

# The Model of Green Hotel Implementation in Achieving Sustainable Development at Infinity8 Bali Hotel

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**Abstract:** This research aims to find out the implementation of green hotel implementation at Infinity8 Bali Hotel. The data of the research was collected through observation, interview, questionnaire distribution, literature study, and documentation. The questionnaire was distributed to the 27 employees at Infinity8 Bali Hotel and analysis technique used qualitative descriptive analysis. The research results states that the average value of the implementation of the green hotel indicator of recycled material aspect and recyclables aspect the value was 88.8 percent or “strongly implemented” meanwhile, the green hotel indicator of low-polluting aspect, saving-energy aspect, and water conservation aspect the value was 77.7 percent or “very implemented”. It is proven that the green hotel implementation at Infinity8 Bali Hotel has been implemented very well and has contributed to support the SDGs sustainable development goals; quality education, gender equality, clean water and sanitation, affordable and clean energy, economic growth and decent work for all, responsible consumption and production, climate change. However, there are some things that have not been implemented yet and need to be improved to maximized the implementation of the green hotel so it can to contribute to support sustainability development at Infinity8 Bali such as: (1) guest amenities (shampoo, soap, etc.) still using from bottle plastic; (2) the leaks are often occurred in certain location; (3) Smart controls for chiller and refrigerator are not in placed; (4) there are still food waste during event; (5) lost and breakage are high; (6) separation of garbage (organic, non-organic) around guest area are not found. So, it can be suggested to used eco materials for the packaging of the amenities, tracking, monitoring and supervising should be done regularly to each possible location of the pipes to leaks, using smart control also for chiller and refrigerator, (worth-consuming food) donation to the charity, and provide waste separation around guest area.

**Keywords:** green hotel implementation, sustainability development goals, green environment, green behavior, green hotel model

**History Article:** Submission to Repository on September 2022

## Introduction

Environmental issues have received increasing attention for the last few decades and many practitioners have struggled to ensure that hotel management is responsible for the environment (Ernawati, et al., 2021). Efforts are needed to reduce global warming through sustainable development. Sustainable development is long-term economic, social, and environmental stability, which can only be achieved through the integration and recognition of economic, environmental, and social problems along the decision-making process (Valentin, et al., 2015). Some researchers suggest the importance of implementing green tourism that prioritizes aspects of sustainable development (Wirananta & Sarja, 2020). The ministry of tourism of the Republic of Indonesia has high concern for the role of education in the tourism sector especially in hospitality in Indonesia the published a book entitled “*Panduan dan Pedoman Pelaksanaan Green Hotel di Indonesia*” with the aim of encouraging large communities to increase their understanding of climate change adaptation in particular the hotel industry sector.

The awareness of environmentally friendly development has continued to grow and become one of most important items on the agenda for hotel operations, numerous hotels then adopted good environmental management practices in response to increased concern for sustainable tourism products that later become well-known as Green Hotel. The green hotel is one that uses environmentally friendly items where hotel managers have green pro-grams (Green Hotel Association, 2018). So, the hotel that decides to apply the concept

of green hotel can help preserve the environment for the future (Widana, 2020). In the case of green hotel implementation such as hotels, their green effort includes reducing waste, saving energy, and water in their operations, and educating employees regarding the green behavior aimed to minimize negative impacts on the environment and to contribute to the sustainability of the environment.

Infinity8 Bali hotel is a 4-star hotel located in ByPass Jimbaran, Bali. This hotel has taken on the role of eco-friendly in residence. The uncontrollable threats to the environment like global warming, pollution, and ozone layer depletion have been happening lately. Infinity8 Bali aims to contribute to the sustainability of the environment, has implemented the green hotel practice in the operations and is trying to raise awareness for employees to be environmentally responsible through an environmental approach. Clearly, the green hotel practice requirements that can be used as guidance in order to make the implementation successful. There are five green hotel practices: (1) Recycled Material; (2) Recyclables; (3) Low-Polluting, (4) Energy-Saving; (5) Water Conservation (Abdullah & Febriyanti, 2016).

