

# ASEAN Green Hotel Standard Compliance: The Case of Subic Bay Metropolitan Authority, Olongapo City

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**Abstract:** The study aims to determine the green practices of several hotels in SBMA in Olongapo City using the Green Hotel Standards of ASEAN as the basis for developing guidelines, assessments, criteria, and standards for "Green Hotels" in the Philippines. The study used descriptive design to determine the extent of compliance of the participating hotels with the ASEAN Green Hotel Standards. The survey respondents comprised the participating standard and economy hotels in SBMA, Olongapo City. The research revealed that given the standards of the ASEAN Green Hotel Association, all the participating hotels practised or observed the rules for green hotels except for "noise pollution control" and "wastewater treatment management." The research study determined that there is no significant difference in the extent of the participating hotel's compliance with the Green Hotel Standards. Moreover, there is a need to formulate guidelines on "greening hotels" in the Philippines. These guidelines should also contain assessment criteria and standards to assist hotel owners in "green" their hotel significance "going green."

**Keywords:** Green Hotel, Standard Framework, Climate Change, Assessment, ASEAN Green Standards

## 1. Introduction

Climate change is a significant issue at present. This phenomenon results from global temperature increases due to greenhouse gases such as carbon dioxide. The effects of global climate warming are rapid climate change, rising global temperature, extreme weather patterns, disturbed systems, rising sea levels, acidification, increased pests and disease, failing agriculture output, and eventually advancing world starvation.

Global warming is the effect of climate change. It contributes to the destruction of nature's destination due to ocean acidity, forest fire, and the fast melting of snow or glaciers. The ocean absorbs carbon emitted into the air, which causes water to become acidic, killing fish and sea animals. Drought ignites the wildfire, burning the forest and destroying animals' habitats[1]. Fire blazed the jungle of Indonesia, Russia, Africa, and Brazil. Similarly, tons of fish in Thessaloniki, Greece, was swept up dead on the shore because of hot temperatures and low water.

Specifically, the hospitality and tourism industry is one of those industries profoundly affected by climate change. The tourism and hospitality industry is highly vulnerable to climate change due to travel dependence on the weather and natural destinations[2]. Vacation travel is one of the significant contributors to global warming due to its being energy-intensive. The tourism and hospitality industry offers captivating services and products which innate the desire for adventure that consume a large amount of burning fossil fuels and transportation of tourists[3].

Global warming's startling effects call every sector's attention to improve awareness and heighten the

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concern of mitigating global warming. Notably, the Tourism and Hospitality Industry formulates standards for reducing their company's energy usage and natural resources. Consequently, "Green travel" or "ecotourism" has become popular, which means responsible travel to the natural environment that saves and sustains and sustains local people's livelihood.

Many researchers and economists are at hand to uncover solutions to address the issue of climate change. Government entities and industry sectors collaborate to support policies and standards for mitigating global warming. During the United Nations Paris Agreement, member countries agreed to support the advocacy of lowering global warming to a 1.5-degree Celsius limit[4] (Hansel et al. 2020). Also, climate change policies were passed and contributed to lowering the impact of greenhouse gases and committed to reducing it further by 5.9 GtCO<sub>2</sub>.

Increasing awareness of climate change in the hospitality industry is significant. The organization reported that ecotourism has a growing rate of 5% worldwide, with 11% consumer spending. The U.S., Australian, and British travellers had well-thought-out protection of the environment and involved the community as part of the hotels' corporate responsibility[5].

Furthermore, a survey of J.D. Power and Associates' 2009 North America Hotel Guest Satisfaction Index Study resulted in guests' recognition of their hotel's green programs increasing significantly in 2009. Sixty-six per cent of the guests indicated they were conscious of their hotel's management efforts, up to 57 per cent[6]. Likewise, the AAA (American Automobile Association) promotes sustainability by adding an "eco" icon to its 2010 Tour Boos. The AAA-certified accommodation business adheres to environmental standards and focuses on sustainability.

