

Environmental Information Edition 2023



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1. Foreword

Anything against nature will not abide for any length of time.
(Charles Darwin)

2. Apartamentos Miranda

Apartamentos Miranda is a small apartment complex located on the east side of the island of La Palma (Canary Islands).

Surrounded by a mature tropical garden, the complex offers 8 comfortable studios and a large swimming pool.

Centrally but quietly located in a rural setting, you have a wide view over the ocean and the mountains.

3. History

1973	Opening as Apartamentos Turístico Extrahoteleros
1973-1985	Attended by Mrs. Mira Jütte (Representative of the builder family Bracht)
1985	Sale to the Meyer y Schulze families
1985-1992	Attended by Mrs. Ingeborg Heyde (Representative of the owner family Meyer und Schulze)
1992	Sale to Family Müller
1992-1999	Attended by Horst and Helmy Müller (spouses)
1999	Death of Mrs. Helmy Müller
1999-2005	Attended by Mr. Horst Müller
2005	Change of ownership to Mr. Jens Müller (Son)
2005-2010	Attended by Horst + Jens Müller (Father + Son)
2009-2010	Complete rehabilitation of the complex Centralisation of hot water preparation Hot water collectors Windows and doors with double glazing
2010-hoy	Attended by Mr. Jens Müller
2014	Attended by Mrs. Ludmila Kalko y Mr. Jens Müller (spouses)
2015	Foundation of the company Apartamentos Miranda SL
2017	Death of Herrn Horst Müller
2022	Installation of the photovoltaic roof system

4. Environmental Policy

We have set ourselves the goal of continuously and permanently reducing the impact of our activities on the environment, while of course complying with legal regulations.

Through our environmental management system, we aim to monitor and analyse the impact of our activities and, on this basis, ensure continuous improvement in our environmental performance.

To this end, we prepare an annual report in which we review our goals for the past year and set targets for the coming year.

We see this as our contribution to the preservation and improvement of our adopted home La Palma.

5. Environmental Management

We monitor our daily operations for consumption, environmental impact and optimisation opportunities, with the sensitisation of all people involved.

This is done by means of annually collected data and comparative key figures, which are intended to reveal our weak points.

We keep an eye out for ecological alternatives in all details of our processes, such as replacement purchases and the use of products.

Our environmental officer is Jens Müller.

6. Environmental Aspects

We distinguish between direct and indirect environmental aspects.

Direct environmental aspects occur on our premises, such as the heating of our process water and waste separation, and can thus be directly influenced and controlled by us.

Indirect environmental aspects, on the other hand, are only indirectly under our control and arise outside the company. These include the electricity we draw from the public grid, the water we use, the waste water and our suppliers.

a. Energy

The only energy sources we use are electricity and solar energy. With the exception of the hot plates in the kitchens of the studios, which are operated with butane gas.

We get our electricity mainly from the photovoltaic system installed on the roof of the main building with a capacity of 10kW peak.

We use the electricity we produce during the day ourselves whenever possible. For this purpose, an energy manager is used, which switches on our main consumer, the heating lance in the domestic hot water tank, when enough power is produced from the solar system, and switches it off again when not enough power is produced.

On sunny days, the system generates a surplus that is fed into the public grid.

For this purpose, we have a contract with the energy company Endesa, which pays for the surplus fed into the grid, and in return we receive electricity from them at night and on cloudy days.

In the first 7 months of 2023, we were able to cover 92% of our total energy needs, amounting to 12,097 kWh, from renewable sources.

On sunny months, such as July 2023, we were even able to cover 100% of our energy demand from the production of our photovoltaic roof system, and also feed a surplus of 316 kWh into the public grid.

We also use solar energy to additionally heat the domestic hot water tank with solar thermal collectors during the day.

b. Water

We use 3 different water sources in our facility.

1. Sanitary Water

One source is the sanitary service water, which is provided to us in very good quality by the Canaragua company. (This was confirmed to us by samples taken by water engineers from Tenerife who were present).

This sanitary water is chlorinated according to legal regulations and is used by us to supply the studios of our guests.

