



DECLARACIÓ AMBIENTAL 2017

GIRBAU
GLOBAL LAUNDRY SOLUTIONS

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1. PRESENTATION

Thinking about the future and keeping a constant line of improvement, GIRBAU commits to achieve, through ethical and responsible behaviour, a series of environmental goals aimed at the conservation and maintenance of natural resources, the permanent improvement of health and safety at work, and the prevention of nuisances and disturbances to residents in the surrounding area.

We understand that **Quality Management ensures our customers quality and homogeneity** in the products we manufacture, as well as high production efficiency.

Industrial safety, work conditions and permanent training ensure that our employees work in satisfactory conditions.

Moreover, **an Environmental management system ensures** that our products have been manufactured **optimizing natural resources** and in compliance with all environmental regulations and laws.

Our company's environmental management is a commitment to promote constant improvement in our environmental performance and materializes in the implementation of an Environmental Management System, which includes the undertaking of periodic evaluations and audits so as to constantly assess, document and improve its performance.

Our idea of quality does not limit itself to the manufacturing of a good product, a good service and the searching for our customers' satisfaction. We wish to go further on and we are also concerned about environmental impact.

For this reason, we understand that this Environmental Management System is our small contribution to leave a better world than the one we found.

Guillem Clofent

General Manager of Girbau, S.A.



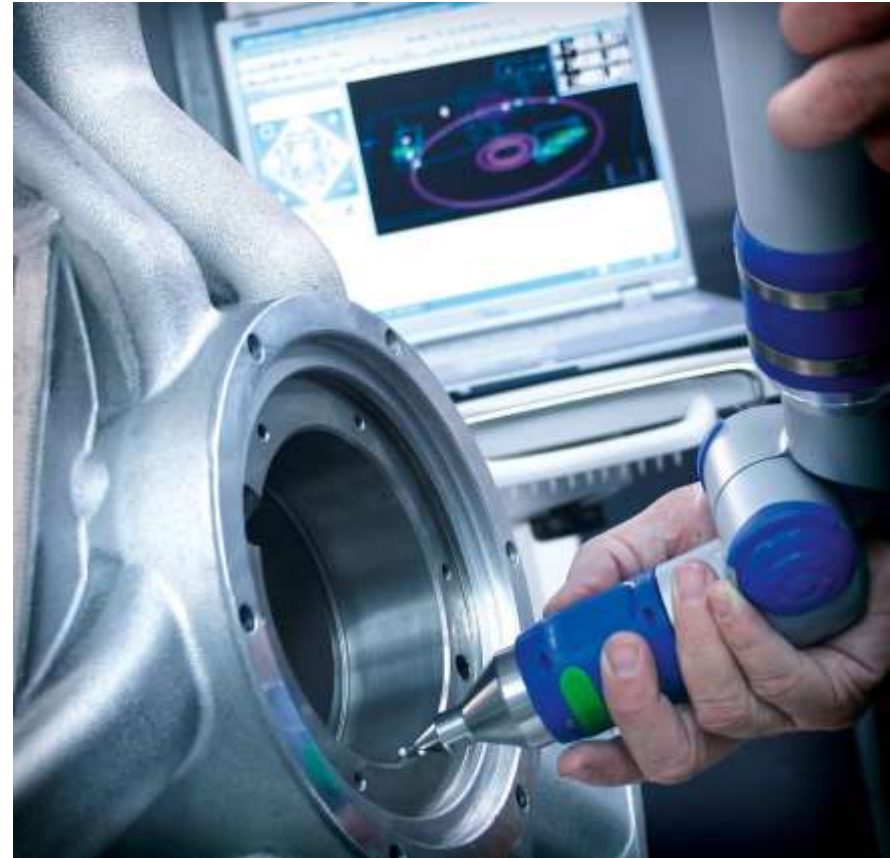
CERTIFICATIONS

At GIRBAU, we understand that certifications are a starting point for the constant improvement of our products.

The present environmental statement is intended to show all the efforts made by GIRBAU to improve its competitiveness and productivity while preserving the environment.

GIRBAU goes beyond the requirements of the regulations and spares no efforts to contribute to a better environment.

In this respect GIRBAU holds certifications DIN EN ISO 9001:2015, UNE EN ISO 14001:2015 and Regulation (CE) 1221/2009 of the European Parliament and of the Council of 25 November 2009-EMAS.



THE PREMISES

GIRBAU is a company located in the municipality of Vic, about 50 Km away from of Barcelona, specializing in the manufacture and sale of laundry equipment and textile finishing. It can produce installations of any type and size and is one of the world's leading manufacturers.

Since the company was started, GIRBAU has been working to guarantee its customers complete satisfaction while providing maximum quality.

To achieve this, the company set up a quality system that has been UNE EN ISO 9001 certified since 1994.

Currently, on the premise that the concept of quality also includes environmental quality, the company operates an environmental management system that is certified under UNE EN ISO 14001.

The rules and procedures of this system guarantee that the company's products are designed and manufactured in an environmentally friendly way.



G1 Factory

GIRBAU has the following two production centres in Vic:

GIRBAU S.A.	GIRBAU 1 Factory (G1)	GIRBAU 2 Factory (G2)
Location	Ctra. Manlleu, Km. 1 08500 Vic (Barcelona)	Polígon Ind. Malloles. C.Pruit 08500 Vic (Barcelona)
Contact Details	Tel. 93 886 11 00 Fax 93 886 07 85 E-mail: girbau@girbau.es	Tel. 93 886 64 00 Fax. 93 889 29 86 E-mail: girbau@girbau.es
Type of products manufactured and NACE	Machinery for laundries NACE: 2894	Machinery for opl and industrial laundries NACE: 2894
Land use in relation to biodiversity	Constructed and paved floor space: 21,000 m ²	Constructed and paved floor space: 13,600 m ²

With the aim of strengthening the company's commitment to the environment, it has taken the decision to adopt European Union Regulation (EC) 1221/2009 of the European Parliament and of the Council of 25 November 2009, which enables voluntary participation by organisations in a European Union eco-management and audit scheme (EMAS III).

This Regulation sets out three main courses of action:

- Control of environmental aspects resulting from our activity.
- Continuous reduction of such impact. Setting of goals and actions for its achievement, periodically controlling the results by means of environmental audits.
- Keeping the public informed of its actions.

Through this Environmental Statement, GIRBAU, S.A. wishes to show the work done and the objectives set to continuously improve its activity with regard to environmental conservation in a clear and understandable way.

ORIGINS AND PRESENT SITUATION

GIRBAU was set up as a public limited company on 31 December 1971, as a continuation of the activities of Mr. Joan Girbau i Vilageliu. It is a family company that started with an initial share capital of 13,500,000 Spanish Pesetas.