The Subic Bay Metropolitan Authority (SBMA), located in Olongapo City, was a United States military facility. It was the Philippines' first free port since the U.S. military left the Philippines in November 1992. SBMA is considered one of the top tourist destinations in the Philippines, with average annual exports of 2.5 billion pesos (50,801.7 USD) for 2018. Despite the breathtaking scenery of Subic Bay, U.S. military toxic waste reported by the World Health Organization, the U.S. General Accounting Office (GHO), and non-governmental organizations are still unresolved. Currently, the SBMA administration developed an environmental policy complied with by the tenants in the base. Tenants are required to promote the ecological and biological conservation of the area.

Based on the preceding statements, the researcher affirms the Importance of conducting this study to determine the hotel industry's green hotel practices in response to global change. This study contributes to mitigating and adapting to the entire planet in mitigating and adapting to global warming. The study's purpose was to determine the extent of compliance with green practices of selected hotels in SBMA in Olongapo City using the ASEAN Green Hotel Standards. The course aims to seek the Importance of hotels' compliance with green standards, including the implementation issues and concerns. The results could be the basis for developing guidelines, assessment criteria, and rules for "Green Hotels" in the Philippines.

## **2. Related Literature**

### **2.1 Green Hotel**

Climate change is the catchword of awareness in the hospitality industry. It is not just because it will affect its businesses but also the status of Mother Earth. The trends in every conference and hospitality organization's meetings focus on issues with a full-length special report on "Going Green" and responsible tourism.

Green Hotel is popularly known as "eco-friendly," "sustainable," or eco-friendly properties[7]. Green hotels are accommodation facilities that observe the nature-oriented conventional method of reducing negative environmental impacts like conserving water and electricity, recycling, waste reduction, and

different programs that help protect the environment. Specific techniques include saving energy, recycling towels, and the linen reuse program, organic food menu, and employee education on eco-friendly practices[8][9].

Green Technology is an innovative method and material to generate energy-saving sources in households and industries to save the natural environment. The goals of these innovations are sustainability, recycling of manufactured products, emerging replacements to technologies, regardless of whether fossil fuel or chemical rigorous agriculture and generating a focal point of pecuniary activity around technologies and environmentally friendly products. The adoption of Green Technology increases environmental gains like improved ecosystems, conserves natural environments, and enhances air and water quality. Economically it could improve productivity and minimize utility infrastructure.

The U.N.'s international forum first mentioned sustainability to promote global awareness of harmony with their surroundings and lower the environment's utilization in 1987. As the hospitality industry is one of the contributors, it started to act and take corporate responsibility for supporting climate change advocacy.

Hospitality rulers capitalize on ecologically viable methods that appeal to more guests and, in turn, discover a valuable truth of "going green," which will help prolong their businesses growth. The hospitality industry focuses its advocacy on making the planet right. Hoteliers are investing heavily in property overhauling to green the facilities and services using renewable materials, energy-efficient technologies, and management practices that diminish climate change impacts. Customers' attitudes towards environmental concerns can influence management's decision-making to implement green hotel practices.

## 2.2 Green Hotel Practices

Compliance and adaptation to Green Hotel standards are the responses to mitigate global warming. Mitigation is a method that helps reduce the utilization of natural resources and employ standards and control measures to reduce emissions and stabilize the level of greenhouse gases to attain recovery, regeneration, and sustainability. Adaptation is a manner of adjusting lifestyle towards climate change. This approach aims to reduce the susceptibility to climate change's damaging effects[10][11].

The Hospitality industry is significantly engaging in going green on a long-term basis. Hotels are projected to sculpt the future by focusing on green building constructions, renovations, innovative technology and wellness[12]. The hospitality industry contributes directly and indirectly harmfully to the environment. The hotel's supreme goal is to provide comfortable services and amenities that consume a large amount of energy and non-recyclable goods.

Hotels that implement sustainable environmental standards gain numerous benefits. It is not only mitigating global warming but also economically improving the company profile and compensating green incremental costs[13-15]. In Beijing, China, several hotels have proven the positive impact of greening by 19% fewer customer complaints of the indoor air quality and relishing a 6.5% premium room rate without reducing occupancy rates.