Based on the background described above, there are two purposes of this research (1) To find out the implementation of green hotel practices currently at Infinity8 Bali Hotel and (2) To find out the model of green hotel implementation to support sustainability development at Infinity8 Bali Hotel.

## Method

This research was conducted in Infinity8 Bali Hotel. This is a 4-star hotel managed by Guna Setia Hospitality located Jl. By Pass Ngurah Rai, No. 88A Jimbaran, South Kuta District, Badung Regency, Bali. Infinity8 Bali Hotel was chosen as the research location because this hotel is one of the hotels that has implemented green hotel practice. This research is a qualitative with five categories of green hotel requirements that have been implemented in Infinity8 Bali by (Abdullah & Febriyanti, 2016) as follow: (1) Recycled Material; (2) Recyclables; (3) Low-Polluting, (4) Energy-Saving; (5) Water Conservation (Abdullah & Febriyanti, 2016). The data was collected through interviews. Key informants that have been determined were Human Resources, Engineering & Eco Risk Manager, F&B Manager, and Executive Housekeeper.

## Result and Discussion

### The implementation of green hotel practice at Infinity8 Bali

Infinity8 Bali aims to be an environmentally friendly organization. In order to achieve this goal, Infinity8 Bali has implemented five requirements of green hotel to support sustainable development. Those green hotel practice are recycled material, recyclables, low-polluting, energy-saving, and water conservation.

#### Recycled Material

Based on the observation result, the building construction uses natural and non-functional substances such as asbestos, heavy metals, formaldehyde, and PVC. The hotel building is originally designed to utilize solar lighting to conserve energy. The use of solar energy to maximize the solar lighting is already done, which include rooftop Langit restaurant, balcony suite room, balcony deluxe room, main lobby, billiard room space and Layangan all dining. The construction of the building is intended to use solar as the lighting sources from morning 'till evening and based on the interview result with the engineering manager, the result meets the expected expectations for which it will greatly assist the hotel in reducing electrical consumption with the aim also to reduce the hotel operational cost. Thus, the application of solar lighting utilizing as a source of light on the hotel building minimize the hotel operational cost and has contributed to support the sustainable development goals no. 12 responsible consumption and production.

#### Recyclables

Infinity8 Bali Hotel has done an act of organizing an organic waste and an organic with a view to classifying trash by their kind as it facilitates the process of recycling trash. Based on the interview result with FBs manager, Infinity8 Bali already has solid and liquid waste management the hotel work together with waste vendor. Vendor managed the waste properly to known and managed landfill, for harmless waste products are sorted immediately into compost fertilizer. Hotels also have dumps for the high-density organic and inorganic waste in the entire hotel area. This means infinity8 Bali hotel already has a dense, organic and non-organic waste separation throughout the hotel. Infinity8 Bali Hotel also strives to produce sewage to the min-

imum and to make the most of it. Thus, the implementation of recyclables aspect has contributed to support the sustainable development goals no. 12 Responsible consumption and production.

#### **Low-polluting**

The low-polluting implementation at Infinity8 Bali hotel is to recycle waste which in its implementation is assisted by the housekeeping department which will later be sorted and then reprocessed. One of them is the use of food containers as a food storage area is the result of the implementation of waste recycling which is a sub-indicator of low-polluting, container food itself comes from food containers made of plastic so that if disposed of carelessly it can result in an increase in plastic waste, but to reduce in the end, the FBs department team eventually uses it as a food storage unit to prevent the use of a plastic bag. Based on the interview with Engineering Manager, it is known that whole type of air conditioner used at Infinity8 Bali Hotel is using R410 and R32 (eco-friendly freon) instead of R22 (deconstructive freon) which is not friendly to the environment. Thus, the implementation of low polluting aspect has contributed to support the sustainable development goals no. 13 Climate Action.