We use flow limiters in the taps of the kitchens and bathrooms as well as in the showers to ensure that the flow rate of the water does not exceed 9 litres per minute.

The flushing cisterns in the toilets are equipped with a Wirquin dual flush mechanism 3L/6L, which allows individual consumption of water with each flush.

The hot sanitary water is stored in a central sanitary water storage tank from the company Huch, whose hot water pipes are insulated all the way into the guests' studios and have a hot water return to minimise energy loss from the hot water pipes.

The sanitary hot water is heated by a heating lance in the hot sanitary water storage tank, which is fed during the day by the surplus from the photovoltaic system.

An energy manager is used to switch on the heating lance when there is sufficient power from the photovoltaic system and to switch it off again when there is not enough power.

Solar thermal collectors are also connected to the same domestic hot water storage tank via a solar station and a heat exchanger, which heat the domestic hot water during the day using solar energy.

2. Water from the galleries

A second source of the water we use is the water from the galleries on La Palma, which is made available to us by the Union de los Canales.

This water, which is not chlorinated, is allocated to us in a 12-day cycle and then fed into our own covered water tank. From there, it is used to water the garden by means of a pump and an electronic control system.

In order to keep the water consumption for garden irrigation low, we use a drip irrigation system.

3. Rainwater

The main building of the complex has rain gutters that collect rainwater in 2 rainwater tanks. From there, it is currently used manually for garden irrigation.

It is planned to further expand the use of rainwater for garden irrigation. For this purpose, the rain gutters on the main building are to be completed and a large underground rainwater storage tank is to be built behind the main building. From there, the collected rainwater will be used even more extensively for garden irrigation by means of a pump and electronic control.

So far, we have not had the financial means to carry out this project, as we had to give priority to other projects.

c. Waste Water

The waste water from the sanitary service water use is channelled into a septic tank in accordance with the legal regulations. The residues there are professionally pumped out about every 5 years by the Canaragua company and disposed of according to the legal regulations.

With signs in the bathrooms, our guests are advised to dispose only of water and toilet paper, and no other waste in the drains of the studios.

Our staff have been sufficiently informed about this rule.

d. Waste

1. Separation of waste by the guests

In each studio there is a waste separator for guests, under the sink in the kitchen, and additional waste bags to separate paper, glass and plastic. For residual waste, there is an additional bin under the kitchen counter in each kitchen.

When welcoming guests in reception, and with a sign in the kitchen, we remind our guests to separate their rubbish and dispose of it appropriately.

Our municipality of Breña Alta does not currently offer a collection service for organic waste.

We therefore maintain a worm farm to use fresh vegetable and fruit waste from our guests' kitchens as organic fertiliser for our garden.

If our guests agree, they receive a small bucket with a lid in which they can collect the fresh waste from the kitchen. We then feed this to the worm farm, using our own organic fertiliser for our garden.

Empty batteries can be handed in by guests at the reception, we will collect them in a suitable container and dispose of them as needed at the island's recycling centre.

2. Separation of waste not originating from guests

We also separate all other waste into glass, paper and plastics in our own bins and take it to the containers provided by the municipalities as required.

We also collect bulky or hazardous waste in our own bins and take it to the recycling centre if required.

Our employees have the appropriate knowledge to carry out this waste separation.

e. Diversity of species

We run our large tropical garden under ecological aspects as far as possible.

We refrain from using synthetic fertilisers and artificial fertilisers. And instead use organic fertiliser from our own production and naturally derived mineral fertilisers.

We also refrain from using chemical pesticides and, as far as possible, from using chemical insecticides.

Instead, we first treat an infestation with pesticides obtained from natural raw materials and with natural insecticides, as far as this is possible here.

Although our garden is also home to many plants that are not endemic to La Palma, we make every effort to remove the invasives that have already been identified from our garden.

We hope that these measures will help to support biodiversity on La Palma, and we also occasionally get good feedback from our guests. For example, when the monarch butterflies fly through our grounds, or the viper's buglosses bloom.

f. Detergents and chemicals

So far, we have mainly used conventional cleaning products. The reason for this is that we have hardly found any offers of good and inexpensive environmentally friendly cleaning products from our local suppliers and supermarkets on the island.