The EnergyStar company reported that the standard hotel that reduced electricity consumption by 10 per cent has financial benefits. Caesars Palace Engineering Director found out that a 7 per cent water reduction gives them savings of \$ 135,000 to \$ 218,000 in natural gas heating the water in Las Vegas. Small steps performed by several hotels are low-flow showerheads, energy-efficient CFL Lighting, LEED Certification, Green hotel certifications, participation in Green Leader Program, Food waste reductions, garbage recycling, and a lot more[16].

## 2.3 ASEAN Green Standards and Certification

ASEAN Green Hotel Standards is an ASEA initiative to promote sustainable tourism practices. It encourages members to foster sustainable tourism by adopting an eco-friendly system in the hotel. ASEAN requires the hotel business to comply with the minimum standard of safeguarding and sustaining ecological and cultural resources as a conservation and poverty alleviation tool. It covers Environmental strategy, green products, Human resources, and environmental management. ASEAN standards consist of primary criteria and requirements such as standards for ensuring local guide quality and expertise, use of green products, collaboration with the community local administrations, human resource development, solid waste management, energy efficiency, water efficiency and water quality, air quality management, noise pollution, wastewater treatment and management, and toxic and chemical substance disposal management[17].

The demand for green hotel certification is growing due to the awareness campaign of different climate change advocates. Hotels have heightened their commitment to enhancing operations and furthering environmental conservation. The Importance of third-party approval plays a fundamental responsibility in establishing the credibility of a hotel, not only for customer satisfaction but also for an approach to environmental sustainability. Numerous organizations are conducting hotel certifications like Travelocity.com, U.S. Green Building Council, ISO 14001, and ASEAN Green Hotel Certifications. Those certifications showed a definite improvement in hotel operations and marketing and gained financial benefits.

## 2.4 Green Certification Organizations

Different institutions oversee certification to provide a standard and guideline for the sustainable tourism and hospitality industry. The Association of Southeast Asian Nations (ASEAN) develop Green Hotel Standards with a certificate that increases the awareness of the hotel industry in environmental conservation among the accommodation industry. The standards cover operation, ecological planning, green products, human resources, and environmental management.

Global Sustainable Tourism Council (GSTC) is an organization that aims to provide certification and accreditation standards for sustainable tourism. The alliance and partnership are among UNWTO, U.N. Environment, Rainforest Alliance, and United Nations Foundation. The assessment coverage comprises efficient sustainability planning, boosting social and economic advances for the local community, enriching cultural heritage, and lessening damaging impacts on the environment[18].

Green Globe aims to provide marketing services, education, certification, and training for sustainable processes and management in 83 countries based on internationally accepted standards. The criteria go through all the fundamental environmental problems associated with the Caribbean. The program draws the criteria from Agenda 21 from ten significant areas and is ISO 14000-based.

Green Key is a certification body that aims to promote environmental accountability and green operation in the Tourism Industry. Green Key started in Denmark, with 3,200 awarded establishments in 65 countries. The tools and resources are the green toolboxes, carbon Calculation tool, and water calculation tool[19].

HAC Green Leaf is a joint organization of the U.K. Tour Operators and Wilderness Foundation, which aims to establish a standard framework and assessment tool for hotel sustainability. The rating system consists of three spheres core, responsible, and therapeutic[20].

## 3. Methodology

The researcher used the descriptive design to determine the degree of compliance with the ASEAN Green Hotel Standards participating hotels. Through the illustrative method, valuable information was

gathered and used as a basis for a significant decision.

The respondents were composed of the participating standard and economy hotels in SBMA, Olongapo City. Managers and employees were interviewed using a questionnaire to identify the extent of compliance with ASEAN Green hotel standards.

The study utilized a survey questionnaire containing the ASEAN Green Standards listing. The research used the F-test's Analysis of Variance (ANOVA), where inter-relationships of two or more variables are studied. The ANOVA method allows for separating the different components of the total effect into the sources of variation. ANOVA is called the splitting of the total variance into parts. The result of the hypothesis is the F-value, which indicates whether the various due to the treatment (product) or the replications (panellist) or both are considered statistically significant.