In 2017, the total of capital and reserves amounted to 64.93 million Euros.

GIRBAU, S.A. has 495 employees, working in the following departments: Research, Product Development, Mechanical, Electrical and Electronic Production, Laundry Project Office, Personnel Training, Commercial Office and Technical Support Services.

In 2017, GIRBAU, S.A.'s turnover was 117.2 million euros, of which 80% came from exports. Its main markets include: United States, United Arab Emirates, United Kingdom, and Cuba.

GIRBAU products hold a range of certifications which guarantee their compliance with the most demanding safety regulations: CE (Europe), TÜV GS (Germany), ETL (USA), Energy Star (USA), AENOR, WRAS (UK), Laboratorios Labet (Cuba) and Applus +.

In order to control the overall quality of all our products, it is not enough to only have product and business certifications. We need to be sure that all the components in our products are reliable and of good quality. We therefore demand that our products have these certifications: CSA (Canada), UL (USA), VDE (Germany).



G2 Factory

CHRONOLOGY OF ACTIONS FOR PROTECTION OF THE ENVIRONMENT

1988:

- Regular waste controls began.

1989:

- Measurement of atmospheric emissions began. Although fuel-oil was being consumed, boiler performance was monitored.

1990:

- GIRBAU sponsored a campaign for selective paper collection in the companies, organized by Osona District Council. Selective collection was implemented at GIRBAU, S.A.

1993:

- Waste water controls began.

It was agreed that fibre or cement roofing material used in GIRBAU factories must not contain asbestos, despite the difficulty and additional expense involved compared with traditional materials.

The use of trichloroethane is replaced with trichloroethylene, which reduces the time that waste stays in the atmosphere.

1998:

- The use of trichloroethylene is replaced with other aqueous products. This was applied to 80% of the production process for surface treatment.

1999:

- Since part of the G1 factory was being expanded, trees surrounding the car park area were transplanted to a city park in Vic. The operation was neither easy nor cheap, but it was an environmental success: all trees survived the transplanting process.

- It was agreed that from then on, the design of factory modifications and expansion would include roofing enabling the use of 60% more daylight. Underground water tanks were also built holding 250 m³ in order to recover 50% of the water from the quality control department when washers can be tested without water.
- Aqueous waste was eliminated from the paint booths, replacing the water curtain booths with dry filter ones.

2000:

- Chlorine derivatives were no longer used in the company's production processes.

2001:

- A solvent distiller was put in operation, allowing the regeneration of solvents used in production.
- UN-EN-ISO-14001 certification was obtained.

2002:

- Reduction in testing time for each machine. This meant a saving of 25% in electrical power in the quality control department of G1 factory.
- Four destratifiers were fitted, and skylight openings were covered. This represents a saving of 30% of the energy required to heat one plant in the G2 factory.
- Existing fluorescent lighting was replaced by triphosphor fluorescents (recyclable and not classed as special waste) and magnetic reactances were replaced with electronic ones (their tube lasts 3 times longer).
- A tank was constructed with a capacity of 100 m³ to recover 85% of water from the quality control department of the G2 factory.

2003:

- The G2 factory extension, a two-storey building measuring 4300 square metres per floor, was inaugurated. The upper floor was designed so that work could be done using natural light for most of the day.

2004:

- In February 2004, GIRBAU received confirmation of its registration in the EC's Eco Management and Audit Scheme (EMAS).
- The technical department of GIRBAU 2, (Large Facilities), thanks to joint research with a detergent manufacturer, was able to reduce the amount of water needed per kilo of laundry washed, cutting the normal use of 9 litres of water per kilo of laundry down to only 5.

2005:

- A closed circuit water cooler was purchased and installed for a point soldering machine. This implies an annual saving of 603,000 l. of water.
- Four skylights were opened in the manual painting section with the aim of improving working conditions and saving power.

2006:

- The Factory 1 Contaminated Soil Statement was presented as stipulated in R.D.9-2005. The building work underway for the calender laboratory provided the opportunity to check that the soil was not contaminated in that area (this work is being carried out in the old machine plant, where there was more likelihood of subsoil contamination, as large quantities of oil and lubricant were used).
- Putting into practice proposals contained in the Environmental Programme led to a significant reduction in paper usage in the goods reception and sales departments.
- An ongoing process of computerising the distribution system for job orders and plans.
- Battery use was reduced by changing the type of torches used by the Quality Control Department.

- A significant energy saving was achieved by extending the unloading bay, thereby enabling all types of trucks to back close up to the plant and avoiding large winter heating bills.
- A significant saving in water (600,000 l/year) was achieved in the soldering section by purchasing a second closed circuit water cooler for another point soldering machine.

2007:

- Reduction in atmospheric emissions of paint powder particles during the manual painting process, thanks to the purchase and installation of a more efficient filter for paint powder particles.
- Water savings during the series 6 tests with the construction, in Factory 2, of a washer checking space with two different drains: one for recovering the water used in the tests and another for evacuating the water. This represents a saving of 80%, with only 20% waste water.
- Study for the installation of photovoltaic panels: the installation of a number of solar panels on the roof of the warehouse, as part of the extension work on the building.

2008:

- Important environmental improvements are incorporated into the new series of Washers (Series 6) as well as in the Batch Washers, resulting in a considerable decrease in electricity and water consumption.

2009:

- Tests begin to find ways of avoiding the atmospheric emission of VOCs (volatile organic compounds).
- In the painting section tests begin to find ways of eliminating the use of primer type paint with solvents.

2010:

- The installation of collective printers with double feeders, one for clean sheets and the other for the reuse of the blank side of used sheets of paper.
- In the painting section tests continue with new products to try to reduce phosphates in the washing process and eliminate VOCs during the primer processes.

2011:

- Lighting tests with LED-type tubes.
- Energy efficiency improvements in the batch washer and washing machines.

2014:

- Implementing the 400V transformer at Girbau 1.
- Smoke extractors in the welding area.
- Introducing new folders.

2015:

- Refurbishing the facades with insulation for better energy management.

2016:

- The manual for the machines is provided on a USB stick rather than in paper form.

2017:

- Progressive replacement of fluorescent tubes by LED type lighting.
- Incorporation of optical laser cutting machinery with high efficiency

2. COMPANY ACTIVITY

Our company specializes in the manufacturing and marketing of industrial laundry equipment.

