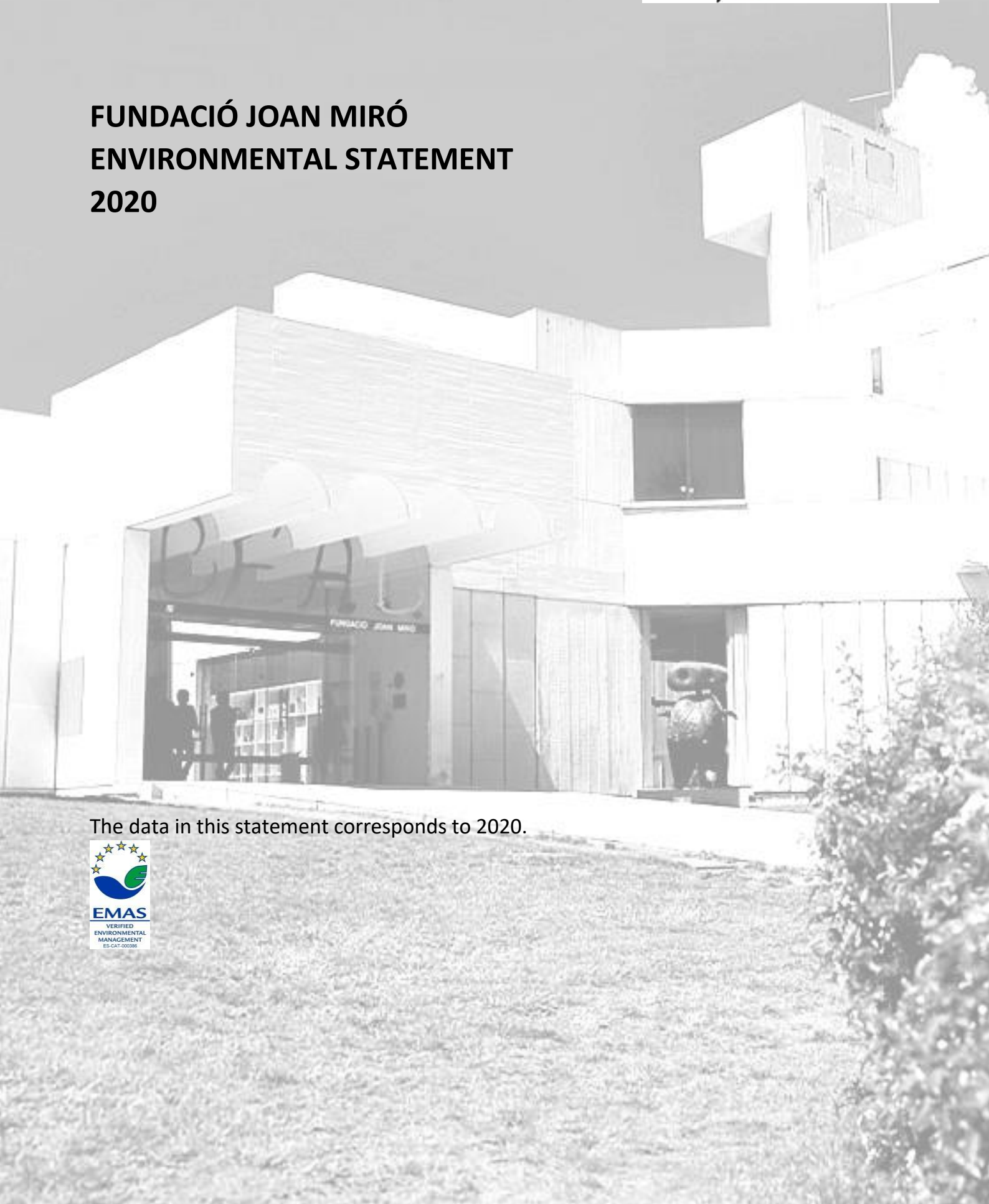


**Fundació Joan Miró**

 Barcelona

# FUNDACIÓ JOAN MIRÓ ENVIRONMENTAL STATEMENT 2020



The data in this statement corresponds to 2020.



Process consultants:



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We are well aware of the importance of environmental protection. This keen awareness underpinned our decision to formalise our commitment to continuous improvement towards sustainable development.

Within this framework, we have renewed certification for our Environmental Management System (EMS), which equips us with the necessary tools to undertake a thorough environmental assessment, thereby ensuring continuous improvement in the processes linked to our activity as a museum by motivating and securing the commitment of each and every one of our stakeholders. We have sought to involve our employees, our suppliers and our external partners as well as our visitors, who are the institution's end users.

Our Environmental Management System allows us to assess the environmental impact associated with our activity. This information triggers a process of continuous improvement in our daily work to minimise this impact and establish patterns of self-control to optimise operations throughout the entire system and thus ensure it runs as efficiently and effectively as possible.

Marta Vilaró  
General Manager, Fundació Joan Miró

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## OUR ENVIRONMENTAL POLICY

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True to its values and keenly aware of its responsibility to protect nature, the Fundació Joan Miró Centre for the Study of Contemporary Art aims to be a benchmark environmentally friendly organisation. It has therefore renewed its environmental management system based on European EMAS Regulations and the international ISO 14001 standard, as well as adhering to Biosphere, in all its facilities and activities, as a sign of its firm commitment to sustainable development.

This policy encompasses all of our employees and partners. Each of them is committed to putting this policy and the values that stem from it into practice. In addition, this policy also forms the framework of reference for establishing and reviewing the objectives and milestones for continuous improvement in the Fundació's environmental performance.

The Fundació's environmental policy is rooted in the following principles:

### Systematic integration of environmental protection and pollution protection into all our activities

In order to carry out our activities in the most environmentally friendly way possible, we are committed to using the best available techniques and practices in all of our activities in the field of environmental protection, in addition to complying with the regulations in force and any other requirements to which the organisation subscribes, in keeping with our commitment to continuous improvement.

### Prevention

In accordance with the goals we have set ourselves for managing the impact created by our activities, we are committed to using all the technical and human resources necessary to prevent any pollution that might be created by our activity.

### Promoting our values and communicating best practices

We are committed to transparently communicating information about our environmental impact, fostering dialogue and sharing ideas with our stakeholders (neighbours, government administrations, suppliers and employees).

### Acting responsibly

Mindful of the serious issue of environmental pollution and its impact, and of our direct role in contributing to it, we are committed to implementing every possible means to manage and control it.

Marko Daniel

Director, Fundació Joan Miró

September 2020

## THE FUNDACIÓ JOAN MIRÓ

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The Fundació Joan Miró opened to the public on 10 June 1975. Its roots go back to the first major Joan Miró exhibition in Barcelona, in 1968, at the old Hospital de la Santa Creu. This show led a number of leading figures in the world of art and culture to start thinking seriously about setting up an emblematic space for Miró's work in Barcelona. In accordance with the artist's wishes, however, this new institution would also have to showcase work by a wide range of contemporary artists.

At a decidedly uninspiring time for the city's artistic and cultural scene, the Fundació Joan Miró was a refreshingly dynamic concept of an art museum in which Miró's art was shown alongside a variety of creative work by other artists, as reflected in the Fundació's full name: Centre for the Study of Contemporary Art (CEAC). In recognition of its outstanding heritage, the Fundació has been classified as a Museum of National Interest.

The Fundació Joan Miró is a private Catalan foundation. It is represented and governed by a Board of Trustees, which was originally made up of a group of artists, intellectuals and friends and relatives of Joan Miró. Today there are a maximum of twenty-five trustees, representing the Spanish Ministry of Culture, the Catalan Government, Barcelona City Council and the world of business and the arts.

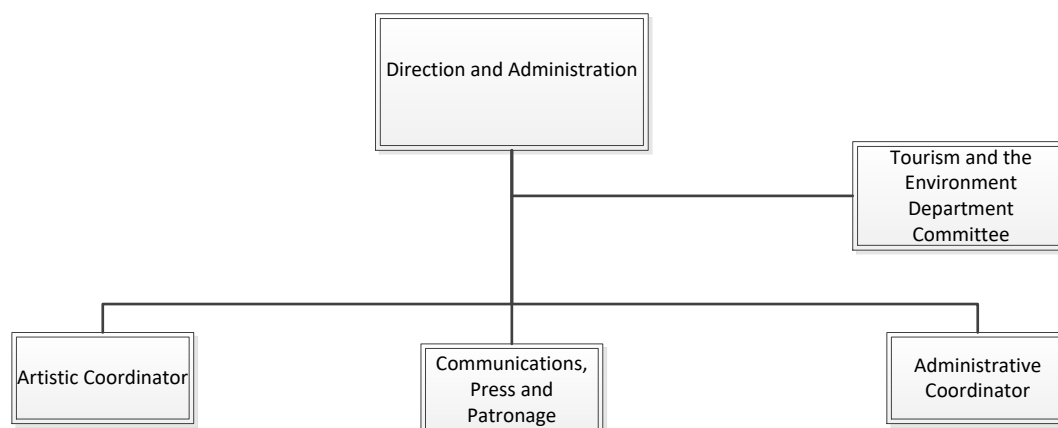
The Fundació is housed in a building designed by architect Josep Lluís Sert, cofounder of GATCPAC (Grup d'Arquitectes i Tècnics Catalans per al Progrés de l'Arquitectura Contemporània) and a close friend of Joan Miró. It was built on land on the side of Montjuïc Park provided by Barcelona City Council.

