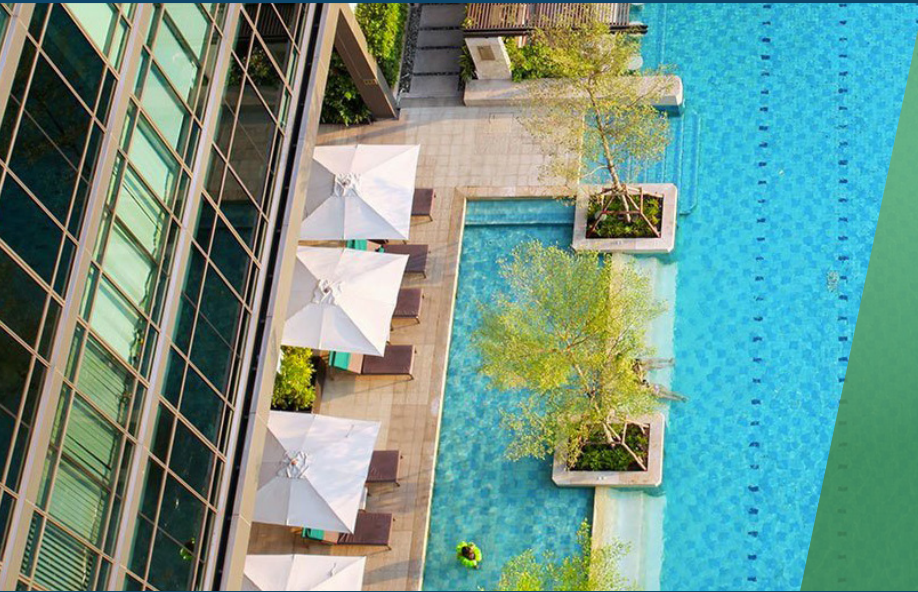


CIRCULAR ECONOMY BUSINESS CASE STUDIES IN SOUTHEAST ASIA



Sivatel Bangkok Hotel

-  Bangkok, Thailand
-  Tourism and Hospitality
-  www.sivatelbangkok.com
-  Analysis period: 2016-2023

Service Design and Waste Recovery in Sustainable Boutique Hotel

Business Spotlight

The family-owned Sivatel Bangkok Hotel illustrates that successful integration of green practices, aids to – instead of compromises – on style, comfort and luxury, in pursuit of sustainability. The sustainable practices and branding of the Sivatel Hotel focuses on four components, namely

- promoting well-being and sustainable living communities
- building a happy workplace
- maximising the utilisation of organic food and Thai branded eco-friendly products, and
- facilitating cost control, cash flow management with purposive sustainability branding.

In 2017, the Hotel implemented a zero-waste policy, and since then it has adopted food safety and healthy environment initiatives (covering both food and beverages and physical environment) as part of a circular economy strategy.

In terms of business benefits, the overall revenue of the Hotel increased based largely on its sustainable hotel brand. Without utilising intermediaries or wholesalers, the Hotel reduced food costs by 10% from 2018 and increased organic food purchases to THB 5.44 million in 2023 (approximately EUR

137,000) from THB 0.88 million in 2016. The Hotel follows sustainability strategies on minimising energy and water consumption for high resource efficiency and waste management.

Energy consumption has been reduced by 10% since 2019. Moreover, the Hotel is plastic free. Single-use plastic banning practices have eliminated consumption of 120,200 plastic bottles, 96,000 plastic shampoo and soap containers, and 9,000 plastic straws per year.

 **Keywords**

Service design, End-of-life management, Sustainable boutique hotel

 **Innovation**

Operations, End-of-life management, Resource circularity, Resource efficiency

Analysis of the Sivatel Bangkok Hotel

Context and baseline

The economic success of the tourism sector in Thailand has come at a substantial environmental cost. The hotel industry is one of the intensive sectors of the tourism industry in its use of energy and water, while generating large amounts of waste. Hotel facilities consume high energy, emitting between 160-200 kg of CO₂ per m² of room floor area.¹ A significant amount of food waste goes to landfills. Thus, by adopting green and circular practices, hotels can play a significant role in minimising their environmental impact.