The 5-Point Likert Scale was likewise adopted to measure the participants' responses to the ASEAN Green Hotel Association standards' extent of compliance.

Scale	Range	Interpretation
3-	2.49- 3.00	Always practice
2-	1.50 – 2.49	Sometimes, practice
1-	1.0 - 1.49	Never practice

#### 4. Results and Discussion

The concept of ASEAN environmental policy and actions aims to build an ASEAN Community that is environmentally sustainable and adapts to altering natural conditions. This environment management practice leads to more profound socio-economic and environmental performance. Tourism-related businesses and stakeholders emerge into a better relationship with the adaption of new hotel sustainability practices and technology throughout the operation.

##### 4.1 "Green Practices" of Participating" Hotels

[Table 1] shows the "green practices" of the participating hotels compared with the ASEAN Green Hotel Standards

[Table 1] Green Practices of Participating Hotels

ASEAN STANDARDS	HOTE L 1	HOTE L 2	HOTE L 3	HOTE L 4	HOTE L 5	HOTE L 6	HOTE L 7	HOTE L 8
Legislations and standards for hotel operations related to environmental.	√	√	√	√	√	√	√	√
Use of eco-friendly products	√	√	√		√	√	√	
Partnership with community organizations and institutions.	√	√	√	√	√	√	√	√
Manpower management and development	√	√	√		√	√	√	√
Garbage disposal management	√	√	√	√	√	√		√
Electricity or Energy utilization	√	√	√	√	√	√	√	√
Water utilization management proficiency	√	√	√	√	√	√	√	√
Indoor and Outdoor Air quality management	√	√	√	√	√	√	√	√
Control of Noise pollution								
Sewerage management and control								
Disposal and management of chemical Toxic and substance	√	√	√	√	√		√	

[Table 1] indicates that given the standards of the ASEAN Green Hotel Association, all participating hotels practised or observed the standards for green hotels, except for "noise pollution control" and "wastewater treatment and management".

**Environmental Policy.** The SBMA has a strict policy regarding environmental conservation. Chapter IX of SBMA Environmental Guidelines entitled "Environmental Regulations" is their principle to promote the maximum extent of ecological value as a foundation of economic development. Notably, they had adopted all environmental laws in the Philippines, mainly Presidential Decrees Nos. 984, 1151, 1152 and 1586, as well as Republic Acts No. 6969 and 7586, including the rules and regulations of the Department of Environment and Natural Resources and other government agencies concerning environmental pollution and pollution control to that degree as these rules and regulations are not inconsistent with these rules (SBMA Environmental Policies 2010). Hotels must secure Environmental Compliance Certificate before renewing their business permits.

**Use of eco-friendly products.** The participating hotels are practising this standard but not all their facilities. The housekeeping department used organic toiletries like shampoos, bathrobes, lotions, and toilet paper.

**Partnership with the Community.** Most participating hotels donate unused food to local nonprofit organizations, participate in activities on sustainable development, donate surplus guest amenities like old furniture and appliances to charitable institutions, and conduct rainforest preservation and tree planting.

**Manpower management and development.** Participating hotels practice this standard. Specifically, the hotel provides continuous education on energy and water conservation, waste management, giving an incentive for "green employees" and participating in community green advocacy.

**Garbage disposal management.** All the participating hotels practice standards on solid waste management. Under the SBMA Environmental policy, tenants are required to manage their waste. SBMA has landfills, kilns, physicochemical treatment facilities, and other amenities handling waste and recuperating or disposing of garbage.

Due to the strict implementation of waste management, some of the specific rules are set for compliance: tenants should provide their covered waste receptacles; refrain from placing hotel waste outside their premises, refrain from using public trashcans for hotel garbage, segregate waste, and decompose biodegradable materials and recycle the non-biodegradable materials.

**Reduce, reuse and recycle.** Hoteliers can ask over suppliers or suppliers to produce goods in marginal packaging. Vendors can also be asked to bring products one day and pick up the packaging materials the next day.