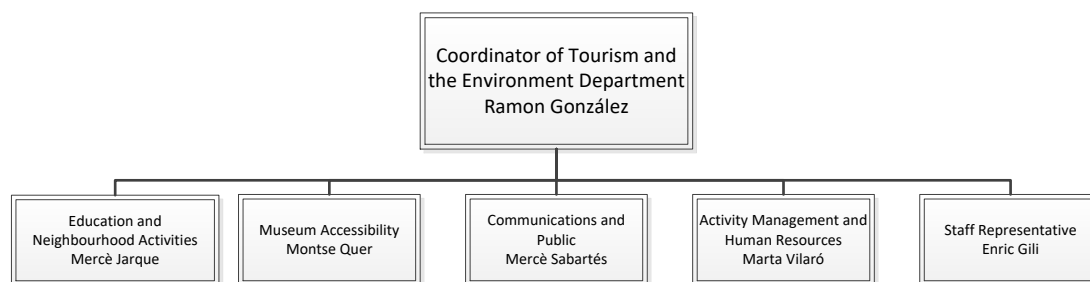
Under normal circumstances, the Fundació was open all year round, from Tuesday to Friday. However, the museum's activity during 2020 was greatly affected by the health crisis caused by Covid-19, as well as by the restrictions on mobility and capacity decreed periodically by the Government of Catalonia.

From 14 March to mid-June, and given the state of alarm decreed by the central government, the museum remained completely closed. As of 12 June 2020, the museum reopened its doors, allowing visitors access from Friday to Sunday from 11 am to 6 pm.

The opening of the museum was carried out following strict Covid-19 protocols in order to guarantee health and safety, and in accordance with the capacity restrictions decreed periodically by the Government of Catalonia.

Our environmental management system is structured as follows:





## OTHER INFORMATION OF INTEREST

<b>Name:</b>	<b>Fundació Joan Miró Centre for the Study of Contemporary Art</b>
<b>Address</b>	Av. Miramar s/n, 08038 Barcelona
<b>Tel</b>	+34 934 439 470
<b>Fax</b>	933 298 609
<b>Email</b>	<a href="mailto:info@fundaciomiro-bcn.org">info@fundaciomiro-bcn.org</a>
<b>Website</b>	<a href="http://www.fundaciomiro-bcn.org">www.fundaciomiro-bcn.org</a>
<b>NIF</b>	G08428138
<b>NACE:</b>	9102 - Museums activities
<b>CNAE</b>	9102 - Museums activities
<b>Head of Environment</b>	Ramon González (Head of Maintenance and Safety)
<b>EMAS Register</b>	ES-CAT-000386
<b>Adhesion to Biosphere</b>	Approved December 2019 (annual validity)

## ENVIRONMENTAL MANAGEMENT SYSTEM

The Fundació's EMS is based on the international ISO 14001 standard and EMAS European regulations, which allow companies to voluntarily sign up to a Community Eco-management and Audit Scheme. This continuous improvement system is fully integrated within the Fundació's overall management structure.

The scope of our EMS encompasses activities designed to conserve, preserve and promote work by Joan Miró by means of:

- Permanent exhibition of the collection
- Temporary exhibitions
- Cultural events
- Educational programmes
- Archive and library
- Management of museum visits
- Bookshop and gift shop services
- Management of food and refreshment services (restaurant and cafe)
- External hiring of spaces

Based on our management policy, we carry out an analysis of the environmental aspects linked to our activity (energy, paper and water consumption, for example), along with our visitors' and our suppliers' activities. We set out a series of goals to reduce the impact of our activity, improve the quality of our services and raise our visitors' level of satisfaction. We also regularly monitor the system to ensure it is working properly.

Our Management Manual sets out the EMS lines of action and stipulates how the different activities are to be carried out in order to integrate environmental management as part of our day-to-day management.

Within the framework of the principles of continuous improvement, and responding to the concerns of the Fundació, the Direction has chosen to adhere to Biosphere. Furthermore, since December 2019 the Fundació is a member of "Barcelona + Sustainable".

#### ***What is Biosphere?***

***The Biosphere© certification is awarded by the Responsible Tourism Institute (RTI), an independent organism created in 1995 with the goal of encouraging action and programmes in sustainable development in tourist destinations and enterprises. The RTI arose with the support of UNESCO by means of a Memorandum of Understanding, which has facilitated the development of activities, projects and events featuring cooperation between both organisms. The RTI is also a founding member of the Global Sustainable Tourism Council (GSTC), under the auspices of the United Nations Foundation.***

***For over twenty years, the Responsible Tourism Institute (ITR) has played a leading role in the contribution of tourism to Sustainable Development.***

***It arose out of the World Conference on Sustainable Tourism (1995), sponsored by UNESCO, the ILO, the United Nations Environment Programme (UNEP) and the EU. Since then, the mission of the ITR has been to promote the principles of the World Charter for Sustainable Tourism (approved at the 1995 Conference), and of all directives and precepts on Sustainable Development as advanced by the UN.***

#### ***What is the role of the City Council of Barcelona?***

***Starting in 2016, the City Council of Barcelona began to promote sustainable and responsible tourism, signing an agreement with Biosphere.***

***Amongst the goals of this agreement, focused on encouraging tour operators to implement programmes of sustainable development, is the creation of its own brand to recognise efforts in improving sustainable tourism. The goal is, furthermore, to raise and focus demand for the certification by introducing specific criteria relevant for the sustainability of tourism in Barcelona, and encouraging and expanding the Biosphere-Barcelona community as a strategy in extending this certification to other establishments and facilities.***



## COMPLIANCE WITH MAIN LEGAL REQUIREMENTS

The Fundació Joan Miró keeps up to date with current environmental legislation and the relevant legal requirements it is bound by, and checks to ensure it is complying with them.

The Fundació declares that it complies with all environmental legislation applicable to the activity this environmental declaration is subject to, corresponding to the signing date of this document:

Declaration of Compliance	
<b>Plan for self-protection and fire prevention systems</b>	The FJM has a plan for self-protection and that has been revised and sent to the City Council of Barcelona, dated 11/02/2020. A simulated emergency fire drill was implemented on 20/01/2020 (fire in the boiler room).
<b>Fire safety equipment</b>	A contract has been signed with external companies for the regulatory maintenance and inspection of the fire detection system and the dry extinction system, and for the regulatory maintenance and inspection of fire extinguishers and hose reels. Quarterly inspections are carried out by maintenance personnel of the FJM. The inspection of fire prevention equipment was carried out on 21/09/2020, and this passed. This inspection is valid until 2029.
<b>Environmental License</b>	The FJM has an environmental license for its activity as granted by the City Council of Barcelona, dated 19/03/2009. The initial test was carried out on 15/07/2015, with the result conditioned on pending interventions in fire protection. All relevant interventions have been carried out and a new inspection is being arranged to ensure a positive test certificate.
<b>High voltage</b>	Last regular check on 01/10/2018, with a favourable result. Next check due in 2021. We have a preventive maintenance contract with the maintenance company.
<b>Low voltage</b>	Last regular check on 24/08/2020, with a favourable result. Next check due in 2025. We have a preventive maintenance contract with the maintenance company.
<b>Heating and air-conditioning</b>	The installation was put into service on 11/11/2005. We have a preventive maintenance contract with the maintenance company for cooling units and small air-conditioning units. Last annual technical maintenance inspection certificate is dated 30/09/2020. IPE energy efficiency inspection carried out on 30/09/2020. The next energy efficiency inspection is due in 2024. IPE energy efficiency inspection (refrigeration equipment) carried out on 13/06/2016. Upcoming IPE energy efficiency inspection scheduled for 2021. The IPIC inspection, scheduled for 2021, will be carried out during the IPE of the refrigeration equipment.
<b>Control of leaks in heating and air-conditioning</b>	There is a registry of units containing fluorinated gases / substances affecting the ozone layer.  Inspections for leaks are carried out bi-annually/annually, in function of tons of CO2 equivalent to cooling gas in the air-conditioning units.
<b>Pressurised devices</b>	Last Level A check carried out on 13/09/2020. Next check due in November 2021. Last Level B check carried out on 04/11/2015. Next check due in September 2021. Last Level C check carried out on 12/09/2018. Next check due in September 2024.