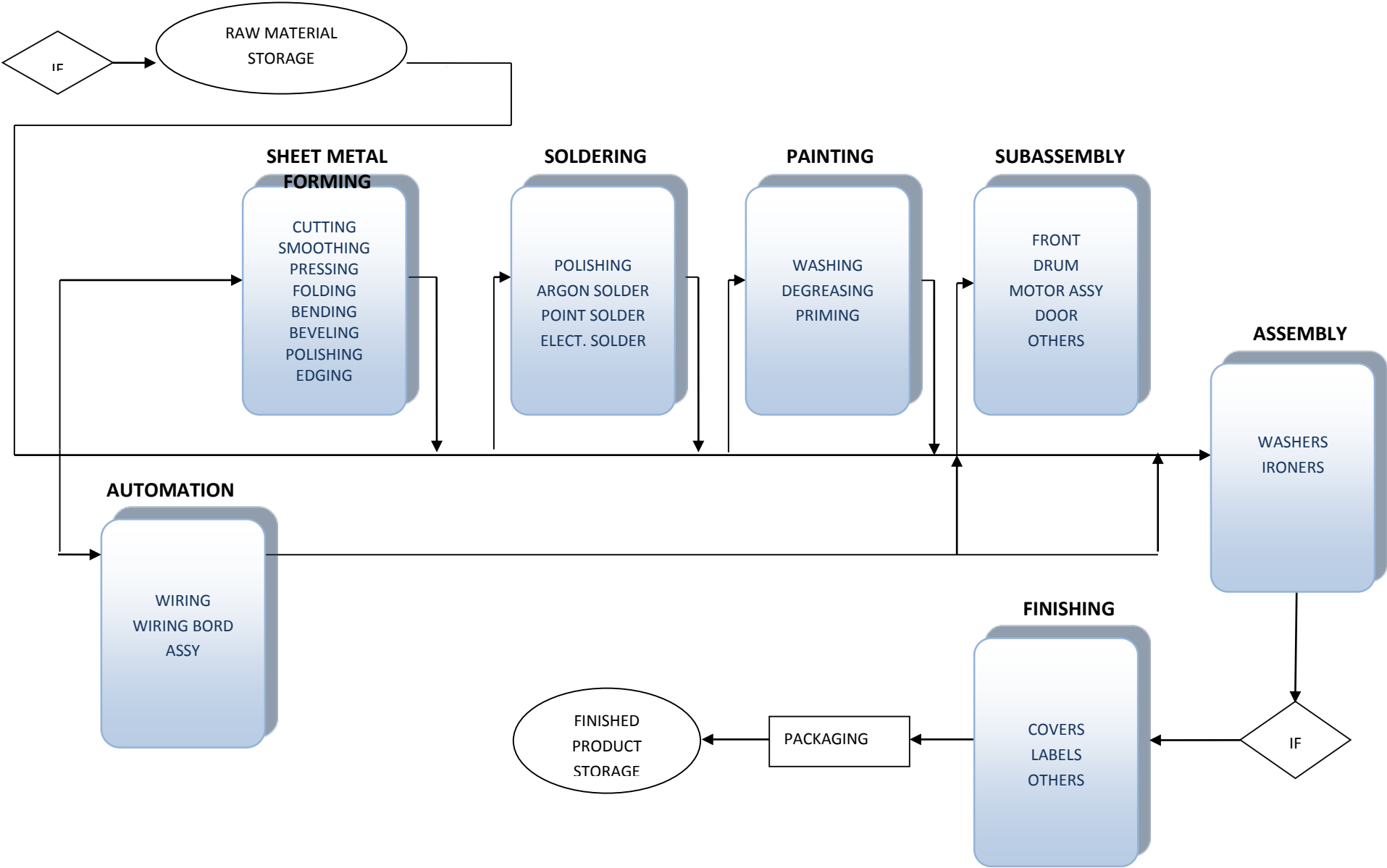
All GIRBAU products are manufactured in adherence to the principles of respect for the Environment.

Therefore, already in the phase of new product design, the engineering department of GIRBAU follows the procedure established in the Environmental Management System, by which different measures are to be taken into account in order to minimize the negative effects on the environment.

Factors to be taken into account during the phase of GIRBAU product design	Environmental improvements achieved
Equipment that guarantees optimization of natural resources.	Energy and water saving
Noiseless machines	Less acoustic pollution
Reduction of the weight of machines	Raw materials savings
Use of durable materials	Materials last longer, therefore consumption of new materials is prevented
Use of recyclable materials	Materials can be recovered



MANUFACTURING DIAGRAM



MAIN PRODUCTS MANUFACTURED BY GIRBAU

Washers

With a great range of washing machines that incorporate the latest technological advances and countless benefits, GIRBAU seeks efficiency in the consumption of natural resources.

Free-standing Washers

The *MDS* - Multi-Directional Springs - system enables spinning speeds of over 250G with silent and highly stable operation. The system absorbs up to 95% of vibrations and considerably lengthens the life of the shock absorbers.

The Aquafall system, which is based on a series of holes in the drum blades, enables the entry of additional water in the form of a cascade to increase action and reduce the rinsing time. In addition, the Aquamixer system is a hot and cold water mixer that makes it possible to achieve a great precision in the temperature of the water programmed.



Free-standing Washers – 6 HS Series

The 6HS series has three control versions that make it possible to respond to any washing requirement: the COIN version for self-service laundries, the LOGI version for opl laundries and the INTELI version for professional processes.

Hard-Mount Washer-Extractors

These machines require bolting down and reach spin speeds of up to 700 rpm. They are robust, reliable and versatile, offering optimum features and achieving maximum productivity and performance.

They are available with two types of controls to suit any requirement, the COIN version: for self-service laundries, and the LOGI PRO that makes it possible to set all the washing parameters in addition to incorporating the Just in Load function, which succeeds in adjusting the water consumption and the time of dosing proportional to the program and the weight of the load selected, in addition to saving water, energy and chemical products.



Hard-mount washers - MS Series 6

Tumble dryers

The range of Ecodryer dryers incorporate the *Transflow* system which aids the penetration of the hot air into the linen articles while taking advantage of the temperature to the maximum, in addition to having the door with double glazing and a double panel, *Heat Capture Technology*, ensuring a better use of energy and at the same time increasing the performance of some of the more expensive laundry processes.

In addition to lengthening the life of the linen thanks to the Care Touch Drum system, which is based on inlaying the holes to prevent the linen from coming into contact with sharp edges.



Ecodryer dryers – ED Series

Wall-type ironers

The **PB/PBP** wall-type ironers combine productivity, ergonomics and safety, and provide the best ironing quality and profitability.

Girbau's exclusive *cinematic strap tensioning system* maintains a uniform ironing cylinder pressure, thereby achieving an exceptional finish for the item.

They incorporate the *Autospeed* system that automatically adjusts the ironing speed depending on the type of fabric and its degree of moisture.

PBP models incorporate a photocell system at the linen input and output that calculates the total length of the article and allows completely automatic folding.