**Energy efficiency.** The participating hotels are all practising the "energy efficiency" standards. Hotels install or post signage to turn off lights when not in use, use energy-saving light bulbs like halogens, and use VingCard to turn off electricity when there are no occupants in the room. Some hotels identified their energy efficiency program, such as monitoring energy bills, installing an automatic thermostat, using Energy Star compact fluorescent lamps, and providing night lights in the guestrooms.

**Water Efficiency.** This standard is one of the essential practices that participating hotels implement in their establishments. Installation of high-efficiency kitchen equipment like dishwashers, low-flow pre-rinse spray nozzles at the dish machines, and ultra-low-flow restrictors on restroom faucets can help reduce water usage. In addition, low-flow shower heads, linen reuse programs in the guest room, switching to drought-resistant native plants in garden areas and monitoring monthly water bills are some of the practices the participants of this study implement to conserve water. The use of low flow shower heads and faucets are some options for water conservation, which are becoming common among hotel facilities.

**Air Quality (indoor and outdoor).** SBMA Environmental Policy, Chapter 10 Section 101 states that SBMA shall not authorize air quality to worsen within its province because of industrial growth. It

conducts regional air quality monitoring to obtain permits to Operate for hotels. Traces of air pollution must conform with pertinent guidelines and standards relevant to air emission sources. As a condition, before permits to conduct are issued, hotel owners/ operators shall be obliged to examine the discharges of stationary air sources and account for the results of their monitoring to SBMA.

Noise Pollution Control. Since seas and mountain surround SBMA. It has never been a for the participants about noise pollution.

Wastewater Management. Participating hotels in SBMA do not practice wastewater treatment since SBMA has its wastewater treatment system.

Toxic and Chemical Substance Disposal. In SBMA, hazardous and toxic wastes used by any persons, businesses, or other entities within the jurisdiction of SBMA are instructed to observe the provisions of Republic Act 6969. These rules incorporate the recordkeeping of chemicals employed and imported.

The hotel practices toxic management by buying products in returnable or recyclable containers and materials and, specifically, recycling fluorescent light bulbs, ink and toner cartridges, and televisions. In addition, computers, monitors, use of cleaning solutions that limit the use of toxic cleaning chemicals, use of non-chlorine-bleached paper products, use of eco-friendly soaps, and garden organically and indoor paints at low or zero volatile organic compounds.

Disposing the toxic and chemical waste left by the U.S. military is still a big issue in SBMA. For this reason, SBMA strictly implements and monitors its environmental guidelines for residents inside the enclave.

#### 4.2 The Extent of Compliance with the ASEAN Green Hotel Standards by Participating Hotels

[Table 2] indicates that although the participants observe the green hotel standards in varying degrees, only a few practised seriously. These include: "energy and water efficiency" and "air quality management."

[Table 2] The Extent of Compliance with the ASEAN Green Hotel Standards by Participating Hotels

ASEAN STANDARDS	H1 W.M.	H 2 W. M.	H3 W. M	H4 W.M	H5 W. M	H6 W. M.	H7 W. M.	H8 WM	TOT AL WM	INTERPRETATION
Legislations and standards for hotel operations related to environmental.	2.0	2.0	2.0	2.0	3.0	3.0	3.0	2.0	2.38	SOMETIMES PRACTICED
Use of eco-friendly products	3.0	2.0	3.0	2.0	2.0	3.0	3.0	1.0	2.38	SOMETIMES PRACTICED
Partnership with community organizations and institutions	3.0	3.0	1.0	3.0	3.0	3.0	4.0	3.0	2.38	SOMETIMES PRACTICED
Manpower management and development	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	2.38	SOMETIMES PRACTICED
Garbage disposal management	3.0	2.0	3.0	2.0	2.0	3.0	2.0	2.0	2.38	SOMETIMES PRACTICED
Electricity or Energy utilization	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	ALWAYS PRACTICED
Water utilization management proficiency	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	ALWAYS PRACTICED
Indoor and Outdoor Air quality management	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	ALWAYS PRACTICED
Control of Noise pollution	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	NEVER PRACTICED
Sewerage management and control	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	NEVER PRACTICED
Disposal and management of chemical Toxic and substance	2.0	2.0	2.0	2.0	2.0	2.0	3.0	2.0	2.12	SOMETIMES PRACTICED

These indicators might be possible because if the participants did not conserve energy and water, their electric and water bills would go up and be costly. Hotels have practised energy and water conservation before the ASEAN Green Hotel standards. In the past, during the oil crisis, hotels were already mandated to conserve energy and water.