<b>Passenger and service lifts</b>	<p>Dates of last regular regulatory inspection:  <b>Lift between floors / RAE 1-080101226</b>  - 09/11/2020  <b>Lift to rooms (offices) / RAE 080060106</b>  - 23/11/2020  <b>Service lift / RAE 080034095</b>  - 02/11/2020</p> <p>The next inspection is due in 2022.  We have a preventive maintenance contract with an authorised maintenance company.</p>
<b>Natural gas</b>	<p>The natural gas installation contract is in the name of Barcelona City Council.  The last inspection was carried out on 15/07/2019.  The next one is due in 2024.</p>
<b>Waste management</b>	<p>Our waste producer code is P-12714.1.  Given the low volume of waste we produce, we are exempt from having to make an Annual Waste Declaration.  We carried out a Minimisation of Hazardous Waste Report in June 2013 and submitted it to the ARC (Waste Agency of Catalonia). We are currently exempt.  A Simplified Annual Packaging Declaration is made to Ecoembes, with the most recent one made on 03/12/2020.</p>
<b>Legionella</b>	<p>Preventative maintenance is carried out by the FJM's maintenance staff.  The last annual disinfection was carried out on 09/03/2020.  Sampling and testing is done annually, with the most recent test carried out on 30/03/2020. The result was favourable.</p>
<b>Storage of hazardous products</b>	<p>Safety information sheets are available for hazardous cleaning, maintenance and restoration products in their place of use.</p>
<b>Permit for the disposal and control of wastewater</b>	<p>A permit for disposing of wastewater from the Metropolitan Area of Barcelona was issued on 29/01/2021.  This permit was requested, as required by the applicable norm, through a Declaration of Responsibility.  This permit will remain in force provided that there is no significant change in our wastewater disposal or any change in applicable legislation.  We analyse the quality of our wastewater every year. In the analysis carried out on 09/03/2020, all parameters were within the legal limits.</p>
<b>Mercury Fountain</b>	<p>Alexander Calder's piece <i>Mercury Fountain</i> is on display at the FJM. Since this unusual artwork uses liquid mercury, the FJM monitors it very closely. A specialist company cleans the piece and annual analytical tests are carried out on the air to detect any possible presence of mercury. In 2011, the Catalan Ministry of Territory and Sustainability granted the FJM's request to be exempt from Regulation 1102/2008 on the storage of mercury, enabling this work of art to be considered purely ornamental.</p>
<b>ISO 14001 and EMAS certifications</b>	<p>ISO 14001 and EMAS certifications are valid until 22/09/2023 and 25/09/2023, respectively. The last audit was carried out by AENOR on 22, 23 and 25 June 2020.</p>

## STAKEHOLDER TRAINING AND AWARENESS RAISING

Raising awareness and training museum staff about salient environmental issues is key to the success of our EMS.

The Head of Environment carries out environmental awareness-raising tasks with employees in the form of emails reminding them of good practice, new environmental goals, etc. The Environmental Declaration is freely available to all employees.

In 2020, parts of the actions set out in the Fundació's plan for the year were linked to the environment. Additional training activities are planned for 2021.

No complaints concerning the museum's environmental policy were received in 2020.

### **Raising stakeholder awareness**

The Fundació's educational programmes aim to raise visitors' environmental awareness. These activities work on subjects linked to the environment (recycled materials, ecology, etc.).

Other environmental aspects with implications for stakeholders include the following:

- Green purchasing in the gift shop (ecological products, local products, etc.)
- Green purchasing in the bookshop (as far as possible)
- Use of ecological paper (ecolabels, FSC, PFEC) in offices and the Communication Department
- Reusing exhibition materials internally or donating them to other organisations

### **IDENTIFYING AND ASSESSING KEY ENVIRONMENTAL ASPECTS**

Every year the Fundació identifies all environmental aspects directly linked to its own activities and those of any third parties that might have an effect on them.

The assessment system incorporates a lifecycle analysis perspective and follows a methodology based on the concepts and criteria defined as follows:

- **Magnitude:** reflects the quantitative change in the environmental aspect with respect to the goal set by the organisation.
- **Severity:** measures the repercussion or danger of the aspect for the environment.
- **Level of intervention:** reflects the level of intervention required by the organisation for a specific aspect.

Potential aspects in emergency situations are only assessed if there are any incidents during the year.

During 2020 there were significant changes in the museum's circumstances, given that both the health crisis caused by Covid-19—with the corresponding state of alarm decreed between March and June 2020—and the mobility restrictions decreed by the Government of Catalonia have influenced the environmental aspects of the organisation. The year 2020 cannot be compared with the available data, seeing as it has been an unprecedented year.

With regard to indirect environmental aspects, those relating to temporary exhibitions of itinerant works are taken into account, as well as those relating to the mobility of workers and visitors to travel to the Fundació. These have been evaluated and found to be insignificant. For the time being, the website raises visitor awareness of the use of public transport to get to the Fundació, and, through the education programmes on offer, attempts are made to raise environmental awareness among the public. These activities develop topics related to the environment (recycled material, environmental protection, etc.).

The table below shows the significant environmental aspects in normal, abnormal and emergency situations identified during the revision carried out in February–March 2020.

ENVIRONMENTAL ASPECT	SITUATION	ASPECT	ENVIRONMENTAL IMPACT	ACTIONS
Water consumption	N	D	Using up natural resources	Water consumption in absolute value was reduced by 68% compared to 2014 (Objective No. 1 of the 2020–2021 programme). But the indicating value (m3/visitor), as well as that of electricity consumption, increased due to the reduced number of visitors.
Consumption of decalcified water	N	D	Using up natural resources	As a result of the Covid-19 health crisis, there was a very significant reduction in the number of visitors, and the consumption of decalcified water has been reserved for the maintenance of the facilities. Therefore, it is a circumstantial fact and no action needs to be taken in this regard.
Consumption of cleaning products	N	D	Using up natural resources	As a result of the Covid-19 health crisis, there was a very significant reduction in the number of visitors, while the cleaning of the facilities was maintained, which meant an increase in the indicator. In addition, the cleaning service has been strengthened to ensure proper cleaning and disinfection of the facilities for the reopening of the museum and the influx of visitors. Therefore, the consumption of cleaning products cannot be reduced.

*N: normal; D: direct*

Actions were defined for significant aspects detected in 2020, and the following aspects were taken into account for setting the **programme of objectives for 2020–2021**:

Objective	Target	Figure achieved in 2020	Comments
<p><b>1. Cut water consumption by 1% to 2% with respect to 2014</b></p>	1-2%	68%	<p>Total water consumption in 2020 in absolute terms has been reduced by 68% compared to consumption in 2014. The goals set in March 2020 are the following:</p> <ul style="list-style-type: none"> <li>- Daily and weekly control of water consumption (leak detection)</li> <li>- Establish good environmental practices in the offices</li> <li>- Inform the general public of good environmental practices</li> </ul> <p>The deadline for implementing these goals is December 2021, seeing as in 2020, and due to the closure of the facilities due to the pandemic, no data is considered to be in accordance with reality, and therefore a more representative sample is needed to be able to conclude whether or not the goal has been achieved.</p>
<p><b>2. Improving the energy efficiency of the FJM. Reduction of energy consumption and CO2 emissions</b></p>	5-6%	0%	<p>Broadly speaking, the milestones set to achieve this goal are:</p> <ul style="list-style-type: none"> <li>- Replacement of incandescent lighting for LED lighting</li> <li>- Pumping and consumption control. Air conditioning water recirculation pumps, drives and control management.</li> <li>- Self-supply. Photovoltaic power generation.</li> <li>- Renovation of lifting equipment</li> </ul> <p>The deadline for implementing these goals is December 2023. That is when it will be possible to conclude whether or not the goal has been achieved. The person responsible for managing the milestones will be the FJM's Environment Department manager.</p>

