



EARTHCHECK

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MAYAN PALACE PUERTO PENASCO & PENINSULA GOLF COURSE, MEXICO

The Mayan Palace Puerto Penasco and Peninsula Golf Course is located on the white sand beaches of the Mexican West Coast, 15 minutes from Puerto Penasco. Overlooking the Sea of Cortes, the Mayan Palace is one of the most exclusive and celebrated resorts in the region.

Lavish facilities include 258 guest rooms, a range of restaurants and bars, indoor and outdoor pools, the Brio Health Spa, an entertainment centre, and an 18-hole Jack Nicklaus-designed golf course.

The Mayan Palace Puerto Penasco and Peninsula Golf Course is located in a unique coastal ecosystem that is close to the Sonora Desert. To help preserve the integrity of these ecosystems, resort operations adhere to strict EarthCheck environmental guidelines.

The Mayan Palace Puerto Penasco and Peninsula Golf Course joined the EarthCheck Program and underwent benchmarking in 2009/10. Throughout this period, it demonstrated exceptional environmental values and practices, which resulted in Silver Certification in 2010.

Key achievements in the EarthCheck program for 2010/11:

The resort's energy consumption was 192.4MJ per Guest Night; **42.8% better than Best Practice**

The resort's waste sent to landfill was 1.1L per Guest Night; **60.7% better than Best Practice**

The golf course's potable water consumption was 1338.9L per hectare; **477.5% better than Best Practice**

The golf course used **25% recycled/captured water**

The golf course recycled/ reused/ composted **28% of their waste**

The resort's GHG emissions (scopes 1 & 2) were 20.1kg CO₂-e/ guest night; **2% better than Best Practice.**

KEY PERFORMANCE AREAS

REDUCING THE USE OF FRESHWATER AND WASTEWATER GENERATION

Both the resort and nearby golf course have the potential to consume extremely high volumes of water for purposes such as irrigation, cleaning, pool maintenance, and drinking supplies.

Mayan Palace Puerto Penasco staff members check for leaks on a weekly basis and promptly repair faults that are found. This ensures that excessive water is not wasted. The efficient use of potable water resulted in a potable water consumption measurement of 790.9L per Guest Night in the resort, which is **12.1% better than Baseline Level**.

Low/dual flush toilets and low flow tap fittings have been installed in a number of bathroom facilities. Nine litres/second showerheads have been replaced with five-litres/second fittings; to further reduce water use. Waterless urinals have been installed in communal bathrooms, pool areas and lobbies, while signs are displayed in guest bathrooms, promoting the benefits of these measures.

The urinals capital cost was approximately US\$3000, plus US\$500 US for installation; resulting in a **payback period of one year**.

The urinals **save 68,000L of water/ month**. Combined, these measures achieved a water savings rating of 81.9 points; **1.9 points better than Best Practice**.

Additional signage is displayed in guest rooms, asking guests to support water conservation by reusing towels and bed linen.

The resort uses a wastewater treatment plant to provide water for irrigation of green spaces and the golf course. One

hundred percent of the treated water is sent into a system of water and sand filters and then stored in a treated water tank, from where it is pumped directly through to the golf course. As a result, **the golf course uses 25% recycled/captured water**.

The golf course also uses automated irrigation equipment, achieving a water savings rating of 86.2 points; **6.2 points better than Best Practice**.

The hotel green spaces comprise of minimal irrigation landscaping that require irrigation that is undertaken through sprinklers at the most efficient times of day, such as after dark.

These irrigation schedules are dependent on seasons to further help ensure the efficient use of water. Subsequently, the golf course achieved a water savings rating of 87.1 points, which was **7.1 points better than Best Practice**; as well as a considerably low level of potable water consumption of 1338.9L per hectare; **77.5% better than Best Practice**.

ENERGY EFFICIENCY AND REDUCING GREENHOUSE GAS EMISSIONS

The efficient use of energy consumption can significantly lower environmental impact and also the costs of operating and maintaining electrical equipment.

The most significant initiative undertaken by the Mayan Palace regarding energy efficiency is the installation of solar panels for energy generation. The resort takes advantage of the region's extensive sunlight by transferring it into a renewable energy source. The capital cost of these cells was \$7500 US, with installation costs of approximately \$500 US and a **payback period of two years**. The solar panels **save 60kWh per month**.

As a result of this reduced dependence on the main energy supply, consumption was recorded at 192.4MJ per Guest Night in 2009/10; **42.8% better than Best Practice**.

The total greenhouse gas emissions (scopes 1 & 2) were also very low, at 20.1kg CO₂-e per Guest Night; **2% better than Best Practice**.

The building was architecturally designed to allow natural air circulation and light input through corridors and windows. Some rooms feature a skylight to further reduce the need for artificial illumination. The resort has installed energy saving light bulbs in work areas and bathrooms, and the interior pool lights have had 500-watt bulbs replaced with LED technology.

The resort installed meters in all kitchens, laundries and boiler centres to monitor the daily consumption of gas, and detect any deviation from normal consumption due to a possible event or leakage. The maintenance department has been trained in operating the meters and correctly locating and repairing leaks.

Preventative maintenance is carried out on resort vehicles to ensure the efficient use of fuel and therefore the minimisation of harmful emissions.

SOLID WASTE REDUCTION

Mayan Palace Puerto Penasco is aware that excessive production and improper disposal of solid, liquid, and hazardous waste can be harmful to the environment. Several initiatives have been undertaken to improve performance regarding waste generation and disposal.

