



# ENVIRONMENTAL STATEMENT Year 2016



**BOMBARDIER EUROPEAN HOLDINGS, S.L.U.**

**“ROLLING STOCK EQUIPMENT” DIVISION**

## **TRAPAGA PLANT (BIZKAIA)**

*This Statement is made in accordance with the provisions of Regulation 1221/2009, of 25th November 2009, on the voluntary participation of organisations in a Community eco-management and audit scheme (EMAS III). The data reported in this Statement describe the environmental performance of BOMBARDIER EUROPEAN HOLDINGS, S.L.U., in the PROPULSION & CONTROLS BUSINESS UNIT of Trápaga Plant. (Bizkaia).*

June 2017

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## 1. INTRODUCTION

Bombardier European Holdings, S.L.U.'s firm commitment to quality, the environment and ongoing improvement takes shape in the implementation of International Management Standards such as UNE-EN ISO 14001, and through the communication of our environmental performance based on European Directives such as the EMAS Regulation.

Environmental management, as an action to be developed at the heart of the company, must be integrated in the general management system and cover all activities and different hierarchical levels.

The environmental management system available in our Organisation has been implemented in order to identify and control environmental aspects related to activities carried out by the Company. Prevention of contamination and the ongoing improvement of our environmental performance are achieved by developing actions and criteria and implementing whatever measures may be required.

The purpose of this Environmental Statement, in accordance with EC Regulation 1221/2009 of the European Parliament and of the Council, of 25th November 2009, on the voluntary participation of organisations in a Community eco-management and audit scheme (EMAS), is to publish our annual management results and strength our commitment to innovation, environmental improvement and growth which is compatible with sustainable development.

This Environmental Statement is only applicable to Trápaga factory in Bizkaia, of Bombardier European Holdings, S.L.U. for the activities of design, development and manufacturing of railway propulsion systems that form the scope of the certified environmental management system.

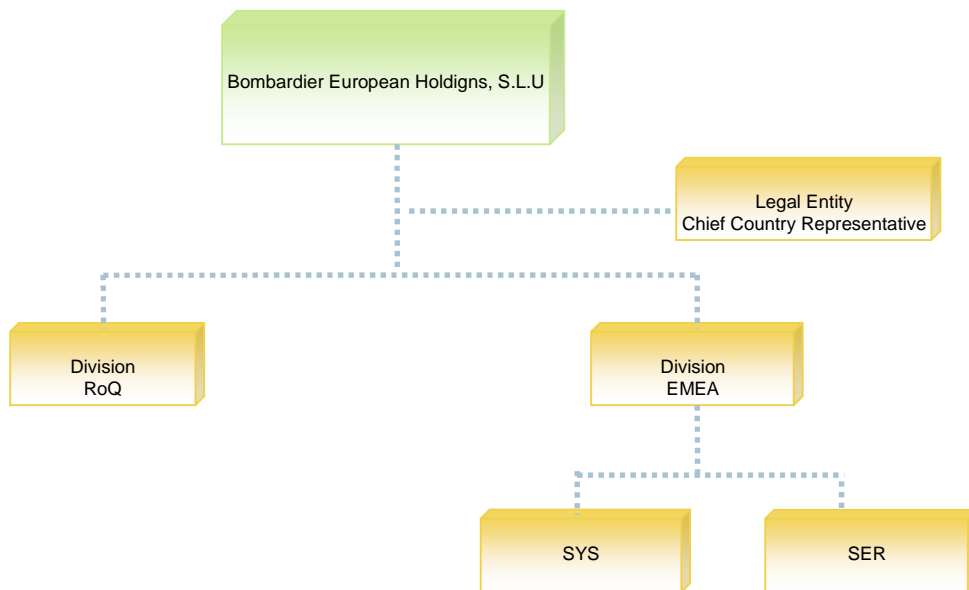
## 2.- PRESENTATION OF BOMBARDIER EUROPEAN HOLDINGS, S.L.U.

Bombardier European Holdings, S.L.U. is part of Bombardier Group, with headquarters in Barrio de Trápaga s/n. 48510 Trapagaran (Bizkaia), whose main activity is the manufacture and maintenance of railway material.

There was an organization change last year and now the company is organised in two operating areas: "Rolling Stock Equipment (RoQ)" and "Europe, Middle East & Africa (EMEA)", these are independent and integrated in the corresponding divisions of Bombardier Transportation, grouped together as a single legal entity.

The operating area EMEA has two business units in Bombardier European Holdings, S.L.U.: Services (SER) and System (SYS)

This structure is shown in the attached Figure:



### **Operating Division: “Rolling Stock Equipment”(RoQ)**

The main activities of this business unit are the design, production and repair at its own facilities of systems, subsystems, electrical equipment and components, control systems and auxiliary facilities for railway applications, along with commissioning of rolling stock and contractual warranty.

The Rolling Stock Equipment has 180 employees and its production centre is located in Trápaga (Bizkaia) along with the Production, Engineering, Health, Safety and Environment (HSE), Finances and Human Resources departments.

The Marketing and Sales, Project Management and Product Introduction departments are located in Avenida de Burgos in Madrid with some resources in Trapaga. Commissioning and warranty are carried out at the customer's depot.

**Operating Division: “ Europe, Middle East & Africa (EMEA)”**

## a) Business unit Services (SER)

The activities this business unit carries out include:

- Comprehensive maintenance of suburban, metro and regional rail vehicles.
- Repair and review of electrical, control and auxiliary railway components and equipment.
- Refurbished and remodelled electrical, control and auxiliary railway components and equipment.
- Refurbished and remodelled railway vehicles.

The SER business unit has 85 employees and its production centre covers several customer depots and Pinto workshop.

The Head Office and the Sales & Marketing, Project Management, Procurement, Finance, Q&HSE and Human Resources Departments are located in Alcobendas.

## b) Business unit: System (SYS)

This business unit carries out maintenance of the APM (Automated People Mover) for Terminal 4 of Adolfo Suarez Barajas Airport.

Also it carries out technical support to the APM system installed in Heathrow (London) airport and gives support to new projects of installations

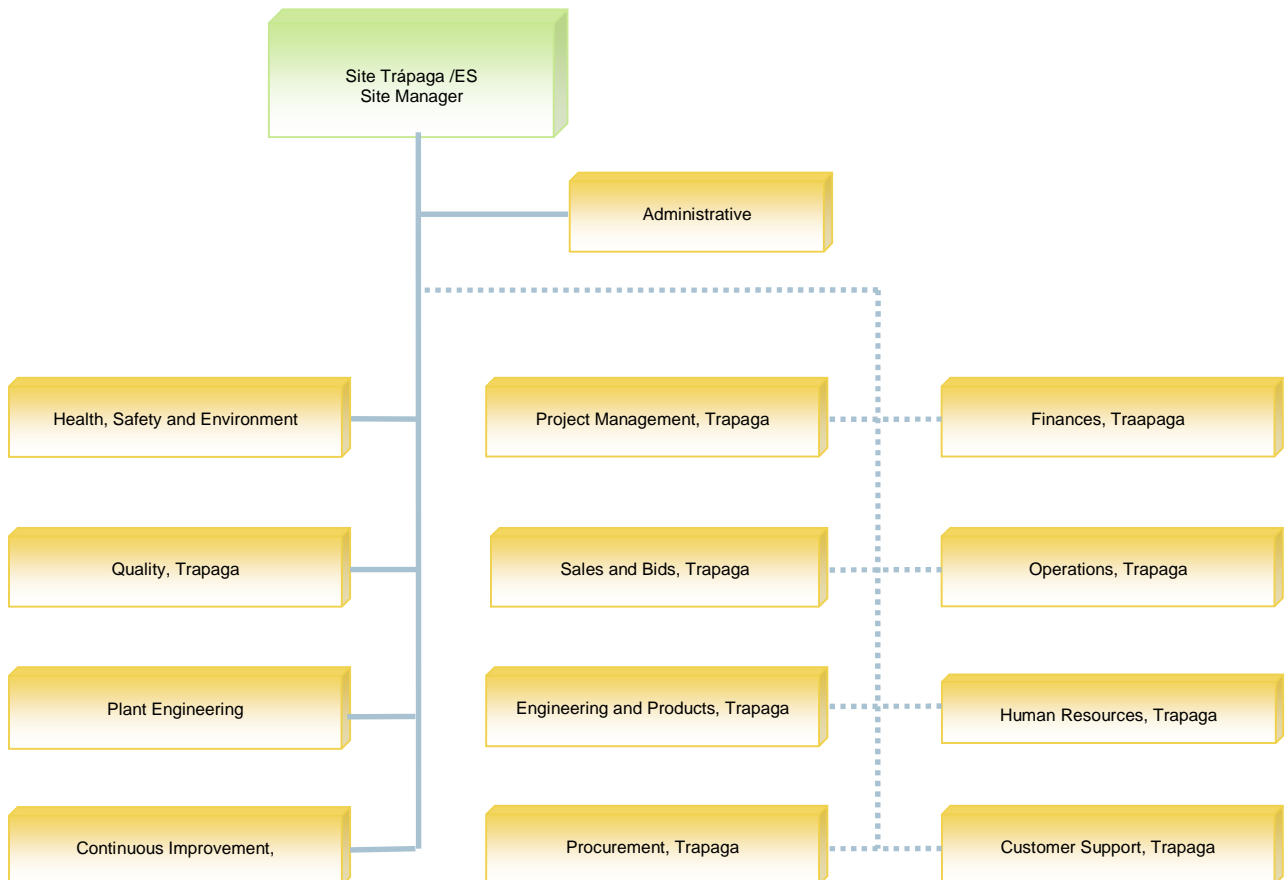
It has 42 employees and carries out its work at the -2 story of terminal 4 in Adolfo Suarez Madrid-Barajas Airport where are located the Management, Sales, HSE, Engineering, Logistic, Purchasing and Activities Coordination.

**2.1.- ROLLING STOCK EQUIPMENT (RoQ).**

The general details and location of the centre are detailed below:

- Company name: Bombardier European Holdings, S.L.U.
- Site address: Barrio de Trápaga s/n. 48510 Trapagaran, Bizkaia, (Spain).
- Year of start of activity: 1960.
- Personnel: 180 employees.
- Power installed: 4100 KVA.
- UTM coordinates: X:498.237, Y:4.794.177
- Telephone/Fax: 94.486.91.00/94.486.91.18
- E-mail: angel.lopez@rail.bombardier.com
- Person to contact: Angel López (HSE), Tel: 673 03 28 78
- CNAE 2009: 27.90, Manufacturer of other material and electrical equipment.
- N.I.F.: B-82894049
- N.I.R.I.: 48 189100
- Floor area: 19,170 m<sup>2</sup>.
- Land area: 44,287 m<sup>2</sup>.
- Land classification: Industrial.

The Rolling Stock Equipment division has its own organisational structure which is independent from the other business units of Bombardier European Holdings, S.L.U., as shown in the attached figure, with maximum executive power corresponding to the Site Manager.



The functions and responsibilities assumed by each of the hierarchical levels and their communication channels are, with regards to the environmental management of the Company and the prevention of accidents at work, defined in "Standard GPR-10-05-05-000174 Health, Safety and Environment Functions".