Objective	Target	Figure achieved in 2020	Comments
<b>3. Preserve and protect the environment and promote resource efficiency</b>	12%	0%	<p>Broadly speaking, the milestones set to achieve this goal are:</p> <ul style="list-style-type: none"> <li>- Refurbishment of the paint deposit, waterproofing of the Manelic warehouse, and adaptation of the Pati del Garrofer.</li> <li>- Restructuring of the Main Library</li> </ul> <p>The deadline for implementing these goals is December 2023. That is when it will be possible to conclude whether or not the goal has been achieved. The person responsible for managing the milestones will be the FJM's Environmental Department manager.</p>
<b>4. Preserve and protect the environment and promote resource efficiency</b>	12%	0%	<p>Broadly speaking, the milestones set to achieve this goal are:</p> <ul style="list-style-type: none"> <li>- Return the Joan Miró permanent collection to the rooms that Josep Lluís Sert designed for this purpose, moving the temporary exhibitions to the area of the building that was expanded in 1988 and 2001.</li> <li>- Restructuring of the Main Library</li> <li>- Refurbishment of an area designed for family groups to observe and experience art together</li> </ul> <p>The deadline for implementing these goals is December 2023. That is when it will be possible to conclude whether or not the goal has been achieved. The person responsible for managing the milestones will be the FJM's Environment Department manager.</p>

In summary, we can say that of the 4 goals defined for 2020–2021, the first is pending review as soon as the FJM returns to normal in terms of the number of visitors. Due to the health crisis, the data collected from 2020 is insignificant, and therefore we will wait to have data from 2021 to check if the goal has been reached. With regard to goals 2, 3 and 4, the refurbishment projects went ahead (library restructuring: Miró from Within; conservation move: Return to the Origins; and energy efficiency) to adapt them to ERDF requirements. The follow-up review will take place at the end of 2023 and we will then assess whether the goals have been achieved.

In terms of **improvement actions for 2020–2021**:

Improvement action	Comments
<b>1. Renewal of the Biosphere certificate for Sustainable Tourism</b>	Biosphere tracking via SGS
<b>2. Promote messages related to sustainability in order to generate greater visitor awareness</b>	Halted during 2020 as a result of Covid-19. The signage that has been placed is in order to apply Covid-19 protocols.
<b>3. Implement natural ventilation to reduce the FJM's electricity consumption</b>	Halted during 2020 as a result of Covid-19.
<b>4. Reusing of office supplies by potentially interested schools</b>	Halted during 2020 as a result of Covid-19.
<b>5. Promote the use of public transport to travel to the FJM</b>	Halted during 2020 as a result of Covid-19.
<b>6. Installation of bicycle parking for workers</b>	Halted during 2020 as a result of Covid-19.
<b>7. Application of sustainability measures to the restaurant</b>	Halted during 2020 as a result of Covid-19.
<b>8. Increase the consumption of organic and local products via the vending machines</b>	Halted during 2020 as a result of Covid-19.
<b>9. Establish an energy consumption baseline for the whole building that serves as a reference in order to study the deviations once the FJM resumes its normal activity</b>	The data obtained between March and May 2020 was not sufficient to carry out a complete study. The consumption of natural resources in 2020 was necessary for the maintenance of the building.
<b>10. Re-establish the tasks of the Communications and Activities Department in order to offer visitors a new concept of (interactive) museum</b>	Application of Covid-19 protocols Improvement of museum information on the website

With regard to the aforementioned planned improvement actions, all are maintained for 2021.

## ENVIRONMENTAL PERFORMANCE INDICATORS

At the Fundació we monitor our environmental behaviour by using key indicators linked to the following aspects:

- Energy efficiency
- Water
- Waste
- Efficient use of materials
- Emissions
- Biodiversity

The Sectoral Reference Document for the Tourism sector is currently available. This document has been revised to consider possible indicators that could help the Fundació measure its environmental performance, and the FJM has concluded that this guide is focused more on the hotel and restaurant sector, and that therefore it would not be of great use. Therefore, indicators defined by the organisation itself are employed, based on the knowledge it has of its own activity.

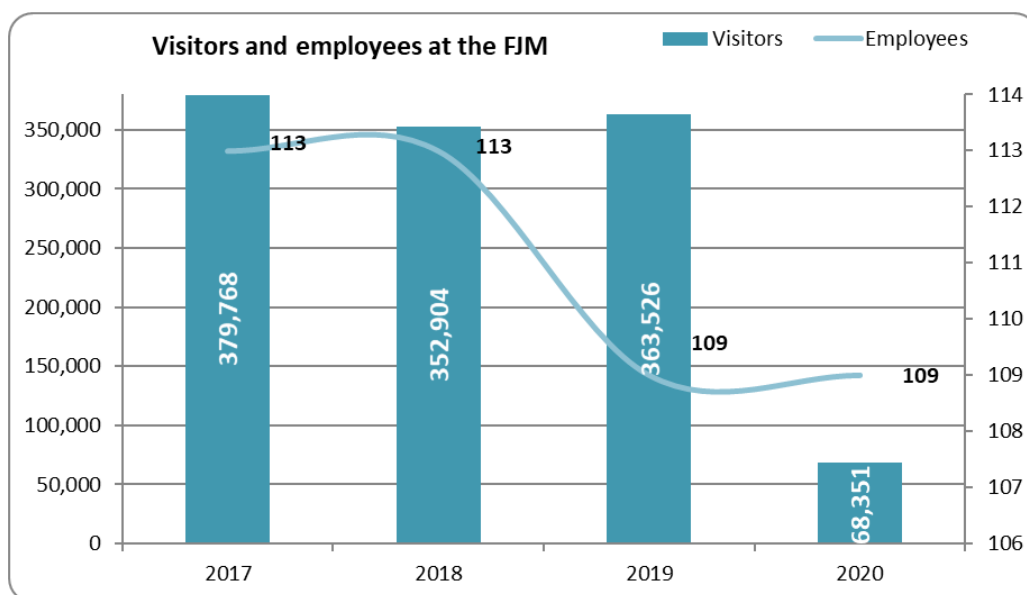
Given that our activity takes place in a museum, the most appropriate indicators are those calculated in terms of the number of visitors, apart from a few aspects linked to the number of employees, such as paper consumption in the offices from printed copies made.

It should be noted that the environmental indicators for the year 2020 have been affected by Covid-19: the museum was closed during the state of alarm and its reopening has been affected by limitations on capacity and mobility.

The indicators are calculated on the basis of these figures from 2020:

- Visitors: 68,351 people
- Employees: 109 people (employees were on temporary employment adjustment schemes from 14 March to 31 December 2020)

Visitor numbers decreased by 81.2% in 2020. The variation in statistics over recent years can be observed in the following graph:



### ENERGY EFFICIENCY

Energy consumption at the Fundació breaks down into three kinds: **electricity, natural gas and diesel.**



As a museum, the Fundació has significant energy consumption, since a key part of its activity is conserving art works within very strict temperature and humidity parameters. We have to be able to humidify or dehumidify and increase or decrease the temperature in the galleries, and this requires the use of equipment such as heating, air conditioning and humidifiers.

Gas is basically used to power the boilers for heating and diesel is used for the generators, which are only turned on for maintenance and in the case of a power cut.

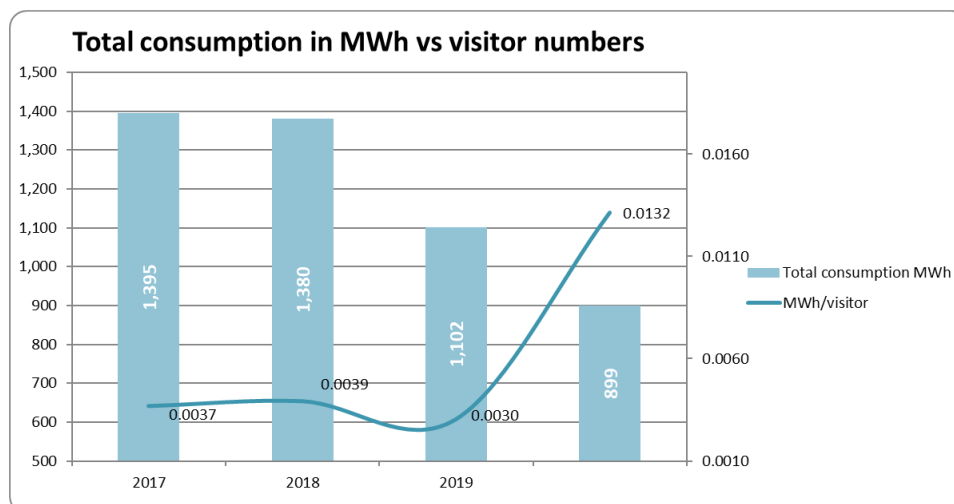
We have no equipment that uses energy directly from renewable sources. However, in line with our environmental commitment to work towards the use of renewable energy, all the electrical energy used at the Fundació in 2020 came exclusively from renewable energy sources, as certified by the energy supplier.