In 2020, 28 million metric tonnes of garbage were generated in Thailand. About 5.8 million metric tonnes of garbage were untreated, and 60% of the total untreated garbage – 3.5 million metric tonnes – were food waste. The hotel industry, one of the leading and fastest-growing economic sectors in Thailand, is a significant source of garbage generated from hotel kitchens.²

On the positive side, tourists are increasingly committed to sustainable hotel practices, Booking.com, for example, reported that 78% of its clients look for sustainable accommodation, and 65% of clients prefer to stay in a hotel incorporating green spaces, including trees. Traveloka indicated that 80% of their clients prefer to stay at hotels with a certified sustainable tourism status.³

The mission of Sivatel Bangkok Hotel, a family-owned business passed down from the first generation in 2008 to the current third generation in 2023, has always been to maintain sustainable practices. It aims to be a unique green luxury hotel central in the centre of Bangkok. Starting from the concept of green business in 2008 to its current position as a Hotel with a recognised sustainable brand, it is known to balance business, societal, and environmental values and goals in partnership with key stakeholders. The sustainable branding of the Hotel focuses on four components, namely:

- promoting well-being and sustainable living communities
- building a happy workplace
- maximising Thai branded organic food and eco-friendly products
- facilitating cost control, cash flow management consistent with the purposive sustainable branding of the hotel.

Actions to becoming a sustainable brand have included social marketing, naturopathy / Thai traditional medical spa, organic farming inputs, zero waste management, and collaboration with farmers through fair trade practices.

Since 2016, the Hotel has implemented a zero-waste policy adopting food safety and healthy environment initiatives (food, physical environment) as part of a circular economy strategy. The Hotel has built a relationship of trust with organic farmers and producers around the country who supply it with healthy produce, and participate in its market sale one weekend a month in the hotel lobby.

Innovation

The Hotel gives priority to minimising its negative impact on the environment, while at the same time maintaining a high standard of luxury. The Hotel has implemented sustainability practises to increase resource efficiency. Actions include eliminating plastic.

All 75 suites of the Hotel component of the multi-purpose building are equipped with LED light fixtures and appliances that meet the highest local efficiency standards. The exterior of the hotel is covered with full frame windows in order to cool down the building temperature. To increase energy efficiency/savings, the Hotel uses air conditioners with VRF (variable refrigerant flow) and R410 refrigerants. To reduce water usage, faucet aerators and water-efficient showerheads are installed in each room. To minimise environmental impact, the swimming pool water utilises a non-irritating salt chlorination system, while wastewater is reused for plant watering, including watering the Hotel's rooftop herbal/vegetable garden.



1 Yazan Khalid Abed-Allah Migdadi, "Identifying the Best Practices in Hotel Green Supply Chain Management Strategy: A Global Study" Pages 504-544 | Journal of Quality Assurance in Hospitality & Tourism

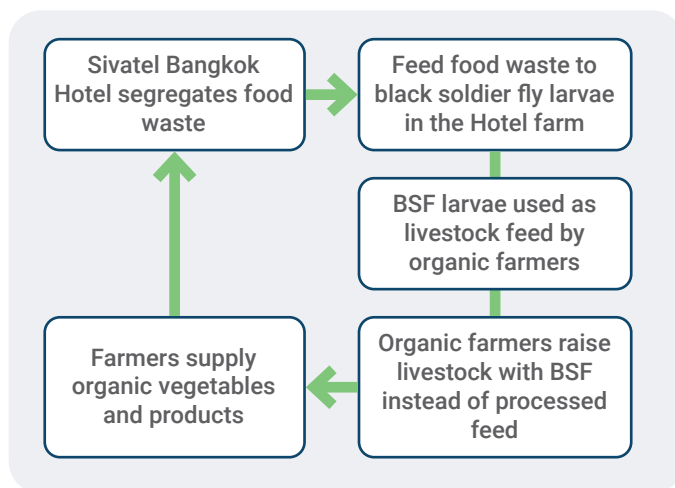
2 <https://readthecloud.co/sivatel-bangkok/> and Thailand Development Research Institute Report, Vol. 159, Year 2019.

3 <https://www.thansettakij.com/ceo/583543>

The Hotel operates an extensive waste management system that incorporates multiple steps to reduce and recycle waste. All hotel amenities are served in zero-waste mode. No single use plastic is used. Drinking water is provided in recyclable glass bottles, refillable shampoo and soap bottles are the norm, plastic straws have been eliminated, and biodegradable cups made from plant material are used. In 2018, hotel renovations were undertaken using local business suppliers and contractors, so everything was Thai designed and built. This renovation cost THB 100 million (> EUR 2.5 million).

The Hotel is innovative in providing consumers with safe food for good health by means of smart procurement and a zero-waste food policy. In terms of smart procurement, the Hotel has developed a precise, systematic food ordering system with farmers and producers to avoid or reduce waste by specifying the size and number of orders in advance. In the Hotel, an efficient monitoring system tracks food stocks and, in conjunction with smart procurement, this reduces food waste. Smart procurement and storage help increase profits by helping the Hotel to control its costs which contributes to better cash flow management.

Under the zero-waste food policy, the Hotel maximises food value through zero food waste cooking. The Hotel turns the remaining food waste into fertiliser that is used on its rooftop vegetable garden, some of the produce of which is incorporated into the Hotel drink menu and salads. Some food waste feeds the black soldier fly (BSF) larvae in the Hotel farm which are used for livestock feed at the organic farms that supply the Hotel.