A particular emphasis is placed on the separation of waste both on site and in staff homes. As a result, the resort's waste sent to landfill was a mere 1.1L per Guest Night in 2009/10; **560.7% better than Best Practice**.

Furthermore, **28% of the waste generated by the golf course was recycled, reused, or composted**. This not only reduces the amount of waste sent to landfill but also provides the resort with an extra income from companies that buy unwanted aluminium, cardboard, paper, PVC, glass and other waste materials.

The resort initiated a program to work with the student community in regards to waste management. This involves a "Living with EarthCheck Sustainable Tourism" program. The importance of separation/reuse in waste management is a key focus.

The campaigns reinforce recycling and the preservation of the environment in schools. Trash cans are donated and labelled to aid with correct separation before being transferred to the Waste Transfer Station. As a result, a waste recycling rating of 80.3 points was achieved; **0.3 points better than Best Practice**.





A key initiative implemented by the resort to reduce hazardous waste was a battery collection system for those generated within various resort departments and in the households of employees.

To comply with the relevant regulations on hazardous waste, the resort takes stock of this material by disposing of it in separate containers, then it sends it to a disposal company accredited by the environmental authority in the transportation and storage of hazardous waste. These containers hold 0.2m³ and the capital cost of shipping each container is approximately \$1000. To date, Mayan Palace has sent **0.2m³ of hazardous waste for its correct disposal.**

Mayan Palace contacted its supplier of ink cartridges and toners for printers that are used within the resort regarding their collection program for used products. These companies collect these items for their disposal, reusing and recycling the necessary parts, at no cost to the resort.

These environmentally friendly practices are carried over to the golf course as well, which has a waste recycling rating of 86.4 points, **6.4 points better than Best Practice.**

SUSTAINABLE PURCHASING TO REDUCE WASTE

Green procurement is a key factor of sustainability. The Mayan Palace ensures it purchases eco-friendly products to ensure they have a minimal impact on their environment by reducing chemical waste and solid waste sent to landfill.

The resort principally sources biodegradable products from suppliers. These products are considered as 'green label', and regulated by the Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA), and the Federal Attorney for Environmental Protection (PROFEPA).

The products include all pesticides and fertilisers that are used on the golf course, which staff members are trained to use correctly. As a result, both the golf course

and resort received a pesticide products rating of 81.4 points, which is **1.4 points better than Best Practice.**

The Mayan Palace golf course also received biodegradable chemicals rating of 82%, which is **15% better than Best Practice.**

Paper products used throughout the resort and golf course are primarily eco-friendly, resulting in a paper products rating of 88.9 points for the resort ; **8.9 points better than Best Practice.**

Additionally, the resort achieved a cleaning products rating of 88.3 points; **8.3 points better than Best Practice.**

The resort communicates with its suppliers to gain a full understanding of the products they are purchasing and the safety considerations of various products.

Additionally, in May 2011 the resort began the use of PHCYuccah; a natural biofertilizer consisting 90% of organic products extracted directly from plants. This improves soil quality and also increases plants tolerance to drought, high temperatures and low humidity, helps break the surface tension of water, and improves resistance to salinity.

By using organic products, the resort is ensuring harmful chemical fertilisers are not being released into the surrounding ecosystem. The capital cost of this system was \$8,500 USD, with installation costs of \$2,000 USD. Over the period of April 2010-2011, this system **saved 436,729L of water, representing \$99,069 USD.**

COMMUNITY EMPOWERMENT AND SUPPORT

Mayan Palace Puerto Penasco supports programs and activities that are focused on health promotion for staff, family, and friends of the resort. These address key issues such as vaccination, oral health, and breast and cervical cancer. Information also is provided on issues relating to obesity and the effects of drugs, alcohol and smoking.

The resort established a Green Team that developed various action plans for environmental care, which are based on the objectives of the 2000 Millennium Summit.

The resort participated in the annual "Earth Hour", which spreads its message of environmental commitment to the community, guests, and staff. Activities also are arranged for Earth Day, World Wetlands Day, and Day of Water. The resort also participates in the National Conservation Week with the Biosphere Reserve and the Pinacate Gran Desierto de Altar.

The resort actively and visibly promotes every campaign it conducts through community noticeboards. Likewise, its communications department publishes its activities through various forms of media. An EarthCheck board also is displayed in the service corridor where employees are informed of environmental activities and encouraged to participate.

The Mayan Palace Puerto Penasco hosts a number of campaigns for the betterment of the surrounding ecosystem and community health. Some of the initiatives the resort undertakes include an ongoing campaign for reforestation, educational student visits, and donations from the resort and their suppliers with food and water for the states that were hit by the heavy rains of 2010. These ongoing campaigns and projects contributed to a community contributions rating of 77.6 points, **27.6 points better than Baseline.**

The resort makes regular donations to local disadvantaged communities in need of beds, mattresses, desks, and other essential household items. This began in San Rafael where a survey was taken to select families living in disadvantaged situations and who did not have any support or assistance programs. As a result, three caravan vehicles made the journey to these homes to deliver furniture to the families most in need. Another resort program supported a local hospital by donating sheets, pillowcases and other important items.

Since Mayan Palace Puerto Penasco joined the EarthCheck program, it has opened a new workspace at the resort's Waste Transfer Station. This initiative supports the local economy by generating employment for more local people, who work on classifying solid waste and preparing it for recycling or landfill.

Another way in which the resort supports the economy is through the employment of a group of artisans whose crafts reflect the culture of the region and are either on display or for sale throughout the hotel. This support of the community economy resulted in a community commitment rating of 89%; **29% better than Baseline Level.**