### **ELECTRICITY CONSUMPTION**

The following table shows the variation in **electricity consumption** over recent years:

	2017	2018	2019	2020
<b>MWh</b>	<b>1,395</b>	<b>1,380</b>	<b>1,102</b>	<b>899</b>
<b>Variation</b>	<b>-0.50%</b>	<b>-1.08%</b>	<b>-20.14%</b>	<b>-18.43%</b>
<b>MWh/visitor</b>	<b>0.0037</b>	<b>0.0039</b>	<b>0.0030</b>	<b>0.0132</b>
<b>Variation</b>	<b>12.12%</b>	<b>5.41%</b>	<b>-23.08%</b>	<b>338.38%</b>

These figures are displayed in the following graph:



In 2020, total electric energy consumption decreased by 18.43% while the MWh/visitor indicator increased by more than 300% compared to 2019, clearly affected by the reduction in visitor numbers.

Electric energy consumption fell as a result of adjusting heritage conservation criteria and replacing lighting with LEDs, as well as the closure of the museum during the state of alarm.

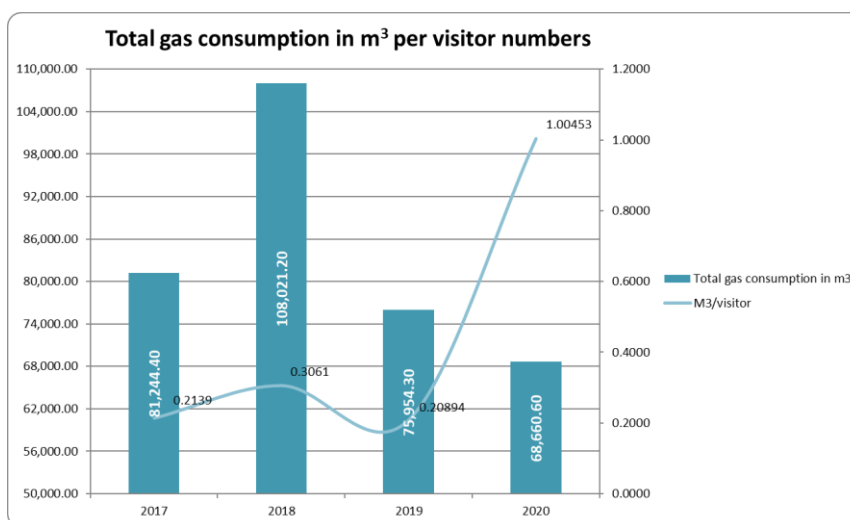
In 2020 we maintained our commitment to purchasing 100% green energy from our electricity supplier.

## NATURAL GAS CONSUMPTION

The following table shows the variation in **natural gas consumption** over recent years:

	2017	2018	2019	2020
<b>m<sup>3</sup></b>	<b>81,244</b>	<b>108,021</b>	<b>75,954</b>	<b>68,661</b>
<b>Evolution</b>	<b>-13.02%</b>	<b>32.96%</b>	<b>-29.69%</b>	<b>-9.60%</b>
<b>m<sup>3</sup>/visitor</b>	<b>0.2139</b>	<b>0.3061</b>	<b>0.2089</b>	<b>1.0045</b>
<b>Evolution</b>	<b>-3.50%</b>	<b>43.08%</b>	<b>-31.74%</b>	<b>380.78%</b>

These figures are displayed in the following graph:



In 2020, total natural gas consumption decreased by 9.60% in total consumption, and increased by 79.20% compared to the m<sup>3</sup>/visitor indicator.

Gas consumption is driven above all by external weather conditions (heating and humidifying the galleries to keep them within specific temperature and humidity parameters).

Natural gas is basically used to power the boilers for heating and for humidifiers. In 2020, as mentioned above, the reduction in total consumption is directly related to the closure of the museum due to Covid-19.

## DIESEL CONSUMPTION

**Diesel** is used for the generators, which are only turned on for maintenance and in the case of a power cut. No diesel was purchased in 2020.

## Total Energy Consumption

The Fundació's total energy consumption comprises electricity, natural gas and diesel. To assess the environmental impact of our total energy consumption, and given that we cannot add together different units for electricity and heating, we have expressed the individual consumption from each energy source in the same units: MWh.

Energy source	Consumption	Conversion factor <sup>1</sup>	Consumption in MWh
Electricity	898.91 MWh	---	898,91
Natural gas	68,660.6 m <sup>3</sup>	PCS 11.78kWh per m <sup>3</sup>	808,82
Diesel	0 litres	1,181 litres = 13.02 MWh	0

The Fundació's total energy consumption in 2019 was 1,707.73 MWh, a decrease of 20.25% on 2018, when consumption was 2,141.36 MWh. This total is equivalent to 0.0250 MWh/visitor.

The Fundació's building, designed by architect Josep Lluís Sert, is classified as a Cultural Asset of National Interest by the Catalan government. Since no major changes may be made to its architecture, it is not possible to install renewable energy devices. Nonetheless, we are looking into the possibility of installing solar panels for self-consumption levels in the office spaces.

## WATER

### A. Water sources

Most of the Fundació's water is supplied by the AGBAR water company.



The Fundació has a **general water meter** fitted by the company and **three internal meters** (softened water, water for watering plants and water for making steam) to monitor consumption and detect any leaks or other issues that might affect consumption.

### B. Main uses

Water consumption at the Fundació varies depending on different uses:

- **Purified water** for humidifying works on display and human consumption (restaurant, kitchen and employees' canteen)
- **Softened water** for use in facilities (toilets, washbasins, etc.)
- **(Untreated) water for watering plants** in the landscaped inner courtyards

<sup>1</sup> The conversions were made using the Greenhouse Gas (GHG) Emissions Calculation Guide of 21 June 2021.

### C. Water consumption

The following table shows the variation in water consumption over recent years:

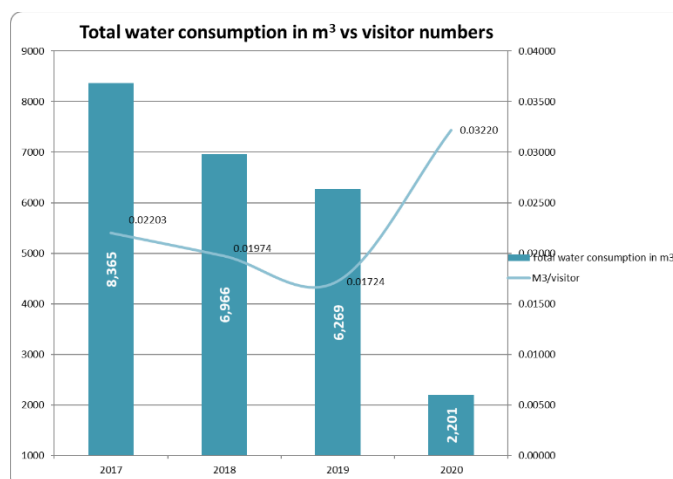
	2017	2018	2019	2020
m <sup>3</sup>	8,365	6,966	6,269	2,201
Variation	0.42%	-16.72%	-10.01%	-64.89%
m <sup>3</sup> /visitor	0.0220	0.0197	0.0172	0.0322
Variation	12.38%	-10.39%	-12.64%	86.73%



Total water consumption at the FJM in 2020 was 2,201 m<sup>3</sup>, which is equivalent to almost 1 Olympic swimming pool.

*An Olympic pool with a depth of 2 metres needs about 2,500 m<sup>3</sup> of water*

These figures are shown in the following graph:



In 2020, total water consumption decreased by 64.89% with respect to 2019.

Over the past three years (2017–2019) we have managed to significantly reduce total water consumption with respect to 2015, and we shall continue to reduce it further.

### D. Internal management



By **monitoring water consumption**, we have been able to detect incidents quickly and effectively.

Following the incident in August 2018 (two valves were left open), we increased monitoring and control of water consumption. We currently take meter readings before the museum opens.

## E. Wastewater management

The sources of **wastewater** at the Fundació under normal conditions are the following:

- ❖ Kitchen and restaurant
- ❖ Employees' toilets and changing rooms
- ❖ Cleaning facilities
- ❖ Refrigeration
- ❖ Water from the osmosis process and softening process

As a result, under normal conditions the Fundació produces similar wastewater to **domestic use**.

The Fundació has the necessary authorisation from the Entitat Metropolitana de Barcelona to dispose of wastewater properly.

An annual control is carried out (March 2020) and the results are sent to AMB. The results for the control carried out in April 2019 are shown in the table below.

