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CIRCULAR ECONOMY BUSINESS CASE STUDIES IN SOUTHEAST ASIA

Pico Sands Hotel and Pico de Loro Beach and Country Club

Batangas, Philippines

Hotel and tourism

www.picosandshotel.com

Analysis period: 2018-2023

Sustainable Resort Operations

Business Spotlight

Pico Sands Hotel and Pico de Loro Beach and Country Club is a 40-hectare leisure property located 70 kilometers from Manila, and is part of the property portfolio of the SM Hotels and Convention Corporation (SMHCC). Through a food waste management system that started in 2018, it was able to reduce its food waste by 62% by 2023 compared to its 2019 baseline in terms of metric tonnes of waste per year. Food waste came down to 111 grams per guest, which is a significant improvement over 282 grams in 2019, and 350-400 grams prior to the adoption of their sustainable food-waste management program. Estimated savings from food-waste reduction were PHP 7.5 million (approximately EUR 125,000) between 2019 and 2022. About 21 metric tonnes (21,472 kg to be specific) of food waste was diverted from the landfill through composting and used in the hotel's 1700 m^2 fruit and vegetable garden and in partner farms. Combined with yield from gardens of two other SMHCC properties, namely the Taal Vista Lodge and the Park Inn Bacolod, more than 2.3 metric tonnes of produce have been harvested and used in their kitchens from 2019 to 2022. The hotel seeks to improve the productivity of the gardens in the current and coming years, including in gardens at the other SMHCC properties.

As part of its water conservation program, in 2021, the hotel reduced fresh water consumption by 36%, reaching 52% water reuse at Pico Sands Hotel and 41% for Pico De Loro Beach and Country Club. As a result of its energy efficiency program, the total energy savings steadily increased from 2020 to 2023 amounting to a total of PHP 16,123, 561 (approximately EUR 255,00).

In 2023, 93,333 single-use plastic water bottles were avoided through the provision of refillable glass containers in guest rooms and water dispensers in hotel hallways, and selling bottled drinking water in tetra boxes and glass bottles. The property was also able to divert 10,200 single-use bathroom amenity plastic bottles (30 ml) from the landfills in 2023 by switching to wall-mounted shampoo and soap dispensers.

The Pico Sands Hotel works extensively with local communities on marine protection, coastal resource management, ridge-to-reef management and mangrove restoration, whilst also creating jobs and livelihoods. The successful implementation of Pico Sands Hotel's programs serves as a model for replication in the other SMHCC properties.

Keywords

Food waste, Single Use Plastics, Water efficiency, Energy efficiency, Fermentation compost

Innovation

Product/Service design, Operations, End of life management, Resource circularity, Resource efficiency

Analysis of Pico Sands Hotel and Pico de Loro Beach and Country Club

Context and baseline

Pico Sands Hotel and Pico de Loro Beach and Country Club (PSH/PDLBCC) is a 40-hectare leisure property offering 154 guest rooms and the amenities of the Pico de Loro Beach and Country Club. It is located 70 kilometers from Manila with its own 1.5-kilometer stretch of sandy beach along the Hamilo coast. It is part of the SM Hotels and Convention Corporation (SMHCC) for which sustainability is a top priority, as reflected in its 7 Green Goals.[1] The parent company, SM Prime Holdings Inc., is committed to achieving Net Zero greenhouse gas (GHG) emissions by 2040.[2] The company monitors waste generation and energy and water consumption on a monthly basis for carbon footprint calculation by an external agency to set and monitor targets for GHG emission reduction.

The top management took note that food waste comprised 1/3rd of its total annual waste volume, and initiated a partnership with the Worldwide Fund for Nature – Philippines in 2018 to train its employees on separation, measurement and recording of PRE service and POST service food waste. WWF – Philippines also assisted with food waste intervention planning and development of a food waste management system to reduce food waste in property operations.

Innovation

Innovations in operations and services have been adopted in all areas of the resort in support of its sustainability goals.

For sustainable consumption and waste diversion, the property strictly implemented a solid waste management plan which includes waste segregation, reduction and elimination. This included refusal of disposable or single-use plastics by reducing the use of plastic cling wrap in food trolleys; replacing plastic straws with paper straws, plastic bags with paper brown bags, and single-use plastic water bottles in guest rooms with refillable glass containers and pitchers and water dispensers in hotel hallways. Single-use bottles for bathing products in bathrooms were replaced with wall dispensers for shampoo and bath soap. Plastic takeaway containers were replaced with starch-based material containers, plastic toothbrushes with wheat straw toothbrushes, and single-use plastic laundry bags with washable and reusable laundry bags.

The hotel adopted the "Sustainable Diner"[3] concept to lessen food wastage, through a food-waste management system covering pre-service (back-of-house) operations and dining operations. For example, better planning and inventory management ensured less spoilage and better quality of food and beverage ingredients. New uses were found for previously discharged "waste", such as turning pineapple scraps into jam, using seeds from fruits and vegetables to propagate seedlings for the gardens, use of coconut shells as soil holders in the garden plots, and using crushed egg shells and coffee grounds as organic fertilisers. In the buffet stations, bread and pastries are prepared in smaller portions to discourage leftovers. Food waste is composted using the Bokashi fermentation composting system, which is then used in the onsite vegetable gardens.

A building management system (BMS) was set up to improve lighting, air conditioning and other controls to conserve energy. This was complemented with energy-efficiency measures, including conversion to LED lights and inverter-type air conditioning, and installing high-sensitivity motion sensors in rooms and common areas.

Among water efficiency measures introduced were the prevention and strict monitoring of leaks, installation of water conserving fixtures, and reduced laundry through towel and linen reuse in the hotel guest rooms. Wastewater from different property operations goes to the sewage treatment plant (STP) and is thereafter reused as irrigation water for gardening and landscaping, which now rely fully on treated effluent.