In order to carry out the environmental management of its activities, the Rolling Stock Equipment division of Bombardier European Holdings, S.L.U. has implemented an Environmental Management System in accordance with current Standard ISO 14001 and the Regulation (EC) No 1221/2009 (EMAS), register number ES-EU-000079, and integrated it in its Environmental Management System.

Each procedure in the Integrated Management System defines how to carry out the different tasks, the functions and responsibilities of the person in charge of each function, and the preventive measures necessary to carry them out safely.

### 2.1.1.- Organisation of production

The production plant of the Rolling Stock Equipment division is located in Trápaga and manufactures railway traction components and systems, ranging from traction converters through to electronic command and control equipment. It has a high voltage laboratory for testing power converters of locomotives and train units.

The commissioning and warranty activities for the train units are carried out at the customer's depot.

Workers in the Rolling Stock Equipment division carry out their activities in the following sections:

- a) Trápaga Offices (Bizkaia): Administration
- b) Offices in Avenida Burgos (Madrid) Administration
- c) Trápaga Factory: Rolling stock electrical equipment manufacture
- d) Warehouse: Logistics.
- e) Customer Depots: Commissioning and warranty work.

### 2.2.- Description of the site of Trápaga Plant

The site consists of irregularly shaped land and flat topography, covering a surface area of 44,287 m<sup>2</sup>. To the north it is limited by the road which runs from Barakaldo to San Salvador del Valle, which gives access to segregated land previously owned by CONELEC. To the east it is limited by a flyover section of the A8 highway, and to the west by the company M.F.S. Sintering S.A.

The company's manufacturing plant and annexe buildings for storage are located on this land, covering a surface area of 19,870 m<sup>2</sup>.

The floor area of the manufacturing plant is divided up as follows:

•Production	12,724 m <sup>2</sup>
•Outdoor warehouse	700 m <sup>2</sup>
•Leased area	3,870 m <sup>2</sup>
•Unused area	2,576 m <sup>2</sup>

On the north side there is a drywall and metal fence, on the south side there is a concrete wall and metal fence, and on the east side there is a breezeblock wall and fencing. The flooring is 80% concrete base and asphalt, with a drainage network which discharges into the Granada River, and a sewerage network connected to the Gran Bilbao Water Consortium network.



The site is located 1200 metres east of the town of Trapagarán, 2000 metres west of the town of Barakaldo and 1000 metres from Ugarte. The nearest houses are located around 300 meters to the south-west, in the Zaballa district in the town of Trapagarán. These are 2 and 3 storey buildings, numbering around 10.

The attached figures show the location of our company from a national and local perspective, along with the layout of the facilities.

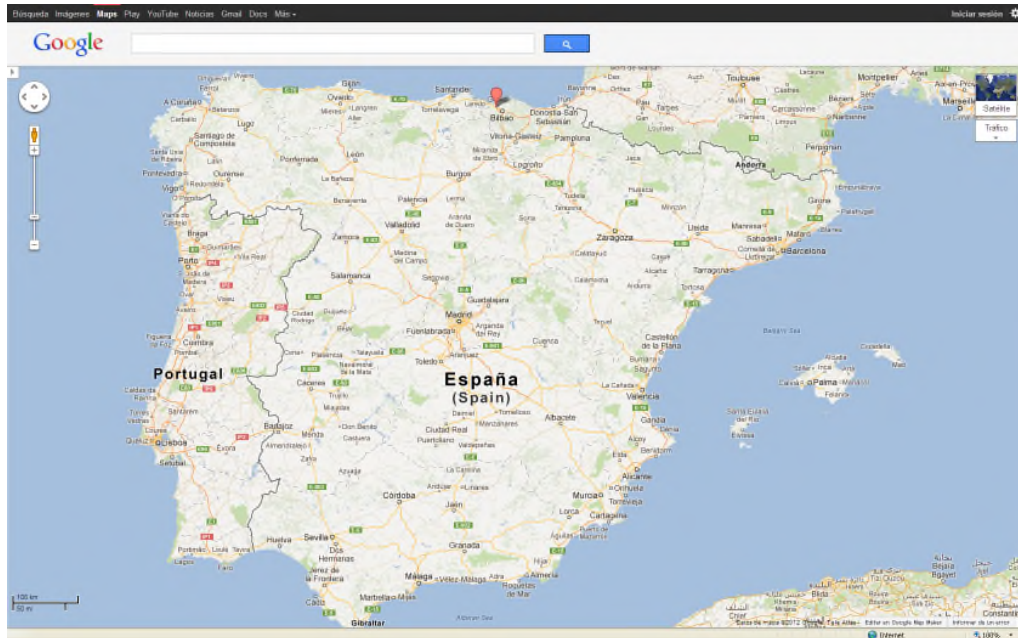


Photo nº1: Location of Trápaga in Spain



Photo nº2: Location of Trápaga in Bizkaia province





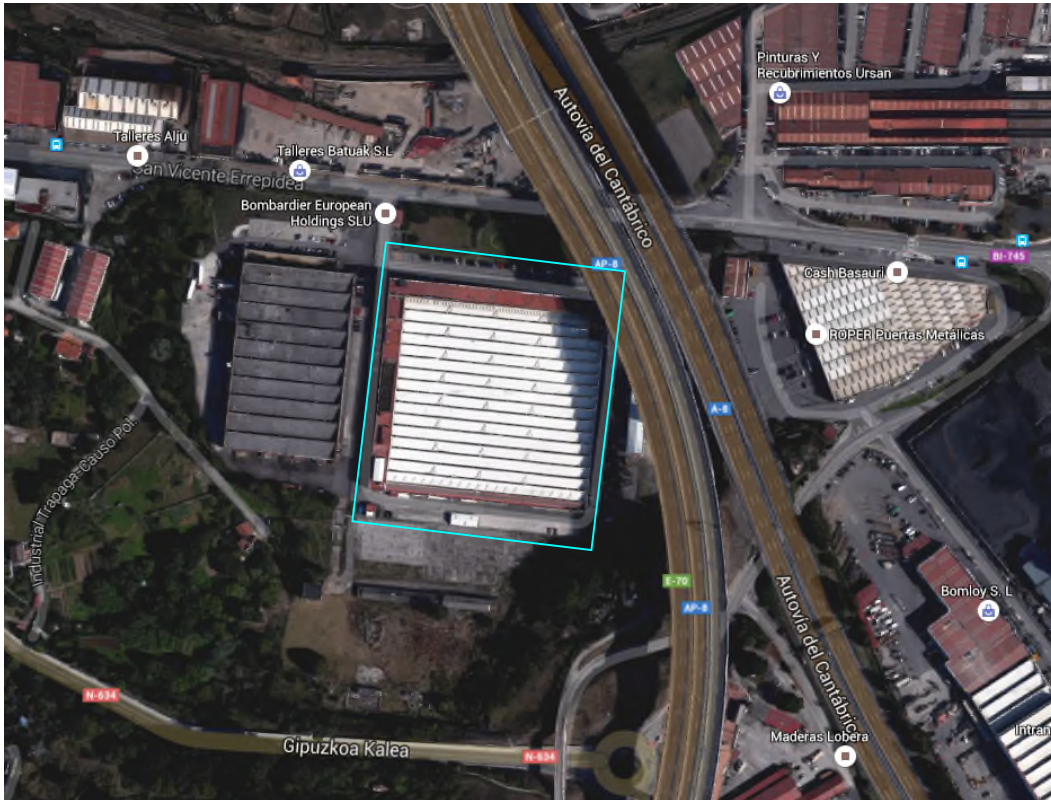


Photo nº5: Location of Trápaga plant





Image n°6: Layout of the facilities

**2.3.- Company activities**

The main activities of this Business are the design, production and repair at its own facilities of systems, subsystems, electrical equipment and components, control systems and auxiliary facilities for railway applications, along with the commissioning of rolling stock and contractual warranty at the customer's depot.

Our products:

- ✓ Main converters
- ✓ Auxiliary converters
- ✓ Modules (GTO/Water cooled)
- ✓ Propulsion system housing
- ✓ Master Controls
- ✓ Brake resistors
- ✓ Pantographs
- ✓ Control desks



Main converter 1500 Vdc. IGBTs.



Main IGBT converter. Dual voltage 600/1500 Vdc



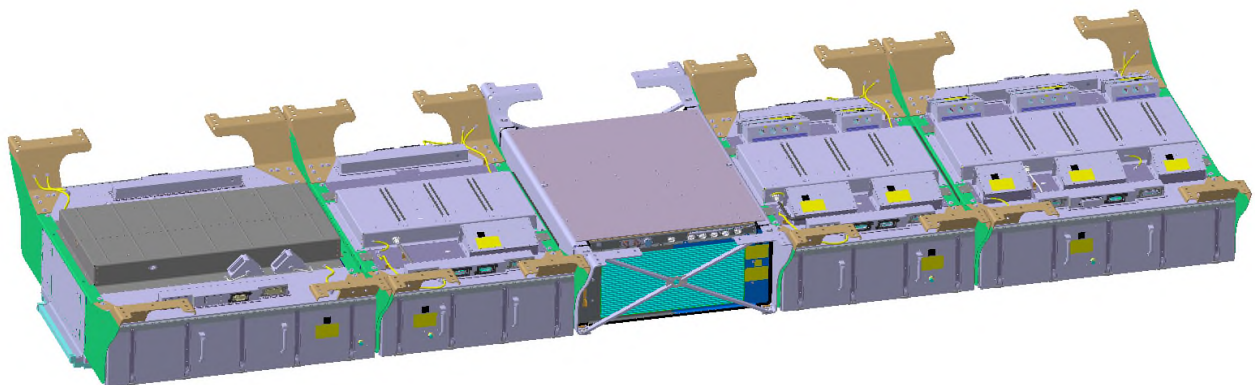
Main Converter 3000 Vdc GTOs (ES 464)



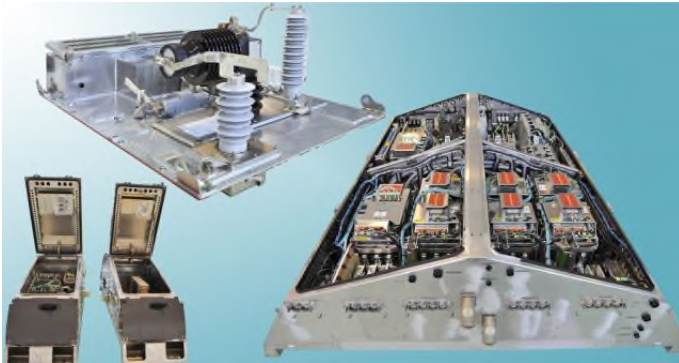
Main and Auxiliary Converter 25 kVac IPMs (HST 350/AVE 102-112)



Main Converter MITRAC TC330 ACV20  
(HST-Haramain)



Zefiro Converter  
Voltage: 3 y 1.5 Kv dc/ 25 Kv ac  
Technology: IGBT  
Power: 2.8 MW  
Cooling: Agua