Our goal is to use more environmentally friendly cleaning products in the future. To this end, we want to intensify our search for them, and also talk to our suppliers about them.

For the legally prescribed disinfection of the swimming pool water, we have also used liquid chlorine, liquid anti-algal agent, a liquid flocculant and a liquid PH-value lifter. All chemicals are stored safely and according to regulations. Our staff is trained in the handling of the chemicals and has the necessary protective clothing to use these chemicals.

We take water samples 3 days a week and record the PH and chlorine levels. Especially the good regulation of the PH-value enables us to reduce the use of the other chemicals.

In principle, we are open to a more environmentally friendly way of disinfecting the swimming pool water, and have already come into contact with a solution that is practicable for us.

During the pool renovation planned for next year, salt water chlorination is planned, which will significantly reduce the use of pool chemicals.

g. Guests and Employees

Our guests are informed about our environmental philosophy and policy in the form of this document and in personal conversations.

We are in constant exchange with our two long-term permanent employees from the cleaning department and the garden/maintenance department.

Both have been trained internally in the operational procedures in which they are involved. They have received information on saving energy, separating waste and reducing water consumption. Have been instructed in the handling of chemical substances and have the necessary protective clothing.

If new or changed environmental aspects arise, we discuss them internally and work together to adapt our processes.

h. Traffic

We see our meaningful environmentally friendly contribution to traffic on La Palma in a partial roofing of our existing car park with solar cells. In this way, we could create an environmentally friendly charging option for electric rental cars for each of our studios.

However, the number of electrically powered rental cars on the island would have to increase very significantly. With the simultaneous promotion of such a project through subsidies, we would decide to invest a financial surplus, which we hope to generate again by then, in such a project in an environmentally friendly way.

Unfortunately, public transport on La Palma is of secondary importance for the island's tourism.

There is a bus stop of line 35 only 200 m away from the complex, but if someone wants to come to us by bus from the airport, he first has to take line 500 to the capital Santa Cruz de La Palma, and then change to line 35 with the corresponding waiting time. After a sometimes long flight and with luggage, not many of our guests do this so far.

Moreover, many of the island's sights are not accessible by public transport.

We are happy to provide our guests with a bus timetable for line 35 on request at reception.

7. Consumption Data January - July 2023

Energy Efficiency

January – July 2023

Power Generation from Photovoltaics:	11.123 kWh
Electricity Feed-in from Photovoltaics:	4.390 kWh
Self-Consumption from Photovoltaics:	6.733 kWh
Electricity Drawn from the Public Grid:	5.364 kWh
Total Energy Consumption:	12.097 kWh
Energy consumption per sqm living space (400):	30 kWh
Energy consumption per overnight stay (1207):	10 kWh
Share of Renewable Energies in Total Consumption:	92%

Water

January – July 2023

Consumption of Sanitary Service Water:	381 m3
Consumption of Gallery Water for Irrigation:	450 m3
Consumption of captured rainwater:	2 m3
Total water consumption:	833 m3
Consumption of Sanitary Water per sqm living space (400):	0,95 m3
Consumption of Sanitary Water per overnight stay (1207):	0,31 m3

Chemicals

January – July 2023

Disinfectant for swimming pool water Sodium hypochlorite solution, 12.5 %:	25 Liter
Liquid pH value lifter for swimming pool water Sodium hydroxide solution:	10 Liter
Liquid antialgal agent Polymeric quaternary ammonium solution	50 Liter
Household detergent	50 kg

Waste

January – July 2023

Unsorted residual waste of guests (estimated):	5.000 Liter
Other unsorted residual waste (estimated)	840 Liter
Total unsorted residual waste (estimated)	5.840 Liter

8. Imprint



Company Name: Apartamentos Miranda S.L.U.
Tax number: CIF: B76662212
Address: Carretera El Zumacal 83, 38710 Breña Alta

Manager: Jens Horst Müller
Phone: +34 922 434295
Fax: +34 922 434038
Email: info@apartmentsmiranda.com
Web: <https://www.apartmentsmiranda.com>