#### **Energy-saving**

Based on the observation, the saving energy campaign has been done and well-maintained. This campaign is commanded by the executive operations department under supervision of Engineering & Eco Risk Manager. It is included on using LED lighting instead of CFL based lighting, as quoted in [sustainability.com](http://sustainability.com) the LED light usage is more eco-friendly because it is not contained harmful materials (such as mercury, lead, cadmium) and can be recycled when obsolete. Besides the awareness, the hotel management has installed the time sensor (smart controls) specifically for the lighting purpose within the hotel area. It is known that the light specifically in the public area will automatically “turn off” at 06.00 WITA in the morning, and “turn on” at 18.00 WITA in the evening. Air conditioner will automatically off when the guest opens the balcony or close the door. Thus, the implementation of energy-saving aspect has contributed to support sustainable development no. 7 Affordable and Clean energy.

#### **Water Conservation**

Infinity8 Bali Hotel used three types of water to support the operation, they are the freshwater, sewage treatment plant (STP) water and sea water. Freshwater (clear water) is the type of water which is able to be used by humans, whether for bathroom purposes, wash basin, kitchen production, laundry water consumption etc. Sewage Treatment Plant (STP) is an integrated domestic waste treatment with the most modern and latest technology that ensures effective treatment with very clear and clean production water quality. The water result of STP is only used for two purposes, they are plant watering and pond supply. Thus, the implementation of water conservation aspect has contributed to support sustainable development no. 6 clean water and Sanitation.

#### **Model of Green Hotel Implementation to Support Sustainable Development at Infinity8 Bali**

Based on the observation and has been confirmed by focus group discussion (FGD), there are some things that have not been implement yet and need to be improved to maximized the implementation of the green hotel so it can to contribute to support sustainable development at Infinity8 Bali. Table 1.6 provides an example that combines technical and behavioral solutions for energy, air quality, waste reduction and water management. The example illustrates how an area should be targeted, the best green practice for the area (as determined by green hotel), the reason for implementing the practice / adopting the technical and solution to the hotel.

**Table 1. 1.** Green Hotel Model

<b>Target Area</b>	<b>Practice</b>	<b>Reason</b>
Energy Lighting	Use occupancy sensors to detect the presence or absence of people and turn lights on and off accordingly	Occupancy sensors may reduce lighting energy consumption by 50 % or more in some circumstances. They are used most effectively in spaces that are often unoccupied, including some offices, warehouses, storerooms, restrooms, loading docks, corridors, stairwells, office lounges and conference rooms.
Housekeeping	Limit the amount of hot water used for cleaning.	Limiting the amount of hot water used for cleaning will save water heating costs.
Air quality management and indoor public spaces	Grow native plants in atriums and public spaces.	Studies have shown that the atmosphere in indoor spaces filled with houseplants typically contains substantially cleaner air and 50 – 60 % fewer mould spores and bacteria. One tree can filter up to 60 pounds of pollutants from the air every year. Native plants are more pest resistant and healthier.
Waste reduction and F& B management	Donate used cooking oil.	Donating used cooking oil is a good way for food and beverage operations to dispose of form of waste. This used oil can be recycled and used to make other products such as biodiesel and animal food. It also represents a way for properties to contribute to a new and growing trend in conservation. For example, several jurisdictions have companies that will collect used cooking oil and process it into biodiesel.

General	Encourage a philosophy that supports the purchase and use of local, organic and sustainable farming. Encourage and follow an eco-purchasing program	Supporting the use of locally grown and produced food items helps to protect the environment and helps the growth of the local economy and following an eco-purchasing program will help the property close the recycling loop. Purchase paper products that use post-consumer recycled content: letterhead, stationery tissues, toilet paper, paper towels, writing and computer paper, office supplies and other equipment.
Water usage and management	Reuse Gray water	If local code allows, reuse Gray water (rinse water not contaminated with chemicals) to water plants. Water from steam tables and used ice are especially good for reusing.
Landscape / grounds	Maximize mulching	Mulch keeps moisture in the soil, moderates soil temperature, and reduces erosion and weeds. Good mulching will reduce the amount of watering required to keep plants watered. Keep a 2 – 3-inch layer of organic mulch over the roots of trees and shrubs and in plant beds. Create self-mulching areas under trees so that leaves can stay where they fall. Use by-products or alternative mulches such as pine bark, eucalyptus and melaleuca, or use recycled mulches when available from your community.