**PHD Converter**  
Voltage: 1.5 Kv dc/ 25 Kv ac  
Technology: IGBT  
Power: 2.4 MW  
Cooling: Agua

**MONORAIL Converter**  
Voltage: 750 V dc  
Technology: IGBT  
Power: 2x103 kW  
Cooling: Agua

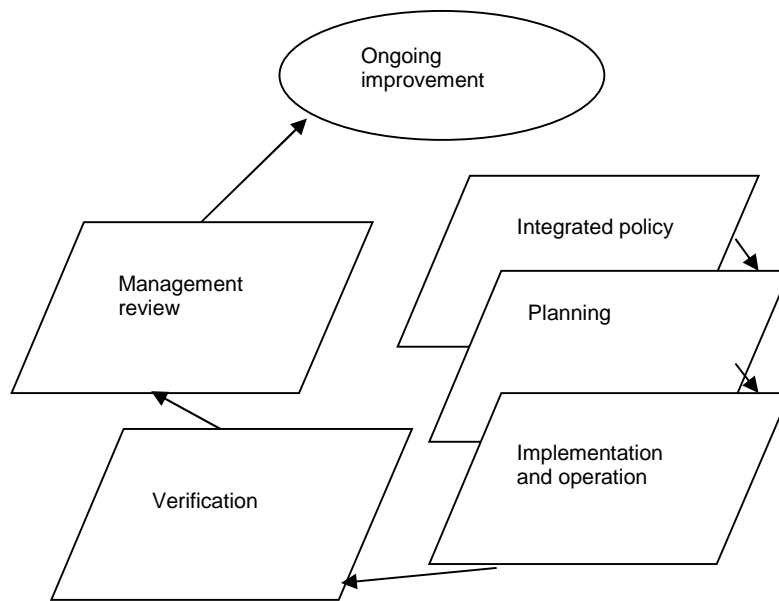


**APM Converter**  
Voltage: 750 V cc  
Technology: IGBT  
Power: 180 kW  
Cooling: Aire



**3.- Presentation of the Environmental Management System of Bombardier European Holdings, S.L.U. (RoQ Division)**

The RoQ division has implemented a Management System for Quality, Environment and Health and Safety at Work, in order to comply with that set out in its HSE Policy (Health, Safety and Environment), in accordance with the requirements contained in Standards ISO 9001:2008, ISO 14001:2004, OHSAS 18001:2007 Specification and Regulation (EC) No 1221/2009 (EMAS). This system bases its activities on ongoing improvement, as described in the table below.



The scope of the system includes the activities of design, development and manufacturing of railway propulsion systems.

**3.1 Environmental policy**

The Propulsion & Controls Business Unit of Bombardier European Holdings, S.L.U. has endorsed the Health, Safety and Environment Policy of Bombardier Inc., which is shown below:

.....  
**HEALTH, SAFETY AND ENVIRONMENT POLICY**  
.....

Bombardier Inc. and all of its subsidiaries (hereinafter collectively referred to as “Bombardier”) consider the protection and promotion of health, safety and environment (HSE) a fundamental value and corporate responsibility governing all its activities. Our aim is to be a leader in HSE Preventive Culture.



**OUR VALUES**

Bombardier takes pride in designing, manufacturing and servicing products and systems that facilitate the sustainable mobility of people and goods. Our senior management is dedicated to deploy our HSE Preventive Culture everywhere we operate worldwide by protecting our employees from occupational illnesses and work-related accidents. Bombardier is committed to continuously improving the environmental performance of its activities, products and services throughout the value chain, applying a total lifecycle view, beginning in the earliest stages of design and projects.

**OUR COMMITMENTS**

It is a management obligation to visibly demonstrate HSE leadership throughout all our business processes and activities, while supporting alignment with our Corporate strategy through everyday actions and involving our employees. Bombardier makes the following commitments and requires all employees to act accordingly:

- 1 TO TAKE APPROPRIATE ACTIONS** to foster employee health and wellness and to prevent all occupational accidents and illnesses.
- 2 TO INTEGRATE** our values throughout our activities, behaviours and strategic decisions.
- 3 TO COMPLY WITH** applicable laws, regulations, standards and other compliance obligations by adopting processes based on risk assessment and mitigation through appropriate controls, covering normal, abnormal and emergency scenarios in order to ensure our operations are managed safely, ecologically and sustainably.
- 4 TO TAKE NECESSARY MEASURES** to ensure environmental protection including prevention of pollution and mitigation of climate change, conserving and rationing the natural resources and the energy required for our operations. This includes minimizing adverse environmental impacts of our business activities and operations, including new developments as well as the application of eco-design principles.
- 5 TO COMMUNICATE AND PROMOTE** to management, customers, employees and contractors our commitment to the continuous improvement of our health, safety and environmental performance, and to provide necessary resources, including training.
- 6 TO MAKE THIS POLICY AVAILABLE** to interested parties, and to promote health, safety and environmental awareness, performance improvement and best practices throughout the supply chain.
- 7 TO SYSTEMATICALLY EVALUATE** our health, safety and environmental performance and the effectiveness of our management system through process controls, including audits, and to report on our achievements to interested parties.

Alain Bellemare  
President and Chief Executive Officer  
October 2015

## LOCAL ENDORSEMENT OF THE HEALTH, SAFETY AND ENVIRONMENT POLICY



### ISC Trapaga

In support of the Health, Safety and Environment (HSE) Policy of Bombardier Inc., our site commits to continuously improve its HSE performance. Based on the site's activities and associated HSE impacts, we pledge to support Bombardier's Vision to be a leader in HSE Preventive Culture.

### HSE PREVENTIVE CULTURE

As leaders, we are dedicated to deploy our HSE Preventive Culture, striving to achieve zero accidents, protect the environment, and focus on attaining and maintaining world-class standards in HSE, everywhere we operate in the world. It is our responsibility to show leadership in all aspects of HSE and visibly demonstrate our commitment through our everyday actions.

The HSE Policy reflects our values and underlines key commitments. We expect everyone at Bombardier across all levels of the organization to adopt and practice them at all times.

### BT 2016 GOALS AND TARGETS

- **Incident Rate:** Achieve 1.0 by year end
- **HSE Training hours per person:** Achieve 8.0 by year end
- **Safety tours:** Increase Safety tour per month by 20% for SGM and each of his direct reports
- Reduce **absolute energy consumption & GHG emissions** by 2.5 % AND **water consumption and waste** by 1% between 2014 and 2016, based on 2013 data
- Reduce **relative energy consumption and GHG emission** by 10% AND **water consumption and waste** by 5% per 200,000 worked hours between 2014 and 2016, based on 2013 data
- Increase **waste valorization** (valorized waste compared to total waste) by 3% between 2014 and 2016, based on 2013 data

### TRAPAGA 2016 GOALS AND TARGET & REQUIREMENTS

- **Incident Rate:** Achieve 0.0 by year end
- **HSE Training hours per person:** Achieve 8.0 by year end
- Reduce **energy consumption** by 2,5% and **waste** by 1%
- **Safety Tours:** Achieve 60 tours by members of management team
- All employees will perform their jobs safely and environmentally friendly, in accordance with legislative requirements and the established procedures

### LOCAL ENDORSEMENT

**The activities at our site include:** Design, development and manufacturing of railway propulsion systems

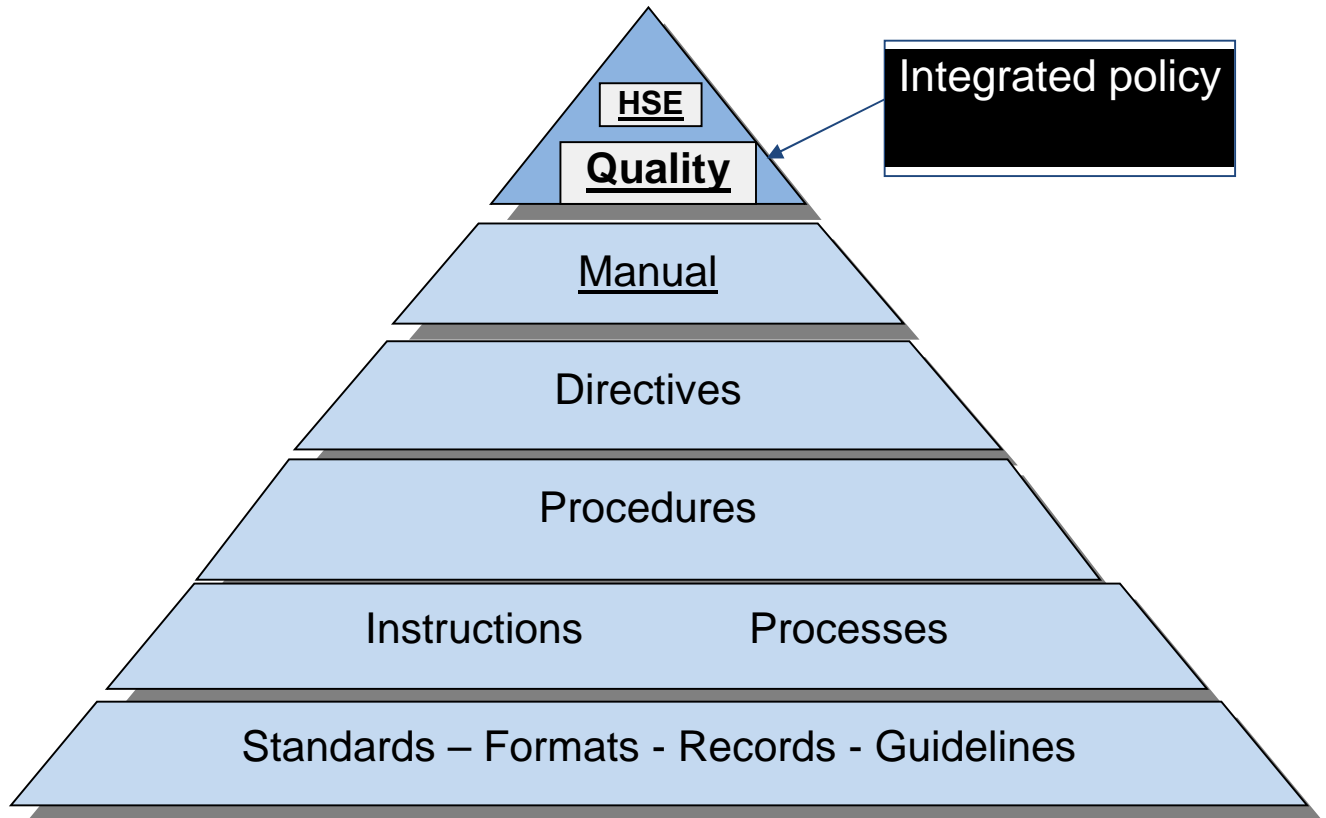
On behalf of our site leadership team, I encourage you to personally commit to the values and commitments of the Corporate HSE Policy and to our site's HSE Endorsement.

Signature

Nieves Sáez Barrénechea  
 Site General Manager  
 Internal Supply Chain (ISC) Trapaga  
 May 9<sup>th</sup>, 2016

### 3.2 Description of the environmental management system implemented

The Integrated Management System of the RoQ division of Bombardier European Holdings, S.L.U., which includes the Environmental Management System, is structured in 6 levels, with the top level corresponding to Quality Policies, Health and Safety and the Environment.



The Environmental Management System has been certified by an Accredited External Agency.