PB 3215 flatwork ironer

Industrial laundry: Batch washing system

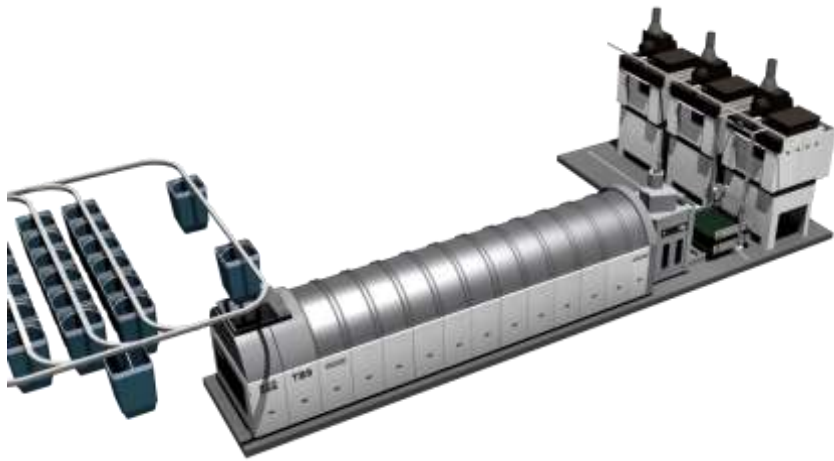
A system made up of a tunnel washer, extraction press and dryer

The tunnel washer is a completely versatile installation with features that guarantee a long mechanical life. It has an optimal control thanks to the computer it incorporates that allows full control of process parameters: washing, pressing and drying, as well as the system: operation of the motors, cycle times, and temperatures of the drying process.

Thanks to the electronic control of the water flow, and the *Drain Intercooler*, which takes advantage of the thermal energy of the water from the drainage to preheat the water in the external network, having the ECO+ option available makes it possible to achieve savings of 80% in water consumption, 70% in energy and 40% in detergents compared to a conventional tunnel.

Then extraction press is then key to achieving a high productivity, which is why the GIRBAU extraction press is designed to achieve the maximum performance in extracting water from the piles of clothes emerging from the tunnel washer and thereby reducing the energy consumption in the subsequent drying and ironing phases.

Lastly, in the drying phase, the GIRBAU dryer ensures a really reduced energy consumption. So much so that at the present time GIRBAU has the leading dryer on the market in terms of efficiency, the ST 1302 dryer, which consumes 1.1 kWh/litre of evaporated water and completes the cycle in just 15 minutes.



Tunnel washing system

Industrial laundry: Multi-cylinder flatwork ironers

GIRBAU's flatwork ironers are a guarantee of efficiency, functionality, safety and productivity.

The PC-80 flatwork ironer is designed in accordance with the European machinery safety directive for industrial laundries. The pressure elements are certified in accordance with the Asme code and provide a double safety device for hands and a daily self-checking.

Equipped with a large evaporation capacity and a high ironing capacity, they provide a perfect finish.

The PC120 flatwork ironer is proof that not everything has already been invented in ironing. With the spirit of constant improvement and with performance, quality and efficiency as its goal, GIRBAU presents an ironer that is indispensable in businesses with high production levels, and where profitability is not incompatible with quality.



PC120 flatwork ironer

3. ENVIRONMENTAL POLICY

GIRBAU, devoted to the manufacture of equipment for laundries and textile finishing, a leader in the international market, recognises the protection of the environment as a priority and for this reason maintains an environmental management system duly implemented in accordance with Standard ISO 14001 and EMAS, respecting the following commitments:

- To comply with applicable environmental legislation and other voluntary commitments.
- To protect the environment and prevent pollution by making a rational use of resources and managing the atmospheric emissions and waste that are generated properly.
- To incorporate the best available techniques in the design of our products, pursuing the minimum risk of environmental impact in all the activities involved in the machine's life cycle.
- To adapt environmental management to our context, by implementing the necessary processes for the continuous improvement of our environmental performance.
- To train, to raise awareness and to involve all the GIRBAU team in order to develop and apply good environmental practices.
- Permanent assessment of the effects on health, safety in the workplace and the environment that our products and procedures may cause.
- Collaboration with our suppliers, both those of products and of services, in order to improve their procedures with regard to the environment.
- To inform all interested parties about the risks that our machines and installations can have for health and the environment, as well as about the protection measures adopted and environmental efficiency in their use, maintenance, handling and elimination at the end of their useful life.
- To establish a permanent communication with all staff and stakeholders, spreading these principles and commitments and promoting environmental management at all times as a task involving participation at all levels.

Guillem Clofent i Suñer
Managing Director of GIRBAU, S.A.

Vic, December 12th 2017

4. ENVIRONMENTAL MANAGEMENT SYSTEM

Since 2000, GIRBAU has been establishing an Environmental Management System (EMS) in G1 and G2 to ensure all its environmental commitments are met.

The GIRBAU Environmental Management System uses three important tools to control and promote the fulfilment of its environmental objectives:

- An environmental management handbook and associated procedures: gives an account of all responsibilities and activities in order to achieve the established objectives of the environmental policy.
- Regular inspections: ensure procedures are correctly implemented and carried out.
- Regular environmental audits verify and ensure system efficiency.

The environmental committee is the body responsible for the monitoring of the EMS and consists of the following members:

- General Manager
- Technical Director
- Environmental Coordinator
- Committee Secretary
- Manufacturing Director
- Employees' representatives

GIRBAU's General Manager supervises the EMS on an annual basis once he has received the system review report drawn up by the Environmental Coordinator.

The environmental committee is in charge of monitoring the issues related to environmental management; it considers all the problems that may arise and makes pertinent decisions.



The Environmental Coordinator, together with the people in charge of each department, identify the environmental effects of each activity carried out in the department and then assesses them under both normal and emergency conditions, according to the Procedure for identification and assessment of environmental issues (MAP03). On the basis of the results obtained in the assessment, the procedures for operational control are established.

All employees are involved in the correct functioning of the EMS. The department managers ensure that all established procedures are followed in order to achieve good Environmental management

In order to train new staff members and increase their awareness regarding environmental management issues, GIRBAU is considering setting up a training to convey to staff:

- The importance of complying with the environmental policy and with EMS procedures and requirements.
- The significant effects and benefits of better personal behaviour for the Environment.
- Their functions and responsibilities in meeting environmental requirements and the response to be given in the event of an emergency situation.



5. THE ENVIRONMENTAL IMPACT

In matters of Environmental protection, GIRBAU does not wish to limit its practice to merely complying with current standards and regulations. At GIRBAU there is a culture of respect for the Environment and on many occasions the company has engaged in voluntary Environmental protection work.