## Conclusion

Based on the results of analysis and discussion, it is inconclusive that infinity8 Bali hotel has implemented green hotel accordingly Buku Panduan dan Pedoman Pelaksanaan Green Hotel di Indonesia with five basic orientation carried out by the hotel that implemented the green hotel program; (1) recycled material; (2) recyclables; (3) low-polluting; (4) energy saving; (5) water conservation. The questionnaire results revealed there is an aspect of the green hotel implementation that was “strongly implemented” such as: recycled material and recyclables. There is an aspect of the green hotel implementation that was “very implemented” such as low-polluting, energy-saving, and water conservation. All aspects have been implemented by Infinity8

Bali and have contributed to support 17 sustainable development goals. Goal no. 4 quality education, goal no. 5 gender equality, goal no. 6 clean water and sanitation, goal no. 7 affordable and clean energy, goal no. 8 economic growth and decent work for all, goal no. 12 Responsible consumption and production, goal no. 13 climate action. Years counting, Infinity8 Bali Hotel continuously improved the sustainable development to create sustainable business for the environment, economy and social better future.

Whilst the second conclusion is the benefits of implementing green hotel are there are some things that have not been implemented yet and need to be improved to maximized the implementation of the green hotel so it can to contribute to support sustainability development at Infinity8 Bali such as: (1) guest amenities (shampoo, soap, etc.) still using from bottle plastic; (2) the leaks are often occurred in certain location; (3) Smart controls for chiller and refrigerator are not in placed; (4) there are still food waste during event; (5) lost and breakage are high; (6) separation of garbage (organic, non-organic) around guest area are not found

## Acknowledgment

First and foremost, thanks to The Almighty God Jesus Christ for the blessing in completing the thesis. In this occasion, I am deeply thankful for: (1) I Nyoman Abdi, SE, M.eCom., as Director of Politeknik Negeri Bali, who has given the writer opportunity to gain knowledge at Politeknik Negeri Bali. (2) Prof. Ni Made Ernawati, MATM., Ph.D., as the Head of Tourism Department at Politeknik Negeri Bali, for the direction and guidelines during the period of the writer's study. (3) Drs. Gede Ginaya, M.Si., as the Secretary of Tourism Department at Politeknik Negeri Bali, for the direction and guidelines during the writer's study. (4) Dra. Ni Nyoman Triyuni, M.M., as the Head of Tourism Business Management and as Supervisor II has been provided guidance and advice to complete this thesis. (5) I Nyoman Rajin Aryana, S.Pd., M.Hum., as supervisor I who has been willingly taking his time to give a bunch of guidances during creating the thesis and provide guidance to complete this thesis. (6) Ni Luh Eka Armoni, SE., M.Par., as Training Coordinator who has provided suggestions related to the training program. (7) Mr. Kamaruddin Mase and Mrs. Laarnie Rosales Garcia, as beloved parents for the endless prayer, unconditionally love and supports. (8) All Lecturers of Tourism Department for the knowledge and education given to the writer and all the students of Tourism Department. (9) Mr. Muhsin as the General Manager, and Mrs. Evin Yuniarsia as the HR of Infinity8 Bali Hotel who willingly gave the writer opportunity and knowledge to done the research at Infinity8 Bali Hotel. (10) My beloved sibling's Bryan Kamaruddin, Christy Kamaruddin, Andry Kamaruddin, Kamila Kamaruddin, and Nathaniel Kamaruddin for always caring, loving and always providing extraordinary support, so that the writer can accomplish this thesis.

For that, with all humility, the writer expects some critics and suggestions especially from readers, and hope that this report could be beneficial for the study as well as the development of the tourism industry.

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