The requirements of Standard ISO 14001:2004 and the EMAS Regulation are set out in several documents of the Integrated Management System:

- Health, Safety and Environment Policy.
- Management System Manual.
- Common procedures of the Management System (defining who, when and how in the ISC Business Unit of Bombardier European Holdings, S.L.U. for management activities which are common to the Quality, Environment and Health and Safety at Work Management Systems):
  - Control of documentation.
  - Planning of objectives and targets and Management System.
  - Management Review.
  - Purchases and assessment of suppliers.
  - Internal and external communication.
  - Resource management.
  - Internal audits.
- Environmental Management Procedures (defining who, when and how in the RoQ division of Bombardier European Holdings, S.L.U. for the specific activities of environmental management):
  - Identification and assessment of environmental aspects.
  - Update and register of legislation and other requirements.
  - Action plan in the event of incidents and emergency situations.
  - Emergency plan.



- Environmental operational control procedures (defining who, when and how in the RoQ division of Bombardier European Holdings, S.L.U. for environmental operational control activities):
  - Control of hazardous waste.
  - Control of atmospheric emissions.
  - Consumption control.
  - Management and control of noise.
  - Management and control of discharges.
  - Control of inert and urban waste.

The Environmental Management System is subject to ongoing improvement by the RoQ division of Bombardier European Holdings, S.L.U., and provides a structured process to systematically control the level of environmental performance and to reduce significant environmental impacts.

The Environmental Policy is integrated with the Health and Safety Policy and is in line with Standard UNE EN ISO 14001, currently valid.

Planning of the Environmental Management System includes:

- Identification and assessment of environmental aspects, including direct aspects associated to normal conditions and emergency situations, as well as indirect aspects.
- Listing of environmental aspects, in which each environmental aspect is related to the contaminating activity which causes it, with details of the effects or the means affected by them.
- Identification of legal and other requirements applicable to the identified environmental aspects.
- The objectives of the Environmental Management System are documented in the Annual Management Programme. This Programme shows the annual commitment of the Site Manager to ongoing environmental improvement.

The Implementation and Operation of the Environmental Management System includes:

- The appointment a member of the Management Team to ensure that the Environmental Management System is established, implemented and maintained.
- Training and awareness for people in the RoQ division of Bombardier European Holdings, S.L.U., in accordance with that set out in the Training Plan.
- Internal communication and communication with external parties through the established channels.
- Definition and control of Environmental Management System documentation.
- Operational control establishes the operations to be implemented in order to ensure fulfilment of the conditions related to the environmental aspects identified.
- The procedures to prevent and respond to accidents and emergencies which may have an impact on the environment.

Verification of the Environmental Management System includes:

- Implementing quarterly safety inspections in order to verify the environmental performance of our Organisation.
- Defining parameters and measures to verify fulfilment of the approved goals and compliance with legal and other applicable requirements.
- Establishing a methodology for the detection and control of non-conformities, including analysis of the causes of any deviations identified and the setting up of actions to prevent any recurrence.
- Control of Environmental Management System records.
- Carrying out internal audits in order to verify compliance of the Environmental Management System with the requirements of Standard UNE EN ISO 14001:2004 and Regulation 1221/2009 (EMAS III).

The Management Review of the Environmental Management System includes:

- The materialisation of the Site Manager's commitment to ongoing environmental improvement, through the adoption of the Annual Management Programme.
- The systematic, annual review of the Environmental Management System by the Site Manager. This review encompasses the Quality and the Health and Safety at Work Management Systems.

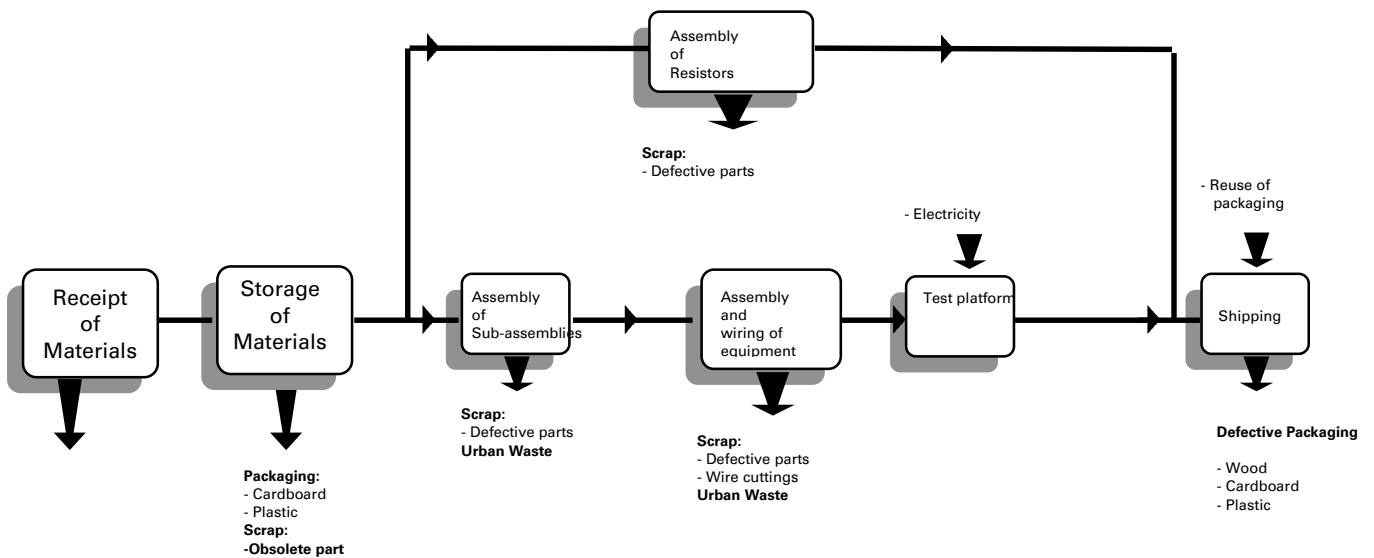
#### 4.- Identification and assessment of environmental aspects

The starting point for ongoing environmental improvement is to identify and assess all direct and indirect environmental aspects associated with the activities carried out, along with the environmental impacts they generate.

The RoQ division of Bombardier European Holdings, S.L.U. has developed a methodology to guide the process to identify and assess environmental aspects, including both direct aspects (those in which our Organisation has full control over management) and indirect aspects (those in which we do not have full control).

The environmental assessment forms the initial basis for identifying environmental aspects, taking into account plant production processes, the impacts which may come about and the resources affected (air, water, soil, etc).

##### Production process diagram



##### Direct environmental aspects

The assessment system available and applied to direct aspects takes into account 3 parameters:

- Environmental Impact.
- Amount/volume.
- Regularity.

The sum of the scores of these three parameters provides a final value that is used to identify the significance of each of the direct environmental aspects identified. Significant environmental aspects are those which have significance above the limit established by the available assessment system.



## **Environmental aspects associated to incidents and emergencies**

With regards to environmental aspects associated to incidents and emergency situations, a classification is drawn up of those which may occur in our facilities and which are likely to cause adverse effects, with indication of:

- Their location.
- The potential consequences deriving from them.
- The preventive and/or corrective measures proposed to minimise the risks.
- The actions required, whenever necessary.

The risk assessment system is based on applying the following criteria:

- Scope or consequences of deriving impacts.
- Likelihood of occurrence.

The potential risk level of each of the hazardous situations identified is obtained based on the product of the result of applying the aforementioned criteria.

It should be noted that, as a result of applying this assessment method in 2016, all the potential environmental risk situations identified were related to trivial, tolerable risk levels, i.e. no significant environmental aspects were identified as a consequence of the analysis of the potential emergency situations and incidents related to the activity.

## **Indirect environmental aspects**

Indirect environmental aspects are those aspects resulting from interaction between Bombardier European Holdings, S.L.U and third parties in which Bombardier may exercise a reasonable degree of influence over this organisation.

The indirect environmental aspects which Bombardier may have an influence on are those related to the following stakeholders:

- Suppliers and contractors.
- Customers.
- Workers of Bombardier European Holdings, S.L.U.
- Society in general.

Once the indirect environmental aspects were identified, these were assessed in order to identify those which are significant and, in consequence, which of them should be controlled and subject to ongoing improvement by establishing environmental objectives and targets.

The methodology for the assessment of indirect environmental aspects considers different criteria which are tailored to each stakeholder:

Suppliers and contractors: Percentage of suppliers with certified environmental management system.

Customers: Inclusion of best environmental practice in the manuals for the equipment supplied.

Workers: Workshops on environmental awareness.

Society in general: Public participation of the company in environmental initiatives.

On the date of this Environmental Statement, Bombardier European Holdings, S.L.U. has developed different actions aimed at creating environmental awareness amongst the identified stakeholders, such as:

- Sending of communications to suppliers/subcontractors that represent the 84% of the purchase volume, in order to induce them to adopt environmental management systems or best environmental practice. According with the answers received from our suppliers, in 2016 at least 73% of our purchases were bought at suppliers that have an environmental management system certified in ISO 14001 standard. Moreover, a logistics instruction was drafted for our suppliers in order to promote their use of environmentally friendly packaging (preferably packaging which can be reused or recycled) which generates the smallest amount of waste possible.

- Study and formulation of proposals from the Engineering Department with regards to the inclusion of sections in the manuals of the equipment manufactured, aimed at promoting best environmental practice among customers.
- Development of specific environmental awareness sessions for all staff in the Organisation.
- Improved access to the factory in order to promote the use of public transport among workers.
- Participation in environmental improvement initiatives (Bombardier Solidarity Day 2016). Specifically, this took shape in an environmental cycle cycling route, making planting natural hedges to attract birds and a closed irrigation system with recycled elements.

**4.1. Environmental aspects identified and their impact**

Tables 4.1.1, 4.1.2 and 4.1.3. show the aspects identified by the RoQ division of Bombardier European Holdings, S.L.U., referencing the associated impacts:

<b>Table 4.1.1.- Direct environmental aspects</b>	
<b>Environmental Aspect /Origin</b>	<b>Associated Environmental Impact</b>
Energy consumption: - <i>Electrical: Workshops and offices, test platform.</i> - <i>Natural gas: Office heating boilers and workshop radiators.</i>	Generating power involves the use of non-renewable primary products such as natural gas, and produces greenhouse gases which contribute to global climate change. The inefficient combustion of fossil fuels results in the emission of pollutants, which in turn lead to acid rain.
Water consumption - <i>Changing rooms and toilets.</i>	Decrease of limited drink-safe water resources. It should be noted that only 0.003% of the water in the world is suitable for drinking or for industry.
Consumption of non-hazardous raw materials - <i>Assembly and wiring workshop.</i> - <i>Maintenance of facilities.</i>	Overall increase in emissions, discharges and waste of our suppliers. The problem is compounded when using raw materials which have involved non-renewable natural resources such as petroleum in the initial stages of their life cycle.
Consumption of hazardous raw materials - <i>Assembly and wiring workshop.</i> - <i>Repair workshop.</i> - <i>Maintenance.</i>	The activities carried out in RoQ division occasionally involve the use of hazardous chemical products (glues, solvents, paint, etc). Manufacturing this type of products involves generating environmental impacts such as the use of non-renewable natural resources. Moreover, any increase in the consumption of this type of materials implies an increase in the resources consumed by our suppliers, which in turn leads to an overall increase in emissions, discharges and waste.
Atmospheric emissions - <i>Office heating boilers.</i> - <i>Workshop radiator panels.</i>	The atmospheric emissions from the heating boilers fitted in the office area and from the radiator panels in the workshop also have a detrimental effect on the climate due to the gases they give out: NO <sub>x</sub> and CO <sub>2</sub> , which have a negative effect on air quality.
Hazardous Waste - <i>Assembly and wiring workshop.</i> - <i>Repair workshop.</i> - <i>Maintenance.</i> - <i>Medical service.</i>	Managing this type of waste involves the consumption of fossil fuels and the atmospheric emission of hazardous substances and gases such as CO <sub>2</sub> which have a negative impact on the climate, in addition to the consumption of natural resources and chemical products as required to carry out their recycling/reuse and/or elimination operations.
Non-hazardous waste - <i>Assembly and wiring workshop.</i> - <i>Repair workshop.</i> - <i>Maintenance.</i> - <i>Offices.</i>	Managing this type of waste implies consumption of energy and water if the waste is reused, the emission of CH <sub>4</sub> and other greenhouse gases if the waste is sent to landfill, and rainwater leachates and the emission of hazardous substances if the waste is incinerated.