For example, the company's files contain records for waste control dating from 1988, atmospheric emission measurements from 1989 and control of waste water pollution parameters from 1993.

In addition to this, since 1974 the company has been carrying out regular inspections in order to improve health and safety conditions.

The two basic premises for the culture of Environmental conservation at GIRBAU are to work with materials that are as non-aggressive as possible and minimize waste generation at the source.

The fact that the products manufactured by GIRBAU do not produce a high level of pollutants (neither during the manufacturing process nor at the end of their useful life) makes the application of corrective measures for Environmental protection easier.

Year after year, the data that we are presenting in the environmental statement confirm that GIRBAU is achieving the goals of its environmental policy.

EVALUATION METHOD FOR ENVIRONMENTAL ISSUES

Despite the good practices implemented, we are aware that GIRBAU's production activity generates a series of environmental impacts. For this reason, we have implemented an operating method that makes it possible to identify and evaluate the direct and indirect environmental aspects of all the activities carried out at GIRBAU and be able to determine their

degree of importance in order to work on these activities as a matter of priority in order to prevent, reduce, and if that is not possible, control the impacts arising.

This operating method is included in the Procedure for identifying and evaluating environmental aspects (MAP03), and has been applied to all the different sections and activities that are carried out at GIRBAU's facilities.

The environmental aspects are identified as the following types:

- Natural resources consumption
- Raw materials consumption
- Waste water generation
- Waste generation
- Atmospheric emissions
- Soil pollution
- Noise pollution
- Other (visual impact, offensive odours, etc.)

In order to evaluate them in the case of direct aspects under normal conditions, the nature, the magnitude/frequency and the possibility of implementing technological or management improvements in the environmental sphere are taken into account. In emergency conditions, the probability, the severity and the possibility of implementing technological or management improvements in the environmental sphere are taken into account.

In the case of indirect aspects, evaluation differs depending on the type of aspect, so that, for example, the EMS availability and the origin/grouping in the case of aspects associated with supplier/carriers; or whether training has been carried out, and whether the manuals are delivered to the customers-users of GIRBAU machinery are taken into account for aspects arising from the use of the machines.

In all cases, the possibility of implementing technological or management improvements in the environmental sphere is taken into account.

The result of this evaluation, the significant aspects related to GIRBAU in 2016 are presented below.

SIGNIFICANT DIRECT ASPECTS IN 2016: G1 FACTORY

DIRECT ENVIRONMENTAL ASPECTS	MAIN ENVIRONMENTAL ASPECTS
✓ Electricity consumption	→ Depletion of non-renewable resources, impact on biodiversity, generation of radioactive waste
✓ Natural gas consumption	→ Depletion of non-renewable resources
✓ Consumption of paints and solvents	→ Depletion of non-renewable resources, loss of air quality (emission of VOCs)
✓ Generation of general factory waste	→ Possible soil pollution and landscape impact (landfills)
✓ Generation of paper and cardboard waste	→ Energy consumption for treatment, loss of air quality and contribution to global warming
✓ Generation of wood waste	→ Energy consumption for treatment, loss of air quality and contribution to global warming
✓ Generation of paint waste in powder form	→ Possible soil pollution and landscape impact (landfills)
✓ Generation of waste from metal bins	→ Energy consumption for treatment, loss of air quality and contribution to global warming
✓ Generation of waste from fluorescents	→ Energy consumption for treatment, loss of air quality and contribution to global warming
✓ Generation of industrial oil waste	→ Possible soil pollution and landscape impact (landfills)
✓ Generation of aluminium waste	→ Energy consumption for treatment, loss of air quality and contribution to global warming, complete recovery of metal (positive impact)

DIRECT ENVIRONMENTAL ASPECTS	MAIN ENVIRONMENTAL ASPECTS
<ul style="list-style-type: none"> ✓ Generation of copper waste ✓ Emissions deriving from natural gas combustion 	<ul style="list-style-type: none"> → Energy consumption for treatment, loss of air quality and contribution to global warming, complete recovery of metal (positive impact) → Loss of air quality and contribution to global warming

SIGNIFICANT DIRECT ASPECTS IN 2016: G2 FACTORY

DIRECT ENVIRONMENTAL ASPECTS	MAIN ENVIRONMENTAL ASPECTS
<ul style="list-style-type: none"> ✓ Electricity consumption ✓ Natural gas consumption ✓ Consumption of paints and solvents ✓ Generation of general factory waste ✓ Generation of paper and cardboard waste ✓ Generation of waste from fluorescents ✓ Generation of industrial oil waste ✓ Emissions deriving from natural gas combustion 	<ul style="list-style-type: none"> → Depletion of non-renewable resources, impact on biodiversity, generation of radioactive waste → Depletion of non-renewable resources → Depletion of non-renewable resources, loss of air quality (emission of VOCs) → Possible soil pollution and landscape impact (landfills) → Energy consumption for treatment, loss of air quality and contribution to global warming → Energy consumption for treatment, loss of air quality and contribution to global warming → Possible soil pollution and landscape impact (landfills) → Loss of air quality and contribution to global warming

SIGNIFICANT INDIRECT ASPECTS IN 2016: G1 AND G2 FACTORY

INDIRECT ENVIRONMENTAL ISSUES	MAIN ENVIRONMENTAL ASPECTS
<ul style="list-style-type: none"> ✓ Emissions into the atmosphere deriving from the consumption of electricity ✓ Consumption of fuels in transferring parts between G1 and G2 ✓ Emissions into the atmosphere deriving from transferring parts between G1 and G2 ✓ Environmental aspects arising from the use of the machines by the users: consumption of resources, generation of waste and wastewater and generation of atmospheric emissions 	<ul style="list-style-type: none"> → Loss of air quality and contribution to global warming → Depletion of non-renewable resources → Loss of air quality and contribution to global warming → Depletion of non-renewable and renewable resources, possible soil pollution, eutrophication of the waters, loss of air quality and contribution to global warming

6. TARGETS

STATUS OF ENVIRONMENTAL TARGETS AND GOALS 2017

Below is the evaluation and status of implementation of the environmental targets defined for 2017.