CONTROL 2020 (09/03/2020)		
Parameter	Result	Limit
MES (mg/l)	8.60	750.00
pH (pH units)	7.98	6.00 – 10.00
Connectivity at 25 °C (µS/cm)	1,210.00	6,000.00
Total carbon (mg/l)	5.30	450.00
BOD <sub>5</sub> (mg/l)	7.00	No limit
COD (mg/l)	<15	1,500.00
TKN (mg/l)	<3	90.00
Ammonium (mg/l)	<2.6	60.00
Total phosphorus (mg/l)	<0.5	50.00
Chlorides (mg/l)	172.00	2,500.00
Nitrates (mg/l)	11.00	100.00
Sulphates	132.00	1,000.00
Dissolved sulphides (mg/l)	<0.2	No limit
Total sulphides (mg/l)	<0.2	1.00
Oils and fat (mg/l)	1.71	250.00
Aluminium (mg/l)	<0.5	20.00
Mercury (mg/l)	<5	100.00

Analysis of this sample shows that all the parameters are below the permitted limits.

## WASTE

The Fundació creates non-hazardous waste similar to urban waste: paper and cardboard, light packaging, glass, organic matter, general waste, wood, etc., both when setting up and taking down exhibitions and as a result of its visitors. It also creates hazardous waste in its maintenance and restoration activities: mineral oils, fluorescent tubes, contaminated containers, etc. In the office it creates waste in the form of batteries, toner, ink cartridges, etc. All the waste is stored and managed by authorised companies (in the case of both hazardous waste and waste created when setting up and taking down exhibitions) or the municipal waste service (in the case of waste similar to urban waste).

The following chart shows the variation of waste over the periods 2017, 2018, 2019 and 2020:

Waste (tonnes)	2017	2018	2019	2020
Fluorescent tubes	0.0000	0.0304	0.0446	0.0000
Toner and cartridges	0.0400	0.0000	0.0074	0.0000
Dry batteries	0.0047	0.0000	0.0040	0.0010
Adhesive waste	0.0000	0.0000	0.0000	0.0000
Electrical appliances	0.3700	0.0000	0.4000	0.0000
Contaminated cloths and absorbents	0.2100	0.0850	0.2150	0.0600
Aqueous solution	0.5030	0.0000	0.0000	0.0000
Scrap	5.0300	0.00000	0.0000	0.1200
Leftover paint	0.1600	0.1830	0.6800	0.1300
Contaminated containers	0.3400	0.2740	0.7900	0.0700
Electrical cables	0.0000	0.3200	0.0000	0.0000
Plastic	2.2700	1.4420	1.1496	0.2109
Wood	0.0000	0.0000	0.0000	0.0000
Organic	4,6500	3.9090	3.1336	0.4970
Glass	0.8700	0.4790	0.4704	0.0325
Paper and cardboard	5.0600	1.8540	3.0223	0.6045
General waste	10.8900	2.9596	3.5356	0.8597
Cooking oil	0.0700	0.0600	0.0400	0.0200
Battery waste	0.0000	0.0000	0.0540	0.0000

	Non-hazardous
	Hazardous

As we can clearly see, the generation of waste decreased during 2020 as a result of the closure of the museum.

Of the total waste produced (2.6 tonnes):

- 2.34 tonnes was non-hazardous waste.
- 0.26 tonnes was hazardous waste.

## EFFICIENT CONSUMPTION OF MATERIALS

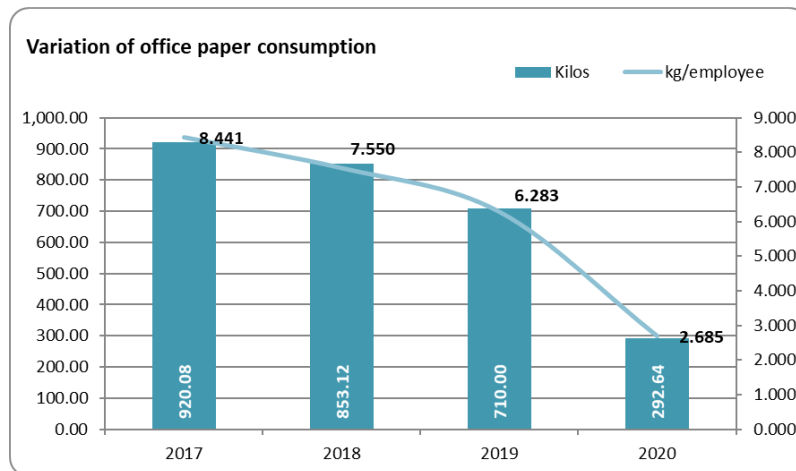
### *Consumption of Office and Gift Shop Products and Publications*

Paper consumption at the Fundació breaks down into:

- Consumption of A4 paper in offices
- Consumption of paper for publications
- Consumption of paper bags (gift shop)

During 2020, paper was consumed only in the offices, seeing as with the closure of the museum it was not necessary to print material linked to publications (stock from the previous year is available) nor to purchase paper bags for the shop.

The following graph shows how consumption of the different kinds of paper has varied over recent years:



Office paper consumption decreased by 58.78% with respect to 2019, and, as a result, the kg/employee indicator also decreased by 57.27%.

The decrease on previous years is the result of the temporary closure of the museum, along with the actions and awareness of staff at the FJM, as well as continuing work in the following areas:

- Reusing paper in offices
- Only printing documents when necessary
- Online ticket sales
- Online invitations
- Etc.

For 2020, along with documenting paper consumption for purchasing purposes, data has been compiled of copies made with the available multifunctional printers. From 13 March 2020 to 12 February 2021:

- 24,903 in black and white
- 21,748 in colour

The summary of printing carried out in recent years is the following:

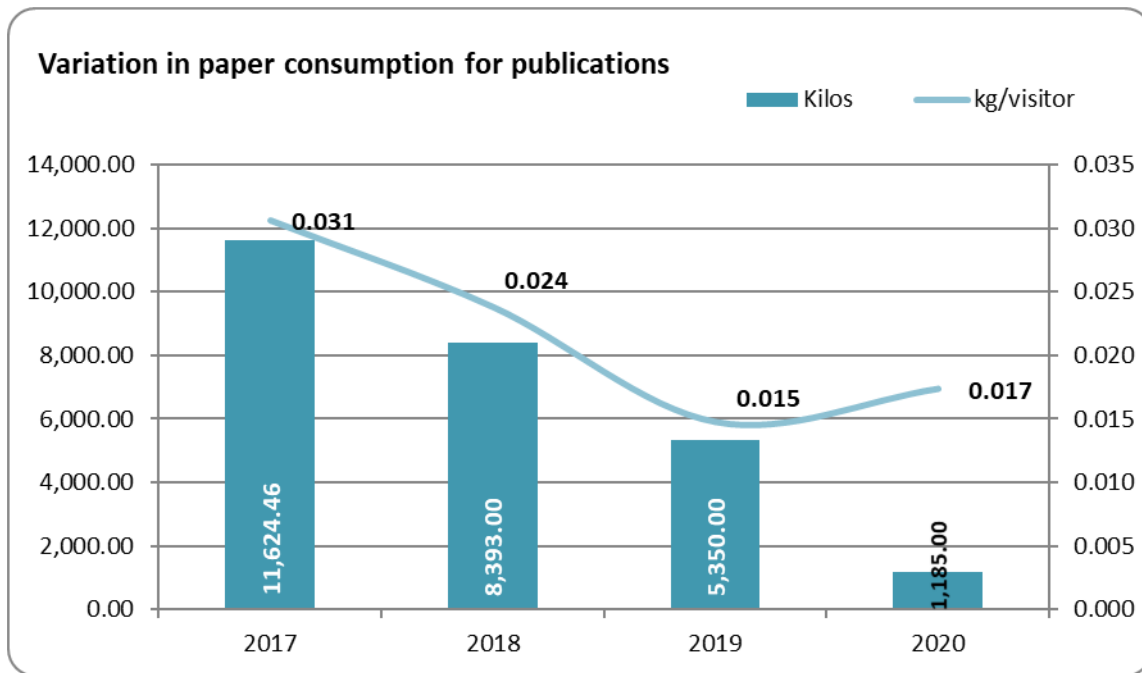
	Printing		
	B&W	Colour	Total
<b>2018*</b>	168,282	166,689	334,971
<b>2019**</b>	142,206	107,752	249,958
<b>2020***</b>	24,903	21,748	46,651

\* print data collected since installation of multifunction printers in mid-2018

\*\* calculation made with the data from 16 January 2019 to 13 March 2020

\*\*\* calculation made with data from 13 March 2020 to 15 February 2021

With regards to paper used in publications, in 2020 there was a decrease of 77.85% in total numbers compared to 2019, but the relative value (kg/visitor indicator) increased by 17.80%. In this case, the sharp decline in the number of visitors due to the Covid-19 pandemic greatly altered the indicator.