**Table 4.1.1.- Direct environmental aspects**

Environmental Aspect /Origin	Associated environmental impact
Noise - <i>Machine room extractors.</i> - <i>Air curtain in shipping room.</i>	Noise pollution affects living beings, disturbing their physical state and behaviour.
Effluent - <i>Changing rooms and toilets.</i>	Despite the existence of purification systems, discharges end up in rivers and seas, contaminating them and generating imbalances in their ecosystems.
Impact on land - <i>Land occupation of the facilities.</i>	Land is affected by possible depositions of hazardous chemical substances, resulting in chemical degradation which causes total or partial loss of the productivity of the land and may negatively affect underground watercourses or aquifers.
Associated to manufactured products - <i>Assembly and wiring workshop.</i>	The related environmental impacts are those which relate to the management of hazardous and non-hazardous waste at the end of the working life of the products, along with packaging waste.

**Table 4.1.2.- Environmental aspects arising from emergency situations**

Potential emergency	Location	Environmental aspects	Associated impact
Fire	<ul style="list-style-type: none"> <li>- Test laboratory.</li> <li>- Repair workshop.</li> <li>- Files and records.</li> <li>- Storage of paper and cardboard.</li> <li>- Storage of hazardous waste.</li> <li>- Boiler room.</li> <li>- Rented offices and industrial unit.</li> </ul>	<ul style="list-style-type: none"> <li>- Water consumption.</li> <li>- Consumption of extinguishing gases.</li> <li>- Consumption of hazardous materials.</li> <li>- Atmospheric emissions.</li> <li>- Hazardous waste.</li> <li>- Discharges.</li> <li>- Impact on land.</li> </ul>	<p>Firefighting operations and subsequent clean-up activities involve the consumption of water and a decrease of water resources.</p> <p>Fires are put out using extinguishers which may contain CO<sub>2</sub>, thus bringing an increase in the emissions of this gas and contributing towards global warming.</p> <p>Fire involves the destruction of raw materials, leading to an increase in the consumption of materials and, consequently, in the resources consumed by our suppliers.</p> <p>The emissions associated with the combustion gases generated in a fire have a contaminating effect on land and water, resulting in situations such as acid rain whilst also impacting on climate change and the destruction of the ozone layer.</p> <p>Managing absorbents contaminated with hydrocarbons or with hazardous substances involves the consumption of fossil fuels and the atmospheric emission of hazardous substances and greenhouse gases.</p>
Spill or leak	<ul style="list-style-type: none"> <li>- Storage of hazardous waste.</li> <li>- Loading of hazardous waste on trucks.</li> <li>- Storage of chemical products.</li> <li>- Unloading of chemical products in reception.</li> <li>- Electronic tanks.</li> <li>- Test laboratory.</li> </ul>	<ul style="list-style-type: none"> <li>- Hazardous waste.</li> <li>- Discharges.</li> <li>- Impact on land.</li> </ul>	<p>Spilled chemicals can have a contaminant effect on the land.</p> <p>Managing the contaminated absorbents used to contain spills/leaks involves consumption of fossil fuels and the atmospheric emissions of hazardous substances and greenhouse gases.</p> <p>The spill may reach discharge areas and contaminate them.</p>
Emissions	<ul style="list-style-type: none"> <li>- Heating boilers.</li> <li>- Leaks in cooling and air conditioning equipment.</li> </ul>	<ul style="list-style-type: none"> <li>- Atmospheric emissions.</li> <li>- Discharges.</li> <li>- Impact on land.</li> </ul>	<p>Uncontrolled atmospheric emissions negatively affect climate change due to the gases emitted: NO<sub>x</sub> and CO<sub>2</sub>, therefore affecting air quality.</p>

Table 4.1.3.- Indirect environmental aspects		
Activity	Interest group	Environmental impacts involved
Purchases from suppliers with Environmental Management Systems	Suppliers	The goal is to reduce the environmental impacts of suppliers and subcontractors through communications convincing them to implement recognised environmental management systems. The associated impacts are: Consumption of natural resources (water, energy), consumption of hazardous and non-hazardous chemical products and generation of hazardous and non-hazardous waste.
Awareness of best environmental practice in the use of packaging.	Suppliers	To induce the use of best environmental practice through reusable and/or recyclable packaging, as appropriate, resulting in less waste generation.
Awareness of best environmental practice	Society in general	The aim is to actively support the development of environmental improvement actions through the participation of personnel from the Organisation in Bombardier Solidarity Day 2016.
Awareness of reducing the environmental impact of the products manufactured.	Customers	To induce customers to use best environmental practice associated to the products manufactured by our Organisation.

## 4.2. Significant environmental aspects

The direct environmental aspect of most significance (Section 4), which reached value 6 (significance limit established by the RoQ division of Bombardier European Holdings, S.L.U.) was:

Table 4.2.1. Significant direct environmental aspects			
Nature of the aspect	Aspect	Parameter	Significance
Direct aspect under normal conditions	Energy consumption	Electricity and natural gas	6

With regards to potential environmental aspects associated to emergency situations, none of them were significant after assessment, as indicated above.

There were no significant indirect environmental aspects identified in year 2016.

The following improvement goals were approved in 2016 and included in the Annual Management Program:

- 2.5% decrease in natural gas consumption compared to the threshold value established in the Strategic Plan for 2015. This threshold value was updated to include the heating of the new workshop area with a surface of 5.430 m<sup>2</sup>.

- 2.5% decrease in electricity consumption compared to the threshold value established in the Strategic Plan for 2014. This threshold value was updated to include the lighting of the new workshop area with a surface of 5,430 m<sup>2</sup>.

**5. – Environmental management programme.**

**5.1. Setting objectives for improvement.**

The results of the assessment process for environmental aspects are the starting point for setting up environmental targets and for defining the corresponding Annual Management Programme, establishing the responsibilities, deadlines, monitoring activities and resources to achieve them.

The RoQ division of Bombardier European Holdings, S.L.U. established goals for improvement for the significant environmental aspects identified in Section 4.2.

Moreover, the Organisation decided to establish a series of improvement goals for 2016, which included:

- 1% decrease in the generation of urban waste compared to the threshold value established in the Strategic Plan for 2015.
- 3% decrease in the generation of hazardous waste compared to the threshold value established in the Strategic Plan for 2015.

**5. 2. Objectives for direct significant environmental aspects in normal conditions (Year 2016)**

Objective	Target	Indicator	Action	In Charge	Indicator	Performance status
To achieve a decrease in natural gas consumption relative to the threshold value established in the Strategic Plan.	To reduce consumption by 3% compared to the threshold value established for year 2014	MWh	1. Replacement of incoming area and locker room windows.	Maintenance	N/A	Completed
			2. Air curtains in workshop doors	Maintenance	N/A	Completed
			2. Repair west façade to increase thermal isolation.	Maintenance	N/A	Completed
<b>Fulfilment of the objective/target:</b> Threshold value: 1,380 MWh. Value achieved: 1,232MWh. 10.76 % decrease The goal was achieved when the limit established was reached						
<b>Fulfilment of scheduled actions:</b> 1, 2 and 3: The actions programmed to achieve the goal were carried out.						
<b>Contribution to reducing the environmental impact:</b> Natural gas consumption contributes to the release of greenhouse gases which are related to the problem of global climate change and acid rain.						

Objective	Target	Indicator	Action	In Charge	Indicator	Performance status
To achieve a decrease in electrical energy consumption relative to the threshold value established in the Strategic Plan.	To reduce consumption by 3% compared to the threshold value established for year 2015.	MWh	1. Replacement of 30 workshop lamps (500 W) by LED's, (200 W)	Maintenance	N/A	Completed
			2. Environmental awareness campaign for staff.	Health Safety Environment HSE	Nº of awareness campaigns developed	Completed
<b>Fulfilment of the objective/target:</b> Threshold value: 694 MWh. Value achieved: 611 MWh. 11.9%. decrease						
<b>Fulfilment of scheduled actions:</b> 1: The action programmed to achieve the objective was carried out. 3: An environmental awareness session was carried out for all staff at the plant.						

**Contribution to reducing the environmental impact:**

Electricity consumption involves the elimination of non-renewable natural resources, the emission of greenhouse gases which are directly responsible for the problem of climate change, and the emission of other pollutants which lead to acid rain.

**5.3. Objectives for non-significant environmental aspects (Year 2016)**

The evolution of the approved goals related to specific non-significant environmental aspects deriving from the assessment carried out in 2016 is detailed below.

Objective	Target	Indicator	Action	In Charge	Indicator	Performance status
To reduce the amount of urban waste generated compared to the threshold value established in the Strategic Plan	To reduce urban waste by 1% compared to the threshold value established for year 2015	t	1. Environmental awareness campaign for staff.	Health Safety Environment HSE	Nº of hours of awareness campaign	Completed
			2. Implementation of improvements in the practice of separating waste which has potential for recycling/reuse.	Health Safety Environment HSE	Nº of improvements	Completed
<b>Fulfilment of the objective/target:</b> Threshold value: 17.65 t. Value achieved: 13.56 t. Decrease: 23.95%						
<b>Fulfilment of scheduled actions:</b> 1: An environmental awareness session was carried out for all staff at the plant. 2: Regular checks were carried out to ensure all personnel followed the waste separation policies.						
<b>Contribution to reducing the environmental impact:</b> Decreasing the amount of urban waste generated leads to a decrease in the consumption of the resources necessary for their handling, as well as the amounts of methane and other greenhouse gases when transferred to landfill, and of rainwater leachates and the emission of hazardous substances when incinerated.						