1 See Integrated Report 2023, https://www.sminvestments.com/2023smicintegratedreport/wp-content/uploads/2024/04/2023-SMIC-Integrated-Report-04032024.pdf.

2 https://www.smprime.com/latest_news/sm-prime-commits-to-net-zero-by-2040/

3 During 2017-2022, the Sustainable Diner (TSD) project of WWF supported businesses in the hospitality industry to minimize food waste by providing evidence – based solutions and diversion mechanisms that make better use of food waste, and by exploring ways of helping local communities contribute to food security, see: https://www.wwf-scp.org/sustainable-dining-future-philippines/#:~:text=The%20Sustainable%20Diner%2C%20WWF%2DPhilippines,environmentally%20friendly%20practices%2C%20for%20example.

In addition to the above measures that help reduce greenhouse gas emissions, PSH/PDLBCC also switched from petrol-fuelled shuttle cabs to electric ones.

Circular Economy impact

These innovations support the key circular economy strategies of resource efficiency, that is, using less food ingredients, energy and water per customer served, and resource circularity, that is, recovering valuable materials from the remaining food waste and converting it to compost for growing vegetables and fruits and by recovering waste water for reuse in the garden after on-site effluent treatment.

Resource efficiency is evident from reduced food-waste generation, which was reduced by 29% in 2020 (from 2019 baseline); 56% in 2021; 55% in 2022; and 52% by the end of 2023 in terms of metric tonnes of waste per year.

Food waste per cover went down to 111 grams/meal (accounting for food waste in kitchen, from serving and left overs) which is a significant improvement on 282 grams/meal in 2019; and 350 to 400 grams prior to the adoption of their sustainable food waste management program. Estimated saving due to food waste reduction was PHP 7.5 million (approximately EUR 125,000) from 2019 to 2022.

Further resource efficiency was achieved through refusal and substitution of single-use plastics, resulting in approximately one metric tonne of plastic use and waste avoided. In 2023, this reduced plastic waste generation was calculated as having been contributed by the avoidance and/or substitution of 93,000 plastic water bottles and 10,000 plastic shampoo bottles, 54,500 plastic coffee stirrers, 64,000 plastic tooth brushes, 32,000 plastic bin liners, 720 plastic laundry bags and 141 plastic décor sets.

With water efficiency and conservation measures, by 2020 the property was able to reduce its freshwater consumption by 36%; the total percentage of reused water being equivalent to 52% for Pico Sands Hotel, and 41% for Pico De Loro Beach and Country Club. Energy efficiency measures resulted in considerable energy savings from reduced electricity consumption totaling PHP 16,123,561 (approximately EUR 255,000) for the period 2020 to 2023.

Resource circularity is being achieved through composting. About 21 metric tonnes (most precisely 21,472 kg) of food waste were diverted from the landfill through fermentation composting using the Bokashi method and applied in the garden of the hotel and on partner farms. Combined with yield from gardens of two other SMHCC properties, namely the Taal Vista Lodge and the Park Inn Bacolod, more than 2.3 metric tonnes of produce have been harvested and used in their kitchens from 2019 to 2022. The hotel seeks to improve the productivity of the gardens in the current and coming years.

Business and market impact

Estimated saving due to food-waste reduction was PHP 7.5 million (around EUR 125,000) for Pico Sands Hotel compared to the baseline year.

As a result of the energy efficiency program at PSH and PDLBCC, combined energy savings from reduced electricity consumption steadily increased from PHP 1,534,010 in 2020 (approximately EUR 24,000) to PHP 2,708,058 in 2021 (approximately EUR 43,000), and PHP 6,517,729 in 2022 (approximately EUR 103,000). Despite a slight dip in PSH room-nights and PDLBCC arrivals in 2023, energy saving of PHP 5,363,764 was still realised (approximately EUR 85,000). Thus, total energy savings over a four-year period amounted to PHP 16,123,561 (approximately EUR 255,000).

To move closer to net zero GHG emissions, Pico Sands Hotel continues to seek partnerships with other waste management service companies that are committed to reducing, reusing, and recycling various other solid wastes such as paper, cartons, textiles and linens. As the existing facility at the property is unable to compost all its food waste, there are plans to purchase a biodigester to help further reduce the waste volume, especially during peak occupancy.

Stakeholders

For sustainable tourism, the property has partnered with the WWF – Philippines, the Costa Del Hamilo, Inc. (which is the developer of SM Prime's premium beach resort communities) and the local barangays (local governments) for programs on marine

protection, coastal resource management, ridge-to-reef management and mangrove restoration. It has also created a yearly guest/employee program that promotes community involvement and interaction.

The property contributes to job creation in its host community by employing local residents who make up 60% of the property's employees. It supports livelihoods of 17 micro, small and medium enterprises (MSMEs) and 25 local suppliers who produce and supply hotel amenities, décor and souvenir items made of biodegradable materials, or local products and ingredients.

Implementation

There was initial resistance from employees to change the way of doing things, but this was gradually overcome through orientation programs on the property's sustainability goals and policies, embedding sustainability in operations, expectation setting, conducting awareness campaigns, and employee engagement programs.

The successful implementation of its programs serves as a model for replication in the other SMHCC properties.

Takeaways

Circularity and sustainability practices have benefitted the business, the community and future generations. Given its location in a beautiful coastal area, Pico Sands Hotel and Pico de Loro Beach and Country Club are obligated to protect and conserve the natural resources that surround them through waste reduction and avoidance, and environmental protection, in partnership with its host communities and other stakeholders.

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