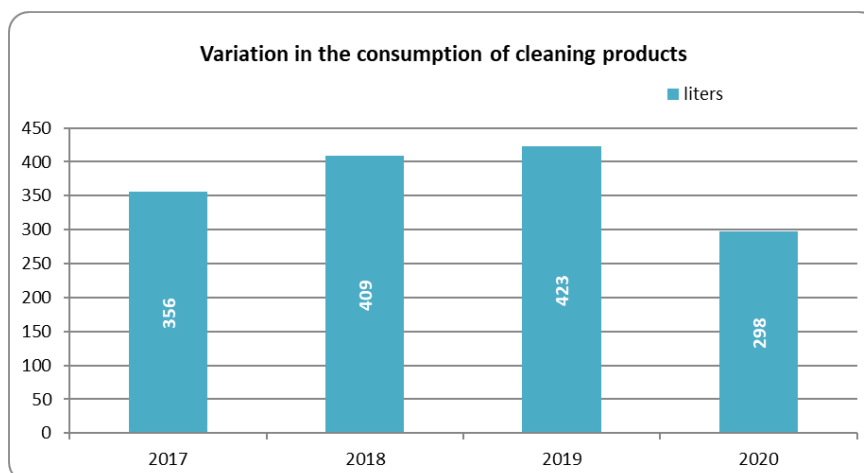


### Cleaning Products

Consumption of cleaning products is monitored and we have safety information sheets for the products used, which are basically the following:

- Stain remover
- Limescale remover
- Floor polish
- Ammonia-based products
- Window cleaning products
- Dishwasher detergent

The following graph shows how the total number of litres of cleaning products has changed over recent years:





In 2020, the use of cleaning products decreased by 29.55% compared to the previous year, a clear result of the closure of the museum and the reduction of its activity. It is worth highlighting that all the cleaning products used at the FJM are duly eco-labelled.

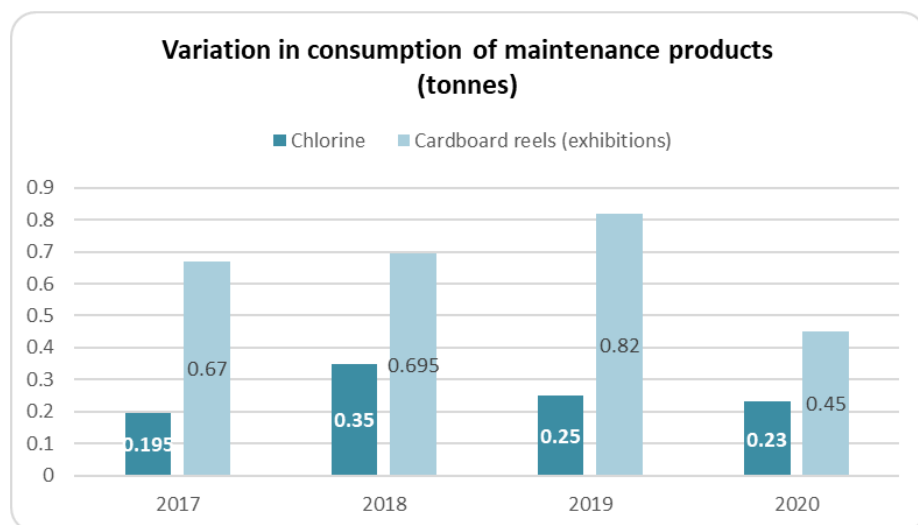
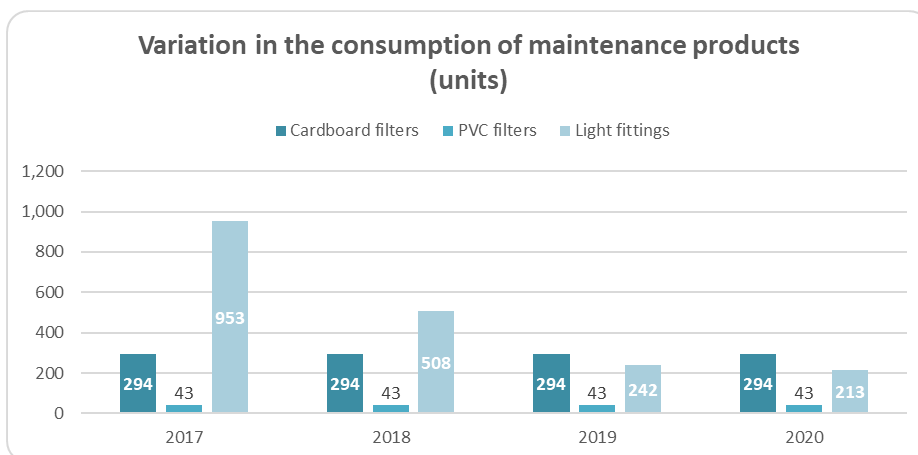
This decrease is linked to the number of visitors and the possible quantity of cleaning products already in stock.

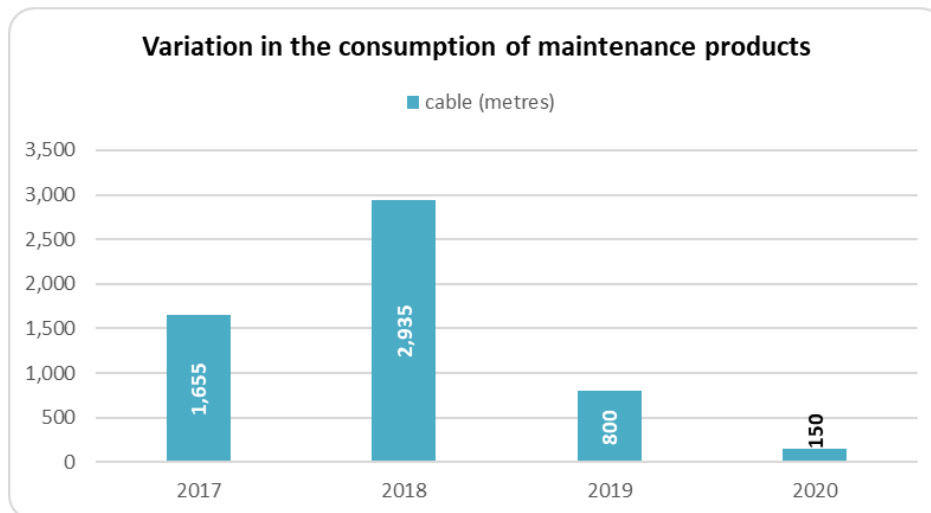
### Consumption of maintenance products

Maintenance of our facilities calls for products that might have an environmental impact. The Fundació monitors consumption and the kinds of products:

- Materials for temperature control installations: cardboard filters, PVC filters, cardboard reels
- Material for water treatment: chlorine and pH regulator
- Electrical material: light fittings and cables

Consumption of maintenance products varies depending on the product in question. Cardboard filters, light fittings, cardboard reels and cables show a decrease with respect to 2019, while PVC filters stayed steady and choline fell. This behaviour is shown in the following graphs:





Consumption of these products is closely tied to maintenance tasks in the building and to setting up temporary exhibitions, so no objectives or actions for improvement are planned for this aspect.

### **Consumption of Restoration Products**

Consumption of these products for exhibitions and restoration work at the Fundació varies greatly and depends on the activities carried out each year, as well as on the purchasing policies determining the amounts purchased and price.

In 2020, virtually no products related to restoration were purchased:

- Reels of Aircap bubble wrap: 0 kg
- Reels of plastic: 0 kg
- Paint for building maintenance (linked to exhibitions): 500 kg
- Reels of cardboard: 132 kg
- Glaze and varnish (restoring artworks): 4.5 litres
- Solvents (restoring artworks): 0.2 litres

Since 2016 the Fundació has regularly donated pieces of furniture it no longer had any use for to other cultural organisations. This practice continued in recent years, which gave added value to exhibition furniture that might otherwise have been managed as waste.

