the Order of November 28, 2008.

On March 14, 2014, the Climate Change and Environmental Prevention Service reported that the aluminium foundry activity had definitively stopped at the aluminium waste recovery facilities in the municipality of Valladolid, according to the file and the reports received, and confirmed the amendment to the environmental authorisation granted to Befesa Aluminio, S.L., deeming this to be "non-material" according to the criteria in Section 2, Article 10 of Law 16/ 2002 of July 1, on the Integrated Prevention and Control of Contamination.

Order FYM/ 243/ 2014 of July 25, which amends the Order of November 28, 2008 of the Ministry for the Environment, granting the environmental authorisation for the aluminium waste recovery facility, located in the municipality of Valladolid, owned by Befesa Aluminio

S.L, as a result of non-material amendment No. 2.

The Order of November 28, 2008 has been updated in accordance with Directive 2010/ 75 / EC of the European Parliament and Council of November 24, on industrial emissions, through Order FYM/ 49/ 2014, of January 3, on updating integrated environmental authorisations in Castile and Leon. (BOCyL. No. 27, of February 10, 2014).

Registration at the Registry of Hazardous and Non-hazardous Waste Management Companies with number

G.R. CL 4/ 97 G.R.N.P. CL 42/ 02.

- ✓ The report on waste was submitted in February 2015.

Registration at the Registry of Hazardous and Non-hazardous Waste Management Companies with number G.R. CL 4/ 97 G.R.N.P. CL 42/ 02 respectively.

- ✓ The report on waste was submitted in February 2015.

There is authorisation from the Duero Water Authority for discharging directly into the River Pisuerga through the Duero drainage channel.

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- ✓ The annual declaration report has been submitted.
- ✓ Law 16/2002, of July 1, 2002, on the integrated prevention and control of pollution, which establishes the emission limit values (ELV).
- ✓ The measurements taken in both halves of 2014 were submitted to the Regional Government of Castile and León, complying with the limits set in the IEA. The causes of exceeding the discharge limit were also reported, along with the corrective measures for rectifying them.

Under amendment record MC-CP 23006-VA, the Duero Water Authority has granted Aluminio Valladolid S.A. the right to modify the groundwater allowance of a maximum annual volume of 580,000 m<sup>3</sup>.

Authorisation was requested via this process for a single bore hole instead of the two authorised on March 23, 2004 under file reference CP-23006-VA.

Under Order FYM/ 2014, of March 25, it was amended to 31,500 m<sup>3</sup>. This flow was exceeded in 2014, as a result of which, in the annual report on incidents, the causes of this were reported, along with the corrective measures to rectify them, through a request for a new well as mentioned above in process 1.

Regulation for the protection of the environment against noise and vibration emissions from Valladolid City Council.

- ✓ A technical report is submitted every four years accrediting technical compliance with noise levels. The last report was submitted in 2013 and all measurement points complied with night time levels.

Royal Decree 2085/ 1994, of October 20, approving the regulation of oil facilities (amended by Royal Decree 1523/ 1999, of October 1).

- ✓ Diesel oil tank.

Royal Decree 508/ 2007, of April 20, which regulates the provision of information on emissions under the E-PRTR regulation and integrated environmental authorisation.

- ✓ All of the data on emissions and waste were reported to the Castile and Leon PRTR registry of the PRIP system in February 2015.

Royal Decree 2267/ 2004, of December 3, which approves the safety regulations on fire fighting in industrial establishments.

- ✓ Compliance with the conditions that industrial establishments and installations must fulfil for their safety in the event of a fire, to prevent fires from occurring and to provide an appropriate response; and in the event that they occur, to limit their spread and enable them to be extinguished in order to stop or reduce the damages or losses caused to people or property by fire.

Law 22/2011, of July 28, on waste and contaminated soil.

- ✓ All of the waste generated and processed at the facility complies with this RD.

Law 26/ 2007, of October 23, on environmental liability.

Absorption of Escorias Salinas, S.A. by Befesa Aluminio, S.L.

On August 5, 2013, Befesa Aluminio S.L. informed the Directorate General of Environmental Prevention about the absorption of Befesa Escorias Salinas, S.A.-Sociedad Unipersonal by Befesa Aluminio, S.L.-Sociedad Unipersonal, providing the corresponding documentation.

By means of a resolution on October 1, 2013, The Directorate General of Quality and Environmental Sustainability published the change of holder of the environmental



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authorisation granted to Befesa Escorias Salinas, S.A. in favour of Befesa Aluminio, S.L

On February 21, Befesa Aluminio applied to the Waste Management Control Service to unify the Environmental Identification Number (NIMA) and management company authorisation held by the Valladolid work centre, following the merger on July 22, 2013.

On March 31, 2014, the Waste Management Control Service reported that, despite not having any objections to the unification of the NIMAs management company authorisations requested, it could not issue any modification to the registration numbers since these derive from the centre's authorisations, which must therefore be combined.

## **11. Other relevant activities in the environmental field.**

- In accordance with the ISO 14001 standard and the European EMAS Regulation, Befesa Aluminio S.L CT Valladolid has undergone the corresponding internal and external environmental audits, both, in order to ensure that its environmental management system is working correctly. Audits are a key element when checking the validity of the data that the various departments have obtained during the year, such as those for the procedures and instructions designed for correct management. When audits detect non-conformities in the integrated management system, corrective actions are implemented to resolve these situations. The programme of internal and external audits was carried out successfully during 2014.
- Befesa Aluminio S.L. CT Valladolid is integrating the IEA for the two processes referred to throughout this document.
- Befesa Aluminio S.L. CT Valladolid belongs to and actively participates in the following associations:
  - Spanish Quality Association (AEC).
  - CONFEMETAL, the Spanish Confederation of Metal Business Organisations, being an active member of the Environment Committee.
  - Member of the permanent environmental forum of the official Valladolid Chamber of Commerce.
  - ASEGRE, the Spanish Association of Special Waste Management Companies: brings together companies operating in Spain that manage hazardous waste
  - CASLEMA, the association of environmental companies in Castile and Leon.
  - Innovative business cluster on environmental sustainability.
- Befesa Aluminio S.L. CT Valladolid regularly participates in R&D programs with different research centres and other European companies primarily to improve the integral recycling, recovery and reuse of waste from the aluminium industry.

## **12. Next environmental statement**

This environmental statement is intended to inform collaborators, authorities, customers, suppliers, the media and neighbours about our management policy and also to instigate constructive dialogue.

The next validated environmental statement will be in May 2016.



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This statement was validated by the environmental verification agency Bureau Veritas Certification, a certification entity accredited by ENAC CON EL nº ES-V-0003, with registered address at Calle Valportillo Primera, 22-24; Edificio Caoba- Polígono Industrial La Granja, 28108 Alcobendas, Madrid.

This statement is valid for one year from the date of validation.