Objective	Target	Indicator	Action	In Charge	Indicator	Performance status
To reduce the amount of hazardous waste generated compared to the threshold value established in the Strategic Plan.	To reduce hazardous waste by 1% compared to the threshold value established for year 2014.	t	1. Environmental awareness campaign for staff.	Health Safety Environment HSE	Nº of hours of awareness campaign	Completed
			2. Implementation of improvements in the practice of separating hazardous and non-hazardous waste.	Health Safety Environment HSE	Nº of improvements	Completed
<b>Fulfilment of the objective/target:</b> Threshold value: 2.02 t. Value achieved: 2.02 t. Decrease: 1.0 %.						
<b>Fulfilment of scheduled actions:</b> 1: An environmental awareness session was carried out for all staff at the plant. 2: Regular checks were carried out to ensure all personnel followed the waste separation policies.						
<b>Contribution to reducing the environmental impact:</b> Reducing the amount of hazardous waste generated leads to a decrease in the consumption of fossil fuels and in atmospheric emissions of hazardous substances and gases (for example CO2) associated to climate change. It also reduces consumption of the natural resources and chemical substances necessary for management of this waste.						



#### 5.4. Progress of the environmental programme for year 2017.

The progress made in reaching the environmental objectives proposed by Bombardier European Holdings, S.L.U. at its factory in Trápaga for year 2017 is indicated below.

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Related to significant direct environmental aspects associated with normal operating conditions:

- 2.5% decrease in natural gas consumption compared to the threshold value established in the Strategic Plan for 2016.

- 2.5% decrease in electricity consumption compared to the threshold value established in the Strategic Plan for 2016.

With regards to non-significant direct environmental aspects, identified in normal operating conditions, the following goals are approved:

- 1% decrease in the generation of urban waste compared to the threshold value established in the Strategic Plan for 2015.

- 1% decrease in the generation of hazardous waste compared to the threshold value established in the Strategic Plan for 2015.

With regards to indirect environmental aspects, the following goal has been approved.

- Sending of communications to 85% of suppliers/subcontractors, depending on the purchase volume in 2016

## 6. Environmental indicators

### 6.1. Basic indicators

Implementing a philosophy of ongoing improvement, combined with the Environmental Management System available, provides a basic framework in which to promote and disseminate correct environmental management.

The environmental performance of our Organization is managed and controlled by a system of indicators, both absolute and relative. The relative indicators have been established in accordance with the directives of Annex IV of Regulation 1221/2009, of 25th November 2009, on the voluntary participation of organisations in a Community eco-management and audit scheme (EMAS III).

The relative indicators listed in this declaration are defined as a ratio (A/B), where the numerator (A) indicates the impact/total consumption in the area under consideration and the denominator (B) is the size of the PPC Business Unit expressed as annual gross added value (million euros, M€).

Table 6.1.1. shows the gross added values expressed in million euros, M€, used in the relative indicators of this statement:

<b>Table 6.1.1. Gross added values (M€)</b>	
<b>Year</b>	<b>Gross added value (M€).</b>
2012	33.81
2013	17.00
2014	20.00
2015	21.56
2016	25.37

The gross added value data (M€) are obtained from the internal financial accounts IT system.

#### 6.1.1. Energy efficiency

##### Total direct energy consumption

The sources of energy used at Trápaga are electricity and natural gas. The first is used to supply the workshop machinery, the tests in the laboratory and the lighting in the workshop and offices.

The heating boilers in the workshop and offices use natural gas, and their consumption is closely tied to environmental conditions outside. Over the last four years the windows in the building have been replaced with double glazing in order to minimise heat loss, meaning the increase in office floor space has not led to a proportional increase in the consumption of natural gas.

Table 6.1.1.-1 shows the evolution of electricity consumption and natural gas consumption, along with the efficiency indicator, for the period 2012-2016.

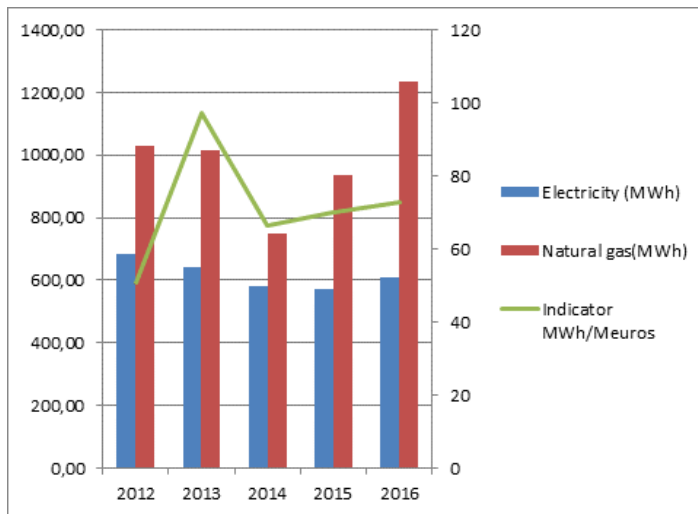


Table 6.1.1-1 Total direct energy consumption						
Year	Consumption			Efficiency in total direct energy consumption*		
	Electricity (MWh)	Natural gas (MWh)	Total direct energy (MWh)	Relative indicator (MWh/M€)	Change compared to 2012	Change compared to previous year
2012	684.6	1,027.5	1,712.1	50.64	-----	-----
2013	639.5	1,013.9	1,653.4	97.26	92.06 %	92.06 %
2014	580.2	747.2	1,327.4	66.37	31.06 %	-31.76 %
2015	572.0	973.0	1,545.0	71.66	41.51 %	7.97 %
2016	611.0	1,232.3	1,843.3	72.65	43.46 %	1.38 %

Relative indicator defined above\*

Negative variations indicate a decrease and positive variations show growth

Data source: Electrical consumption = MWh billed by the supplier.

Data source: Natural gas consumption = MWh billed by the supplier.

The data indicated above clearly show that the consumption of natural gas is the main contributor to the total direct consumption of energy.

As shown in the table above, the relative indicator associated to total energy consumption for year 2016 has increased by 43.46 % compared to 2012 although it has increase by 1.38 % compared to 2015.

In absolute terms, electrical and gas energy consumption has shown an increase compared to 2015 due to the increase of the workshop area.

As indicated in Section 5.2, both consumptions (natural gas and electricity) have met the reduction targets set, based on the threshold values defined in the Strategic Plan of the Organisation, a direct consequence of the improvement actions carried out and detailed in the programmes for both targets.

According to the energetic mix of the Spanish peninsular electrical system (Observatorio de la Electricidad año 2016 WWF España) the 40.18 % of the electrical energy consumption has been produced with renewable energy.

**6.1.2. Water consumption**

The water consumed comes from the main grid and is used in changing rooms and toilets in the workshop and office areas. Water is not used at any stage of the manufacture process.

Table 6.1.2.-1 shows the historical evolution of total annual water consumption since 2012, along with the corresponding relative indicator.

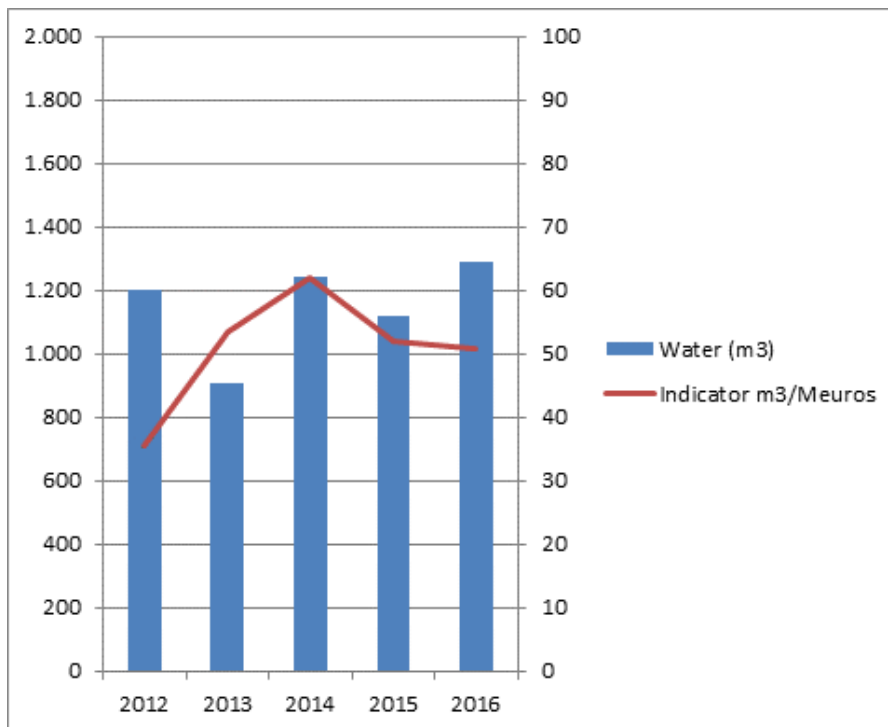


Table 6.1.2-1 Water				
Year	Total annual water consumption			
	Value in m <sup>3</sup>	Relative indicator* (m <sup>3</sup> /M€)	Change compared to 2012	Change compared to previous year
2012	1,202	35.55	-----	-----
2013	906	53.29	49.90%	49.90%
2014	1,241	62.05	74.54%	17.28%
2015	1,118	51.86	45.88%	-16.42%
2016	1,287	50.72	42.67%	-2.2%

Relative indicator defined above\*

Negative variations indicate a decrease and positive variations show growth

Data source: Water consumption = m<sup>3</sup> controlled by water meter

Total water consumption is one of the environmental aspects of least relevance within the Environmental Management System, with consumption data over the last 5 years not showing any significant variations.

### 6.1.3. Consumption of raw and auxiliary materials

The main activity carried out at Trápaga Plant is the assembly and wiring of equipment. Raw materials are not required, since the components for the converters are received directly for assembly. It is therefore difficult to quantify electronic equipment and components, with the consumption of raw materials being insignificant.

Other auxiliary materials are also used, such as:

- Silicones, used for sealing housings.
- Adhesives, used to glue nuts and as contact glue.
- Paint, used in maintenance work.
- Paper (office material).

Consumption of these materials is highly variable since it depends on the projects carried out each year.

These details do not include consumption of wiring, which depends on the projects carried out and varies in line with their characteristics; this consumption is therefore not reported in this statement.

Table 6.1.3.-1 shows the historical evolution of the annual consumption of these auxiliary materials since 2012. The evolution of the relative indicators is shown in Table 6.1.3.-2.

Table 6.1.3.-2 details the annual mass flow rate for auxiliary materials for years 2012-2016.

Table 6.1.3.-1 Auxiliary materials				
Year	Total annual consumption of auxiliary materials			
	Refrigerant (t)	Silicones and adhesives (t)	Paint (t)	Paper (office material) (t)
2012	1.38	0.093	0.630	2.77
2013	0.10	0.165	0.699	1.74
2014	0	0.054	0.280	1.64
2015	0	0.153	0.374	1.39
2016	0	0.437	0.204	0.81

Data source: Consumption of refrigerant, silicones, glues and paints: Internal production control  
 Data source: Consumption of paper: Supplier invoices.  
 (A sheet is considered to be 0.08 Kg/m<sup>2</sup> and 0.0624 m<sup>2</sup>)

Table 6.1.3.-2 Annual mass flow of auxiliary materials				
Year	Annual mass flow of auxiliary materials (t)	Efficiency of the annual mass flow rate of auxiliary materials		
		Relative indicator (t/M€)	Change compared to 2010	Change compared to previous year
2012	4.88	0.144	-----	-----
2013	2.71	0.159	10.42%	10.42%
2014	1.97	0.098	-31.94%	-38.36%
2015	1.92	0.089	-38.19%	-9.18 %
2016	1.45	0.057	-60.42%	-35.96%

The table shows that the consumption associated to refrigerant, paint and silicone is not relevant in any case.