Circular Economy impact

The Hotel’s innovative practices contribute to circular economy through both increased efficiency in use of materials, energy and water (resource efficiency) as well as increased recovery and recycling of wastes and by-products (resource circularity).

The Hotel’s resource efficiency measures have reduced energy consumption by 10%. The single-use plastic ban annually reduces the consumption of 120,200 plastic bottles, 96,000 shampoo and soap containers, and 9,000 plastic straws. The Hotel’s total waste generation decreased 46% from 2017 to 2018 (103 metric tonnes to 56 metric tonnes, respectively). In 2022 after the COVID-19 pandemic, the hotel re-opened with a renewed commitment to implement zero-waste practices.

The impact of the zero-food waste policy towards resource circularity is impressive. From 2016 to 2023, 62,500 eggshells were sent annually back to the organic chicken farm to make organic chicken feed; 600 kg of food waste per month were segregated, producing 33 kg of black soldier fly (BSF) per month. The Hotel collects and recycles about 6,000 egg trays (containers) per year, sending them back to organic chicken farms. In 2023, 70% of ingredients (by value) in the Hotel’s food were chemical-free and/or organic products bought directly from more than 40 local farmers and communities all over Thailand.

The Hotel has received several awards for its environment, energy and climate achievements. For example, national awards for positive environmental impact have been awarded to the Hotel such as the Green Hotel Award – Excellence Level in 2016 and Green Hotel G-Gold award in 2020 by the Department of Environmental Quality Promotion (DEQP), Carbon Neutral Certification Carbon Footprint Label in 2017 by the Thailand Greenhouse Gas Management, Zero Carbon Resorts Award in 2019 by the EU SWITCH-Asia Programme, and PATA Gold Award Winners 2023 – Sustainability & Social Responsibility by the Pacific Asia Travel Association (PATA).



Business and market impact

In terms of business benefits, the overall revenue of the Hotel increased in 2022, which the Hotel credits largely to customer appeal for the its sustainable hotel branding and achievements. For example, cost savings for the organic chicken farm through reuse of containers is about THB 24,000 per year (around EUR 600). Buying directly from farmers and growers without involvement of intermediaries or wholesalers reduced the Hotel's food costs by 30.7% in 2023. Moreover, Sivatel Hotel increased its organic food purchases to THB 5.44 million (approximately EUR 137,000) in 2023 from THB 0.88 million in 2017. Sivatel Hotel has significantly reduced its water and electricity consumption. By 2023, Sivatel Hotel had become a zero-food waste hotel. By the end of 2024, Sivatel Hotel aims to become a zero waste-to-landfill hotel.

Stakeholders

With its policy of healthy food and procurement of chemical-free and/or organic products, the Hotel economically supports more than 40 local farmers and communities all over Thailand and has built the Sivatel Bangkok's Farmer Friends network. Based on training by the Hotel and learning from working with the Hotel, partnerships with several institutions have been strengthened, such as the Chula Zero Waste Programme of Chulalongkorn University, and BSF feeding training at Kasetsart University. Internally, the Hotel's local waste bank program incentivises the hotel staff to return garbage in exchange for cash.

Implementation

The Hotel CEO believes in the private sector leading by example, not awaiting nor relying on government initiatives. The Hotel strongly supports the emerging Ploenchit Sustainable District, including the leading businesses in its immediate vicinity, for social marketing of sustainable brands with activities such as the Sivatel Sustainable Market every month, Sivatel rooftop food garden mini tours, and Sivatel Farmer Friends Day. To upscale sustainable brands with other partners, the Hotel co-created the Patumwan partnership for waste management with the Chula Zero Waste Project of Chulalongkorn University, Allianz Ayudhya, MBK Shopping Center (Ma Boon Krong Center), the latter being one of Bangkok's iconic shopping malls.

Challenges include a lack of long-term commitment and patience by firms, and a limited and unpredictable supply of organic products. To address these constraints, consumers and firms have to acquire

an enhanced awareness of the vagaries of organic food supply chains, such as seasonal variations. Secondly, by sharing the data on their circular economy mechanisms, the Hotel hopes to increase greater commitment to the concept by other hotels interested in green practices.



Takeaways

The Sivatel Hotel shares the lessons learnt on circular economy mechanisms and operations within the Hotel and externally through linked firms and organisations. The Hotel has identified the most important ingredients for sustainable innovation, namely:

- identifying a mission
- providing organisational learning based on people-oriented development
- undertaking practical actions that are feasible
- building partnerships.

The Hotel organises organisational learning utilising happiness training that includes site visits such as Chula Zero Waste and black soldier fly feeding training at Kasetsart University. The Hotel's goal is to achieve a happy workplace through step-by-step learning.



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