## **EMISSIONS**

### **Atmospheric Emissions**

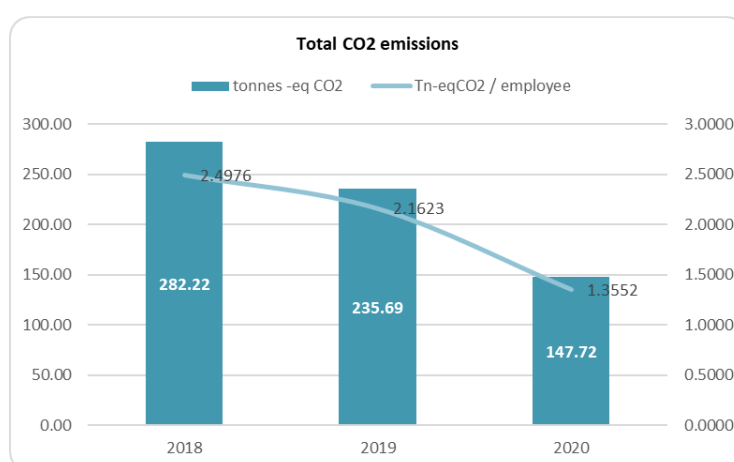
Atmospheric emissions come from the consumption of natural gas and diesel and the generation of waste, and are therefore directly linked to our activity. Diesel consumption is only occasional and wholly seasonal.

Greenhouse gases are referred to by CO<sub>2</sub> equivalent (CO<sub>2</sub> eq), which comprises the six greenhouse gases set out in the Kyoto Protocol: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), sulphur hexafluoride (SF<sub>6</sub>) and nitrogen trifluoride (NF<sub>3</sub>). The conversion factors of the Catalan Office for Climate Change calculator were used in our calculations.

The following table shows the total CO<sub>2</sub> eq emissions produced in 2020, as generated by **natural gas** and **diesel** consumption and **waste**, as well as **cooling gas leaks** in air-conditioning:

SOURCE OF EMISSIONS	EMISSIONS	UNIT
Natural gas	146.93	tonnes CO <sub>2</sub> eq
Diesel	0	tonnes CO <sub>2</sub> eq
Fluorinated gases	0	tonnes CO <sub>2</sub> eq
Electricity	0	tonnes CO <sub>2</sub> eq
Waste	0.79	tonnes CO <sub>2</sub> eq
<b>TOTAL</b>	<b>147.72</b>	<b>tonnes CO<sub>2</sub> eq</b>

The following graph shows how the emissions have changed over time:



Seeing as all the electricity consumed at the Fundació is green energy (the green certificate of origin provided by EDP is available, which guarantees that the source of the electricity consumed in 2020 comes exclusively from renewable energy sources), no emissions are linked to it. In 2020 there was a reduction of 37.22% in comparison to 2019.

This reduction was a direct consequence of the following factors:

- Reduction of natural gas consumption
- Reduction in waste production
- Zero consumption of diesel for the generators

	2018	2019	2020	% variation 2020 vs 2019
Tn- eq CO <sub>2</sub>	282.22	235.69	147.72	<b>-37.32%</b>

In addition, the figures for CO<sub>2</sub> emissions are linked both to consumption on the Fundació's premises and to the conversion factors published in the Guia de l'Oficina Catalana del Canvi Climàtic (Guide of the Catalan Office for Climate Change).

With regard to SO<sub>x</sub>, NO<sub>x</sub> and PM emissions, there are no adequate measurement mechanisms to be able to calculate the actual annual air emissions, at least for these three. However, the JMF will work to have this data available for 2021 and be able to make a more accurate estimate of the emissions derived from the transport of itinerant exhibitions. However,

in 2020, the number of itinerant exhibitions was very low due to the pandemic, and therefore SO<sub>x</sub>, NO<sub>x</sub> and PM emissions can be considered insignificant.

### **Noise Emissions**

Noise is not a major issue at the FJM. In 2011 we measured noise levels as part of the project for our environmental licence and the results fell within the stipulated limits as stipulated by Barcelona urban environmental bylaws. Since there was no major change in the FJM's activity in 2020 and no complaints have been received, no further noise measurements have been carried out.

### **Light Emissions**

There was no major change in light emissions in 2020. In 2015, budgetary limitations permitting, we had planned to install an exterior lighting system for use on special occasions, to be fitted in accordance with current legislation on light pollution at night. This project is still awaiting the necessary funds.

### **BIODIVERSITY**

The Fundació Joan Miró is located on the side of Montjuïc Park in Barcelona. Although this is not a protected space, it has great intrinsic natural value, with animals and plants of high interest. The museum facilities occupy 10,915 m<sup>2</sup>.

By design the Fundació generally blends in very well with its natural surroundings and doesn't create any environmental impacts for its environment and surroundings.

The Fundació has landscaped areas, which are the responsibility of Barcelona City Council's Parks and Gardens Department. These areas are watered using sprinklers once a week. No phytosanitary products are used to treat plants.

In summary, in accordance with Regulation 2018/2026, the indicators in the area of biodiversity are as follows:

- Total land use: 7,468 m<sup>2</sup>
- Total built surface: 7,311 m<sup>2</sup>
- Total landscaped surface: 3,606 m<sup>2</sup>
- Total enclosed surface: 3,864 m<sup>2</sup>

The Fundació does not have surface area available for the promotion of biodiversity, apart from the landscaped area already indicated.

## TABLE OF INDICATORS

Area	Indicator	2018	2019	2020
Electric energy consumption	MWh/visitor	0.0039	0.0030	0.0132
Natural gas consumption	MWh/visitor	0.3061	0,089	0.0250
Diesel consumption	MWh/visitor	0.0006	0.0000	0.0000
Total energy consumption	MWh/visitor	0.3106	0.2120	0.0382
Water consumption	m3/visitor	0.0197	0.0172	0.0322
Waste production				
Hazardous waste	kg/employee	7.8761	19.6330	2.3853
Non-hazardous waste	kg/visitor	0.0286	0.0312	0.0342
Consumption of materials				
Office paper	t/employee	0,0075	0.0063	0.0027
Paper for publications	kg/visitor	0,0238	0.0147	0.0173
Paper bags in shop	kg/visitor	0,0068	0.0032	0.0019
Toner consumption	t/employee	0,0000	0.0000	0.0000
Dry battery consumption	t/employee	0,0263	0.0275	0.0093
Cleaning liquid consumption	litres/m2	0,0375	0.0388	0.0273
Toilet paper consumption	units/visitor	0.0098	0.0109	0.0581
Hand towel consumption (washrooms)	units/visitor	0.0070	0.0055	0.0291
Maintenance material consumption				
Cardboard filters	units/employee	2.6000	2.7339	2.6972
PVC filters	units/employee	0.3800	0.3945	0.3945
Light fittings	units/employee	4.4956	2.2202	1.9541
Chlorine	kg/employee	1.1100	2.2936	2.1101
Cable	metres/employee	25.9700	7.3394	1.3761
Consumption of exhibition materials				
Cardboard reels	t/employee	0.0047	0.0048	1-2110
Plastic film	t/employee	0.0000	0.0001	0.00000
Paint	t/employee	0.0062	0.0064	0.0041
Enamels, varnish, solvents, etc.	t/employee	0.0089	0.0092	0.0138
CO <sup>2</sup> emissions	t CO <sub>2</sub> /visitor	<b>0.0008</b>	0,0006	<b>0.0022</b>
Biodiversity	m <sup>2</sup> built	10,915	10,915	10,916
Biodiversity	m <sup>2</sup> built/employee	96.59	96.59	96.59
Total land use	m <sup>2</sup>	7,468	7.468	7.468
Total built surface area	total built area / total land use	0.98	0.98	0.98
Total landscaped surface area	total landscaped area / total land use	0.48	0.48	0.48
Total enclosed surface	total enclosed area / total land use	0.52	0.52	0.52

## **ALEXANDER CALDER'S MERCURY FOUNTAIN**

In 1975 the Fundació Joan Miró collection acquired a piece by artist Alexander Calder entitled *Mercury Fountain*. It is made out of iron and painted aluminium and uses mercury as a liquid that flows in a closed circuit and sets the piece in motion.

The Fundació is well aware of the importance of closely monitoring this fountain and has carried out a series of actions and established a number of protocols for this installation to ensure the safety of the piece and visitors and to protect the environment, including a risk analysis for people, analyses of the levels of mercury in the area, drawing up protocols in the case of any incidents during maintenance, medical protocols and waste control, among others.

## **EMERGENCY SITUATIONS**

Throughout 2020, there were no incidents, accidents and/or emergencies that led to any form of environmental impact.

In early 2020, the emergency drill was carried out, consisting of a simulated fire in the boiler room. The result was positive. However, attention will be paid to the commentaries provided by the external fire prevention service.

## NEXT VALIDATION

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This declaration corresponds to the renewal of EMAS certification.

This Environmental Declaration is valid for one year from its validation date. It was prepared and approved by:

Ramon González  
Head of Environment

Marta Vilaró  
Deputy Managing Director