TARGET	SCOPE	DESCRIPTION OF THE ACTIONS	RESPONSIBLE	RESOURCES	PERIOD	INDICATOR	STATUS
To reduce the consumption of electrical energy	G1 and G2	Replacement of the existing lighting by other more efficient lights with a longer lifespan (e.g. LED) as improvements and new work are carried out	Environmental Coordinator	Economic	December 2017	Kwh consumed /machine	Achieved
	G1: ironing section	Incorporation of Trulaser 3030 fibre	Environmental Coordinator	Economic	June 2017	Kwh consumed /machine	Achieved
Centralized supply of welding gases	G1	Perform conductive installation from the outside to each of the supply points; adapting the connection points to every welder	Environmental Coordinator	Economic	September 2017	---	Achieved
To improve the management of cardboard wastes	G2	Installation of a cardboard compacter in G2	Environmental Coordinator	Economic	February 2017	Number of cardboard collections	Achieved
To increase the reuse of paper waste	G1: Offices	Segregation of confidential paper	Environmental Coordinator	Economic/ Human	June 2017	Kg waste managed/year	Achieved
		Management by authorised manager			December 2017		
Study into feasibility of segregation and management of plastic	G1 and G2	Identifying the different plastic fractions generated and management possibilities	Environmental Coordinator	Human	November 2017	---	Achieved

2018 ENVIRONMENTAL TARGETS AND GOALS:

In accordance with the significant environmental aspects deriving from GIRBAU's production activity, the following environmental programme is established for **2018**. The achievement of these targets is monitored periodically and at least once a year in the Environment Committee meetings.

TARGET	SCOPE	DESCRIPTION OF THE ACTIONS	RESPONSIBLE	RESOURCES	PERIOD	INDICATOR
To maintain the consumption of electrical energy per machine manufactured (0.19 MWh/machine manufactured)	G1 and G2	Replacement of the existing lighting by other more efficient lights with a longer lifespan (e.g. LED) as alterations are carried out	Environmental Coordinator	Economic	December 2018	Kwh consumed /machine
	G1	Use of energy from photovoltaic panels - pre-study and first test phase	Environmental Coordinator	Economic/Human	December 2018	
	G1: Ironing section	Replacement of a metal spinning lathe	Environmental Coordinator	Economic	December 2018	KWh consumed by the new lathe compared to the previous one
To reduce the consumption of solvent by 5%	G1	Study into the feasibility of replacing the product that needs solvent 130419 with a water-based one	Paint section team leader	Economic	December 2018	---
To improve and rationalise waste storage	G1	Relocation of the waste storage area within the new maintenance layout	Environmental Coordinator	Economic/Human	December 2018	---
Training 200 users in optimising the use of GIRBAU machines	G1 and G2	To provide training for users of GIRBAU machines, offering assistance to test the machines at GIRBAU EXPERIENCE CENTER (GEC)	Commercial management and GEC	Human	December 2018	Number attending the training sessions

7. ENVIRONMENTAL BEHAVIOUR

The indicators to assess the organisation's environmental performance are listed below.

Relative indicators are given by number of machines manufactured, with the exception of water consumption, which is calculated on the basis of turnover:

	2015	2016	2017
No. of machines manufactured	12,349	12,845	13,852
Turnover (millions of €)	133.7	105.7	117.2

Table 7.1 Production data and turnover

7.1. NATURAL RESOURCES CONSUMPTION

WATER

In the G1 factory, water is supplied from two wells belonging to the company, one 50 m deep and the other 90 m. Water is analysed yearly, always with correct results.

In addition, water from the Aigües Vic public water supply is used in toilets and showers, as well as in coffee machines and as refrigerated drinking water.

¹ The data for 2015 has been corrected because it was mistakenly given according to the turnover of the whole group and not that of Girbau S.A., which is what it corresponds to.

The water supplied from the public water mains is used in the surface finishing processes (in the de-greasing and rinsing baths), for demineralising, air-conditioning and eye-baths.

At the G2 Factory, water supplied from the Vic water main is used in the industrial processes and for cold drinking water, beverage machines, washrooms and air conditioning.

	2015		2016		2017	
	G1	G2	G1	G2	G1	G2
Aigües Vic (m ³)	3,239	2,182	5,260	3,469	5,952	3,347
Own supply (m ³)	6,104	Not available	2,941	Not available	2,159	Not available
TOTAL CONSUMPTION WATER (m³)	9,343	2,182	8,201	3,469	8,111	3,347

Table 7.1.1. Water consumption. Water consumption indicators

m3 of water /millions of Euros

2015: 119.43¹

2016: 110.41

2017: 97.76

The reduction in water consumption is explained by the mix of machines manufactured.

ENERGY

The production activity has required the following consumption of electricity and natural gas. There are currently no renewable energy resources available.

	2015	2016	2017
G1 (MWh)	1,896	1,915	2,003
G2 (MWh)	682	673	721
TOTAL CONSUMPTION (MWh)	2,578	2,588	2,724

Table 7.1.2. Consumption of electricity according to invoice data

	2015	2016	2017
G1 (MWh)	3,791	3,663	3,963
G2 (MWh)	1,581	1,469	2,169
TOTAL CONSUMPTION (MWh)	5,372	5,132	6,132

Table 7.1.3. Consumption of natural gas according to invoice data

GIRBAU uses electric power for machine operation and lighting in general.

Natural gas is also used for the operation of ovens, hot air generators, steam generators and heating.

GIRBAU also uses propane gas, but its consumption is minimal. It is used only for testing ironers.

Energy efficiency indicators

Electricity: MWh/number of machines manufactured

2015: 0.21

2016: 0.20

2017: 0.19

Natural gas: MWh/number of machines manufactured

2015: 0.44

2016: 0.40

2017: 0.44

Raw Materials Paint (kg)	2015	2016	2017
Primer paint	4,530	5,170	5,643
Yellow paint	1,653	345	940
Powder paint	18,585	19,598	20,150
Solvent	6,143	5,630	4,720
TOTAL	30,911	30,743	31,453

The variation in electricity consumption is due to the mix of machines manufactured, and as for the increase in the consumption of natural gas, this is due to the increase in production of machines with gas heating.

RAW MATERIALS

The quantities of the main raw materials consumed are shown below.

Metal raw materials (t)	2015	2016	2017
Cast iron	193.0	191	182
Stainless steel	3,168.6	2,817	3,421
Steel	1,792.45	1,485	1,216
Aluminium	63.44	51.9	51.23
Copper	0.02	0.03	0.38
TOTAL	5,217.51	4,544.93	4,870.61

Table 7.1.4. Consumption of Metal Raw Materials

Table 7.1.5. Paint Consumption

Indicators of the efficiency in consumption of materials**Metal raw materials:**

Tonnes of metal raw materials / number of machines manufactured

2015: 0.42

2016: 0.35

2017: 0.35

Painting:

Tonnes of paint purchased/number of machines manufactured

2015: 0.00201

2016: 0.00196

2017: 0.00193

The consumption of metal raw materials has increased due to the increase in production; however, the range of tones used per machine manufactured is maintained.

As regards paint, the increase in consumption is explained by the mix of machines manufactured.