With regards to paper consumption, it should be noted that 100% of all paper consumed during 2016 comes from sustainably managed forests (FSC Certified).

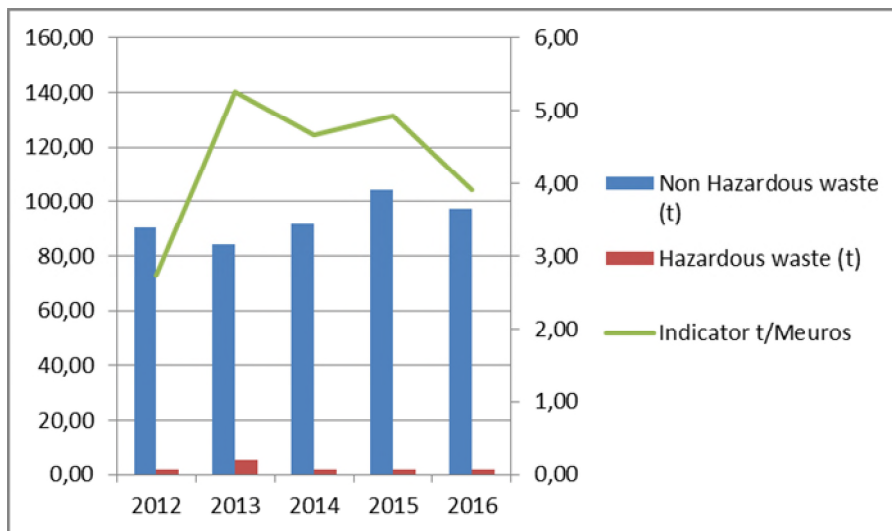


**6.1.4. Waste**

Total annual waste generation

The total annual generation of waste is a basic indicator which expresses, in tonnes, the total amount of hazardous and non-hazardous waste delivered to authorised agents.

Table 6.1.4.-1 shows the values of this indicator for the period 2012-2016, along with the associated relative indicator values.



Year	Non-hazardous waste (t)	Hazardous waste (t)	Total annual waste generation (t)	Total annual waste generation		
				Relative indicator* (t/ M€)	Change compared to 2012	Change compared to previous year
2012	90.28	1.84	92.12	2.72	-----	-----
2013	84.35	5.15	89.50	5.26	93.38%	93.38%
2014	90.49	1.80	92.29	4.61	69.49%	-12.36%
2015	104.25	2.02	106.27	4.93	81.25%	6.94%
2016	97.16	2.01	99.18	3.91	45.22%	-20.69%

Relative indicator defined above\*

Negative variations indicate a decrease and positive variations show growth. The amounts of non-hazardous waste are detailed in section 6.1.4.1 of the statement. The amounts of hazardous waste are detailed in section 6.1.4.2. of the statement. Data source: IKS-eeM programme.

The values demonstrate that the main contribution to waste generation comes from non-hazardous waste, whilst indicating the insignificance of the amounts of hazardous waste generated. It should be noted in this regard that the hazardous waste generated for the period 2012-2016 represents 2,67% of all waste.

The data show that there has not been a been an relevant variation in the amount of hazardous waste generated and a decrease of 6,8% in the amount of non-hazardous waste generated in 2016 compared to 2015. This decrease was due to the characteristics of the projects developed, which allowed an increase in reuse of packaging.

As indicated in Section 5.3., the targets set with regards to reducing urban waste and hazardous waste relative to the threshold value established in the Strategic Plan have been met throughout 2016.

The evolution of non-hazardous waste is analysed in detail in section 6.1.4.1, along with indication of how it was generated.

Annual hazardous waste generation

The total annual generation of hazardous waste is a basic indicator which expresses, in kilograms, the total amount of hazardous waste generated.

Bombardier European Holdings, S.L.U., at its factory in Trápaga, is registered as a small producer of hazardous waste, with number EU1/037/2001. The hazardous waste generation data for year 2015 are 2,01 t, indicating that the Organisation is a small producer.

Table 6.1.4.-2 shows the total kilograms of hazardous waste generated by Bombardier European Holdings, S.L.U., at its factory in Trápaga, throughout year 2016.

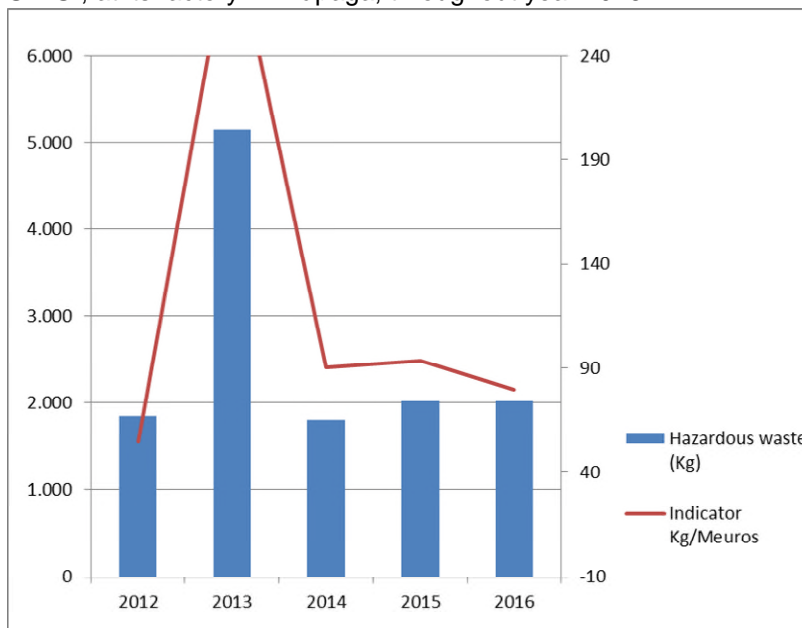


Table 6.1.4.-2 Total annual hazardous waste generation				
Year	Total annual hazardous waste generation			
	Value in kg	Relative indicator* (kg/M€)	Change compared to 2012	Change compared to previous year
2012	1,843	54.51	-----	-----
2013	5,150	302.94	555.75%	555.75%
2014	1,800	90.00	65.11%	-70.29%
2015	2,017	93.55	71.62%	3.94%
2016	2,010	79.23	45.35%	-15.3%

Relative indicator defined above\*

Negative variations indicate a decrease and positive variations show growth

The amounts of hazardous waste are detailed in section 6..1.4.2. of the statement.

Data source: IKS-eeM programme.

As shown in the table above, the amount of hazardous waste generated throughout 2016 was a little lower than in the previous period (2015). During the previous years, if the extraordinary hazardous waste generation in 2013, when lead batteries of two forklifts were removed, is not considered, the amount of hazardous waste generated is similar and not relevant.

#### 6.1.4.1. Non-hazardous waste

The non-hazardous waste generation data are used in the basic indicator "total annual generation of waste", as indicated in section 6.1.4.

This group includes the following waste:

- Waste treated as domestic waste, as resulting from the maintenance and cleaning of the offices and workshop areas, along with the day-to-day activities of people at Bombardier European Holdings, S.L.U., at its factory in Trápaga. Handling is carried out through delivery to an authorised agent.
- Paper and cardboard waste come about due to the documentation handled by the Organisation as it carries out its activity, in the external documentation received and in the packaging for materials purchased and products manufactured. Paper and cardboard is delivered to an authorised agent for recycling.
- Metal waste, associated to manufacturing equipment replaced during maintenance work. Handling is carried out through delivery to an authorised agent.
- Wood waste, resulting mainly from pallets for raw materials purchased. This waste is also transferred to an authorised agent for recycling.

Table 6..1.4.1.-1 shows the evolution of non-hazardous waste during period 20012-2016.

Year	As domestic waste	Paper and cardboard	Metal waste	Wood
2012	11.82	20.08	21.98	36.40
2013	12.88	16.31	19.38	35.78
2014	15.04	23.78	23.87	27.80
2015	15.14	26.91	21.55	40.66
2016	13.56	27.20	13.84	42.56

Data source: IKS-eeM Programme,

Throughout 2016 there was an increase in the amount of wood waste generated due to in Zefiro project it has not been possible to use returnable packaging with abroad suppliers.

#### 6.1.4.2. Hazardous Waste

This section details and analyses the amounts of hazardous waste generated by Bombardier European Holdings, S.L.U., at its factory in Trápaga, which have been used with the basic waste indicators (see section 6.1.4.).

As indicated above, Bombardier European Holdings, S.L.U., at its factory in Trápaga, is registered as a small producer of hazardous waste, with number EU1/037/2001. The ratio of waste produced, along with the amounts generated between 2012 and 2016, are shown in Table 6.1.4.2.-1.

Waste	2012	2013	2014	2015	2016
Silicone cartridges	115	123	50	116	63
Freon refrigerant	1127	89	0	118	0
Anti-freeze	0	473	813	883	239
Paint	0	101	0	0	37
Solvent	0	0	0	0	0
Used oil	0	31	0	58	32
Lead batteries	31	3.050	33	31	34
Metal packaging	74	54	60	32	75
Plastic packaging	16	62	29	23	30
Rags, filters and absorbers	14	7	15	0	0
Electrical and electronic equipment	466	1,160	800	740	1,500

Data source: IKS-eeM programme.

The data show that the greatest amounts of waste correspond to anti-freeze and electrical and electronic equipment.

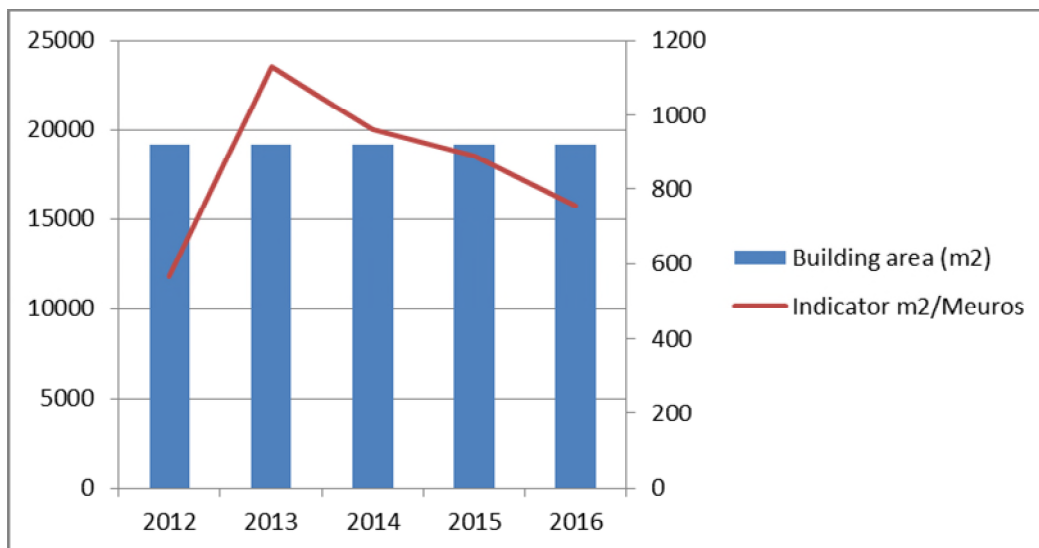
In all other cases the amounts are not significant.