7.2. WASTE GENERATION

Waste management is centralised at G1. The amounts and types of waste generated over the last three years are listed below.

Type of waste and hazard rating ^{2/3}	2015		2016		2017		Treatment
	G1	G2	G1	G2	G1	G2	
Cast iron and steel (t) (NH)	760.87	-	668.010	-	656.46	-	Valorisation
Copper (t) (NH)	2.18	-	2.28	-	1.68	-	Valorisation
Aluminium (t) (NH)	1.3	-	2.92	-	4.38	-	Valorisation
Stainless steel (t) (NH)	170.5	-	163.54	-	232.3	-	Valorisation
Powder from the laser (t) (NH)	-	-	-	-	0.4	-	Valorisation
Lead (t) (NH)	0.01	-	0.01	-	0.01	-	Valorisation
Brass (t) (NH)	0.01	-	0.26	-	0.01	-	Valorisation
Batteries (t) (H)	0.1	-	0.09	-	0.11	-	Valorisation
Fluorescent tubes (t) (H)	0.06	-	0.07	-	0.04	-	Valorisation
Paper and cardboard (t) (NH)	34.76	33.11	32.2	27.08	32.77	33.56	Valorisation
Toners (t) (NH)	0.04	-	0.09	-	0.17	-	Valorisation
General factory waste (t) (NH)	36.9	17.9	35.82	17.42	33.31	20.02	Elimination
Hydraulic fluids (t) (H)	2.6	-	0.81	-	0.71	-	Elimination

² The hazard is indicated in accordance with the European Waste Catalogue with the initials H: hazardous and NH: not hazardous.

³ For the purpose of standardising the data, all waste quantities are given in tonnes including those for the years 2015 and 2016 which for some waste is given in m³ or in units in environmental statements of previous years. Details of all of the waste produced in the last three years is also provided.

Type of waste and hazard rating ^{2/3}	2015		2016		2017		Treatment
	G1	G2	G1	G2	G1	G2	
Plastic bins 25 L (t) (H)	0.21	-	0.96	-	0.14	-	Valorisation
Metal bins from 5 L to 200 L (t) (H)	1.7	-	1.02	-	1.54	-	Valorisation
Airbrush paint filters (t) (H)	1.34	-	1.53	-	1.77	-	Elimination
Powder paint (t)(H)	7.59	-	8.9	-	7.42	-	Elimination
Wood remains (t) (H)	81.7	13.2	101.63	17.64	75.84	48.15	Valorisation
Solvent (t)(H)	2.55	-	2.22	-	2.21	-	Valorisation
Electric motors (t) (NH)	7.7	-	3.44	-	4.65	-	Valorisation
Rubble from rehabilitating industrial buildings (t) (NH)	17.68	-	42.96	-	0.03	-	Valorisation
I.T. and electrical material (t) (NH)	1.99	-	0.72	-	1.59	-	Valorisation
Degreasing liquids (t) (H)	14.78	-	13.70	-	15.26	-	Elimination
Traction batteries (t) (H)	0.6	-	0.65	-	0.72	-	Valorisation
Aerosols (t) (H)	0.03	-	0.01	-	0.02	-	Elimination

Table 7.2.1. Waste produced by GIRBAU

All waste generated in GIRBAU. is treated by waste managers authorized by the Agència de Residus de la Generalitat de Catalunya (Waste Board).

In the case of cardboard, it should be highlighted that GIRBAU reuses this material internally thanks to different points set up for its collection at both the G1 and G2 factories.

Waste indicators

% Hazardous waste, % Non-hazardous waste

2015:

Hazardous waste: 31.56 t → 2.61%

Non-hazardous waste: 97.29 t → 97.39%

2016:

Hazardous waste: 29.15 t → 2.54%

Non-hazardous waste: 1,116.82 t → 97.46%

2017:

Hazardous waste: 29.94 t → 2.55%

Non-hazardous waste: 11,145.33 t → 97.45%

% waste not reused, % waste reused

2015:

Not reused: 81.09 t → 6.69 %

Reused: 1,130.32 t → 93.31 %

2016:

Not reused: 79.6 t → 6.95%

Reused: 1,066.38 t → 93.05%

2017

Not reused: 80.72 t → 6.87%

Reused: 1,094.55 t → 93.13 %

The total production of waste has increased by 2.56% in absolute value (1,175t in 2017 compared to 1,146t in 2016) while the % of hazardous waste is maintained at 2.5% as well as the percentage of reuse, which stands at around 93%.

Taking into account the increase in the number of machines manufactured this year, the production of waste has dropped by nearly 5%, going from 0.09 t/machine manufactured to 0.08 t/machine manufactured in 2017.

Kg of metal waste/number of machines manufactured

2015: 75.70

2016: 65.14

2017: 64.63

Kg of aerographic paint filter waste/number of machines manufactured

2015: 0.11

2016: 0.12

2017: 0.13

Kg of powder painting waste/number of machines manufactured

2015: 0.61

2016: 0.69

2017: 0.54

Kg of solvent waste/number of machines manufactured**2015:** 0.21**2016:** 0.17**2017:** 0.16

As regards the production of significant types of waste, in the case of metal waste per machine manufactured, it can be considered that the same ratio as the previous year has been maintained. With regard to paint waste, it should be noted that the significant decline in the production of powder residue can be attributed to a more efficient application.



7.3. ATMOSPHERIC EMISSIONS

GIRBAU has a total of 29 points of emissions into the external atmosphere, 21 located in G1 and 7 in G2.

The main direct atmospheric emissions derive from the combustion of natural gas for heating. The following table sets out the emissions of greenhouse gases (GHGs), NOx and PM deriving from this combustion:

	2015		2016		2017	
	G1	G2	G1	G2	G1	G2
GHG emissions (t eq CO₂)⁴	757.42	316.26	731.85	292.50	721.47	394.96
Total t eq CO₂	1,073.68		1,204.35		1,116.43	
Emissions of NOx (t NOx)⁵	0.52	0.22	0.50	0.20	0.54	0.30
Total t NOx	0.74		0.70		0.83	
Emissions of PM (t PM)⁶	0.0027	0.0011	0.0026	0.0010	0.0028	0.0015

4 For calculating GHG emissions, the methodology and the conversion factors established by the Catalan Office for climate change in the GHG emissions calculation guides annually has been used. For calculating GHG emissions, the fluorinated gases are also considered but do not appear because they have not occurred.

	2015		2016		2017	
	G1	G2	G1	G2	G1	G2
Total t PM	0.0038		0.0036		0.0043	

Table 7.3.1. Direct atmospheric emissions deriving from the combustion of natural gas

Of the 21 points of emission, 4 correspond to painting cabins, 2 to suction and the remaining 15 are from natural gas combustion. In this last group, a total of 7 are affected by Spanish Thermal Building Regulations (RITE-Reglamento de Instalaciones Térmicas en los Edificios) and are not considered industrial.

In the case of the G2 factory, the 7 existing points are natural gas combustion, and only 2 of them are considered to be industrial, since the others are all affected by the Thermal Building Regulations (RITE).

GIRBAU has the corresponding record books for these points and controls them in accordance with the legislation in force.

5 Estimated value considering the emission factors of the year 2016 by the Directorate-general of energy and Climate Change of the Government of the Balearic Islands (April 2018): 38 g Nox/GJ.

6 Estimated value considering the emission factors for 2016 by the Directorate-general for energy and Climate Change of the Government of the Balearic Islands (April 2018): 0.2 g Particles/GJ.

In addition, indirect atmospheric emissions resulting from the consumption of electricity⁷ need to be taken into consideration as a significant indirect aspect.

2017			
	G1	G2	Total
GHG emissions (t eq CO ₂) ⁸	771.84	282.82	1,054.66

Table 7.3.2. Indirect atmospheric emissions deriving from the consumption of electricity

GEH emission indicators

Direct GHG emissions:

⁷ The emissions arising from the transfer of parts between the two factories is not in the table even though it is a significant aspect, because its value is irrelevant: 0.00247 teq of CO₂ in 2016 and 0.00193 teq of CO₂ in 2017.

tCO₂/No. of machines manufactured

2015: 0.09

2016: 0.08

2017: 0.08

The decrease in greenhouse gas emissions is attributed to the reduction in the consumption of natural gas.

Indirect GHG emissions:

tCO₂/No. of machines manufactured

2017: 0.07

⁸ For calculating the emissions of CO₂ teq, the emission factor 392 g CO₂/kWh (Climate Change Office Guide 2018 version) has been taken into account. For values of NO_x, SO_x and PM the emission factor for 2016 of the Directorate-general for energy and Climate Change of the Government of the Balearic Islands (April 2018) has been taken into account.

Source	Emission level			Legal limit (mgC/Nm ³)
Source 3 Painting of metal parts (Registry nº 10872)	COT	54 mgC/Nm ³	0.531 KgC/h	100
Source 4 Painting of metal parts (Registry nº 10871)	COT	39 mgC/Nm ³	0.329 KgC/h	100
Source 24 Painting of metal parts (Registry nº 16854)	COT	56 mgC/Nm ³	0.477 KgC/h	100
Source 25 Painting of metal parts (Registry nº 16855)	COT	57 mgC/Nm ³	0.483 KgC/h	100
Focus 22 Plate Satinating (Registry nº 12289)	PST	<3 mg/Nm ³	0.019 Kg/h	150
Focus 23 Ring Satinating (Registry nº 12285)	PST	4 mg/Nm ³	<0.008 Kg/h	150

Table 7.3.3. G1 Industrial Processes Emission Sources – painting chamber and suction
(DEKRA emission control report ref. 00198_002-EA_43172ATM01_anA01)

VOC emission indicators

Kg C/number of machines manufactured

2015: 0.3

2016: 0.27

2017: 0.17

The significant reduction in the use of solvent is due to employees being made aware that they need to use it as little as possible.

7.4. ENVIRONMENTAL ASPECTS OF OUR MACHINES

GIRBAU is aware of the environmental impact in the phase during which their machines are in use, which is why the fundamental premise of the organisation is the continuous improvement of the machinery that it manufactures, seeking mainly energy efficiency and the reduction of water consumption.

In this respect it should be noted that GIRBAU meets the market's most demanding standards on an international level (e.g. the British VTL water consumption standard), which has made it a pioneer and a leader in its sector.

In the area of energy efficiency, it is in line with the guidelines being drafted by the technical commission, of which GIRBAU is also a part, for the energy labelling of washing machines.

With the aim of ensuring that the phase during which the machine is used is the most efficient from the environmental point of view, GIRBAU commissions the installation by carrying out training, either directly or via distributors, supported by the machine's user manual, where, among other things, instruction is given on how to proceed in the management of the waste once the machine reaches the end of its life cycle.

Also of note is the availability of various delegations and customer technical services (TAS) in all the countries where the company exports, which ensure immediate assistance and repair.

8. LEGAL COMPLIANCE

Girbau's Environmental Management system ensures basic compliance with the main regulations applicable, which are indicated below:

- Law 20/2009 and Law 20/2011, concerning environmental licensing, Appendix II. 2. exempt from periodical controls as a result of having the EMAS, in accordance with modifications to Law 3/98, Law 20/2009 of December 4th, Law 9/2011 of December 22nd and Law 5/2012 of 2013.
- Registration in the Industrial Registry.
- Low and high voltage installations.
- R.D. 379/2001, approving the regulations concerning storage of chemical products, and their Complementary Instructions. Legalisation of compressed gas bottles (APQ 05) and the storage of flammable items (APQ 01) 15.11.2000 with Dossier No. 2434 and 2435 respectively.
- R.D. 849/1986 Regulations concerning the Hydraulic Public Domain, and R.D.L.1/2001 approving the Water Law. It has the concession for both wells dated 26.07.2001 by the ACA (Well 1-753) and dated 23.01.2001 by the Directorate General of Mines (Western factory well).
- Permit for discharging wastewater generated, from Osona District Council, for both factories.
- R.D. 208/2005 modified by R.D. 110/2015, about electrical and electronic devices and the management of their waste products. Declaration of producer of waste Products from Electrical and Electronic devices RAEE 28-02-06, registered at the Ministry of Industry, Tourism and Commerce (*Ministeri d'Indústria, Turisme i Comerç*) as manufacturer nº 3533 dated 09-11-10.
- R.D.919/2006, approving the technical regulations and those for the distribution and use of gas fuels their complementary technical instructions ICG 01 to 11. Gasification station ITC-MIE-AP 10.

9. INFORMATION, COMMUNICATION AND SENSITIZATION

With the aim of maintaining an open channel on an ongoing basis for any kind of questions or information about GIRBAU's relationship with the environment, the managing director of Girbau is responsible for the company's dialogue with all interested parties on this topic.

The General Manager will also ensure that this statement is delivered to Vic Town Council, the Generalitat and to all those who may require it.

Where deemed appropriate, requests made by external interested parties will be considered when setting improvement goals.



10. ENVIRONMENTAL CHECK

GIRBAU's Environment Statement is validated annually. The details of the Statement are updated annually and are available on GIRBAU's website: www.girbau.com

This environmental statement is the first validation of changes in respect of the content of previous Environmental Statements.

Checked by:

General Manager of GIRBAU, S.A.:

Mr. Guillem Clofent