**6.1.5. Biodiversity**

Building area

Bombardier European Holdings, S.L.U., is located on a parcel of land in the town of Trápaga, covering 44,287 m<sup>2</sup>. The company's manufacturing plant and annexe buildings for storage are located on this land, covering a surface area of 19,870 m<sup>2</sup>.

Installation modifications were not carried out throughout 2012-2016, leading to an increase in the floor area.



Indicator result variations are due exclusively to the different values of the gross added value.

**6.1.6. Emissions**

Total annual greenhouse gas emissions

The basic "total greenhouse gas emissions" indicator is expressed in equivalent tonnes of CO<sub>2</sub>.

The emission points in Trápaga factory are located in the following areas:

- Boiler room
- Workshop radiator panels

These points are only used to heat the offices and workshop, and are therefore not considered to be installations with the potential to contaminate the atmosphere. Both points are governed by the Technical Building Heating Regulation (RITE), meaning their gases do not need to be measured and, in consequence, the information compiled to calculate the indicator is based on the natural gas and electricity consumption detailed in Table 6.1.1.-1 (see basic energy efficiency indicator).

The boiler burners are regularly checked for fumes, in order to ensure correct operation.

The calculation methodology used was developed for the industrial sector within the framework of the "Stop CO<sub>2</sub> Euskadi" initiative, promoted by the Basque Office for Climate Change.

Table 6.1.6.-1 indicates natural gas and electricity consumption, the emissions estimated and the relative indicator in period 2012-2016.

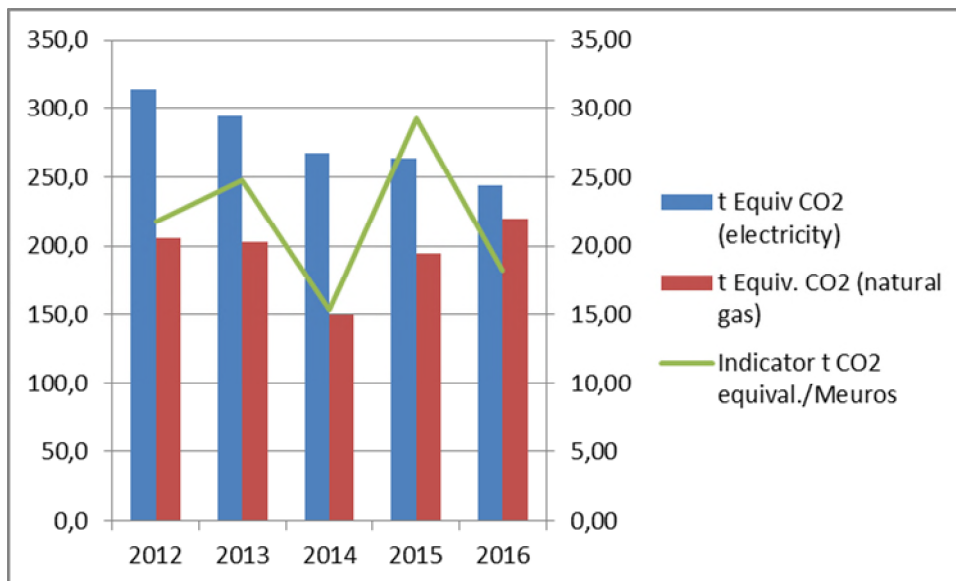




Tabla 6.1.6.-1 Total annual greenhouse gas emissions								
Year	Total annual greenhouse gas emissions							
	Consumption (MWh)		CO <sub>2</sub> equivalent t emissions			Relative indicator (eq. t) CO <sub>2</sub> / M€)	Change compared to 2012	Change compared to previous year
	Electricity	Natural gas	Electricity	Natural gas	Total			
2012	684.6	1027.5	314.92	205.5	520.42	15.39	-----	-----
2013	639.5	1013.9	294.17	202.8	496.97	29.23	89.93 %	89.93 %
2014	580.2	747.2	266.90	149.4	416.3	20.82	35.28 %	28.77 %
2015	572.0	973.0	263.1	194.6	457.7	21.23	37.95 %	1.97 %
2016	611.0	1.232.3	244.4	219.5	463.9	18.28	18.81%	-13.90%

Calculation methodology developed for the industrial sector by "Stop CO<sub>2</sub> Euskadi"

It can be seen that the emissions of CO<sub>2</sub> equivalent tonnes have decreased 13.9% in 2016 compared to 2015. In absolute terms the total emissions of CO<sub>2</sub> have reduced 10.86% compared with year 2012.

In the period analysed (2016), emissions of greenhouse gases associated to electricity consumption account for just over 52% of all emissions estimated.

Trapaga plant does not emit CH<sub>4</sub>, N<sub>2</sub>O, PFC, SF<sub>6</sub>

#### SO<sub>2</sub>, NO<sub>x</sub> and PM emissions

Taking into account the specific emissions of the peninsular electrical system calculated by the Observatory of the Electricity the indirect emissions corresponding to the electricity consumption are of 224.41 kg of SO<sub>2</sub>, relative indicator 8,85 kg /M€ and 159.63 kg of NO<sub>x</sub>., relative indicator 6,29 Kg/M€.

The direct emissions corresponding to the consumption of natural gas are 113.196 kg of NO<sub>x</sub>, relative indicator 4,46 kg/M€, according to the information provided by the supplier company.

Trapaga plant only use natural gas, therefore no particules (PM) are generated.

## 6.2. Other environmental performance indicators

Apart from the basic indicators defined by Regulation 1221/2009, on the voluntary participation by organisations in a Community eco-management and audit system (EMAS III), Bombardier European Holdings, S.L.U., uses other complementary indices, which are included in this section, to express its environmental performance

### 6.2.1. Effluents

The only liquids discharged are from the changing rooms and toilet facilities, which lead to the sewerage manifold of the Gran Bilbao Water Consortium, in line with the conditions established in the authorised discharges permit.

### 6.2.2. Noise

Bombardier European Holdings, S.L.U.'s Trápaga Factory has a low noise pollution level.

The points of most impact in terms of exterior noise are the extractors of the engine room and the air curtain of the shipping door, which works sporadically. The Company facilities are located close to the A8-AP8 Highway, which constitutes one of the most important sources of external noise generation.

Moreover, it should be noted that all internal noise readings carried out within the Occupational Health and Safety Management System have returned results below the legally applicable limits.

## 7. Degree of compliance with environmental legislation

Bombardier European Holdings, S.L.U., at its factory in Trápaga, has developed a system to identify and continuously assess the applicable legal requirements. The internal control system is supplemented with audits to check compliance with applicable legal requirements, carried out yearly. The result of the last external assessment of legal requirements carried out in May 2016 was positive, with no breaches being found.

Bombardier European Holdings, S.L.U., at its factory in Trápaga, has never been fined for any breaches of environmental legal requirements.

The most significant legal requirements are indicated below:

Type of requirement	Situation
General and procedures	In accordance with Act 3/1998, on the General Protection of the Environment in the Basque Country, Bombardier's Trápaga plant has had an Activity License since 03/12/2001, issued by Valle de Trápaga Town Council. Following the change of company name to Bombardier European Holdings, S.L.U., the activity license was updated on 2nd February 2005.
	In order to check fulfilment of the requirements of Royal Decree 865/2003 on the Prevention and Control of Legionella, Bombardier European Holdings' Trápaga Plant carries out quarterly analysis of hot water facilities, without the presence of Legionella being shown in any case.
	In accordance with Royal Decree 337/2014 on technical conditions and safety assurances in high voltage electrical installations, the high-voltage facility is subject to compulsory checks, with the last one being carried out in May 2015. With regards to the Low Voltage installation, the last review carried out by an Official Body was on 13th August 2013, based on the provisions of Royal Decree 842/2002, of 2nd August, which approves the Low Voltage Electrotechnical Regulation, and Supplementary Technical Instruction ITC-BT-05, Low Voltage Regulation Inspections and Checks.
	The review of available compressors was carried out in March 2017 (Type C revision, Unit 148), April 2016 (Type B revision, Unit 150) and May 2017 (Type A revision, Unit 151) in line with the provisions of Royal Decree 2060/2008, of 12th December, which passes the Regulation on pressure equipment and corresponding technical instructions.
Packaging and Packing	In accordance with the provisions of Royal Decree 252/2007 the Annual Report on packing and packaging waste is sent to the competent Body (March 2017, IKS-eeM system).
Atmosphere	The heating boilers meet the requirements of Royal Decree 1027/2007, which passes the Building Heating Installations Regulation. With regards to energy efficiency, the last compulsory inspection was carried out in July 2016. The air conditioning equipment is subject to quarterly external review by an Authorised Company.
Hazardous Waste	Registration in the register of small producers of hazardous waste, with N° EU1/037/2001, dated 30/01/2008.
Non-Hazardous Waste	Statement of non-hazardous waste producer dated 11/01/2017. Registration as an inert industrial waste producer was issued on the date 21/02/2005.
Firefighting equipment	The firefighting equipment available at the facilities (extinguishers and fire hydrants) is subject to compulsory annual review, with the last one having been completed on February 2017. Regular internal checks are also carried out monthly. All in compliance with the provisions of Royal Decree 1942/1993, of 5th

Type of requirement	Situation
	November, which passes the Regulation on firefighting facilities, and the Order dated 16th April 1998 on Rules of Procedure and Implementation of Royal Decree 1942/1993, of 5th November, which approves the Firefighting Facilities Regulation and reviews its Annex I and Appendices.
Effluent	Waste discharge permit from Gran Bilbao Water Consortium. Type B user of 30/01/2017. (Regulation on effluents and treatment of wastewater in the general sewerage system of lower Nervión-Ibaizabal (Gran Bilbao region)).
Land	Preliminary land status report submitted to the Basque Government, dated 9/02/2007. Royal Decree 9/2005, of 14th January, which sets out the list of potential land contaminating activities and the criteria and standards for the declaration of contaminated land, and Act 1/2005, of 4th February, for the prevention and correction of land contamination).

## 8. Environmental Verifier

The environmental verifier which validates this statement is Bureau Veritas Iberia, S.L., accredited by ENAC with code ES-V-003, domiciled at C/ Valportillo Primera, 22-24. Edificio Caoba. Polígono Industrial Granja. 28108 Alcobendas (Madrid).

In accordance with Regulation N° 1221/2009, of 25th November 2009, regarding the voluntary participation of organisations in an eco-management and audit scheme (EMAS III), Bombardier European Holdings, S.L.U. will draw up an annual environmental statement at its Trápaga factory. This statement will act as an instrument for communication and dialogue with its customers and other stakeholders, indicating the environmental performance of the company and setting out the most significant changes and improvements made to the environmental management system.

The next environmental statement will be published in June 2018.

Trápaga, on the date 1st of June 2017.