The standards that are rated "sometimes practised" are " Manpower management and development," "solid waste management Garbage disposal management," " Disposal and management of chemical Toxic and substance," " Legislations and standards for hotel operations related to environmental," and " Partnership with community organizations and institutions." There's a guideline set forth by SBMA for hotel tenants to follow, or else hotel tenants will face sanctions from SBMA and like seem to bother participating hotels because the idea of "going green" is a significant investment.

The SBMA has implemented a strict policy on environmental conservation. SBMA has likewise adopted all Philippine ecological laws.

The cost of green products is an issue. In an article by Allan Graham, he commented on the economics of Scale and hidden fees play a role. Since green is not mainstream, manufacturers have not adopted green products as part of the cost-cutting method.

### 4.3 Test for Significant Differences in the Extent of Compliance of the Participating Hotels

[Table 3] presents the variance (ANOVA) among the participants' ratings on the extent of compliance with the green hotel standards.

[Table 3] Results of the ANOVA among the Ratings of the Participants

Sources of variation	Df	SS	MS	Fc	Ft	INTERPRETATION
Green hotel standards	10	175.28	17.528	0.74	1.91	Not significant
Hotels	7	1.41.63	0.20			Ho accepted
Error	70	19.08	0.27			
Total	87	198.77				

[Table 3] indicates the recognition of the null hypothesis that no significant difference exists among the participants' ratings on the extent of compliance with the ASEAN Green Hotel Standards.

The participants' ratings are not statistically different because the computed F-value of 0.74 is lower than the table F-value of 1.91.

### 4.4 Issues and Concerns

The participating hotels' mentioned issues and interests comply with the Green Hotel Standards. First is the cost and availability of "Green Products." Green products like towels and linens made from 100% cotton are expensive. Although they are economical, they are easy to launder and use 30% less water and detergent; they are still costly. Examples are toiletries like shampoo, lotions, and soaps made from organic materials are also expensive. Moreover, most of these toiletries are fortified with medicinal additions like glutathione, which has a relaxing effect, exfoliating, and others, making them expensive.

Secondly is consistency in the implementation and monitoring of the standards. Implementing the Green Hotel Standards is not a priority or main concern among the participating hotels because the standards are not apparent among the hotel owners and staff. The lack of guidelines for greening a hotel seems to be the problem of local hotels.

Third is a lack of awareness of the Importance of the standards. Global warming is undoubtedly one of the leading challenges confronting scientists today. To obtain a solution to this immense problem is



not straightforward, but one thing's for sure people must work together collectively to escape the dangers of climate change. Many "global warmings" awareness efforts intend to break off global warming. Its participants are mindful of climate change's social, political, and economic consequences on large parts of humanity. Even advertising campaigns use the term green to expose the effects of global warming.

Fourth is the "Green Marketing." The current economic state has put a grip on all facets of marketing. Public relations, advertising, and marketing budgets (usually in that order) are often the first line items cut when companies seek to decrease disbursements. They are generally the last few items funded (generally in reverse order) once sales start picking up. Cost-cutting makes it hard for marketing professionals to get their messages out to end users, green or otherwise. Likewise, companies that have plummeted themselves on making products with diminished environmental effects swiftly appreciate that strong corroboration of assertions is not just a competitive advantage but also a way to alleviate business risk.

## 5. Conclusions

Based on this study's findings, this research concluded that there is no significant difference in the extent of compliance with the Green Hotel Standards by the participating hotel. Moreover, there is a need to formulate guidelines on "greening hotels" in the Philippines. These guidelines should also contain assessment criteria and standards to assist hotel owners in "green" their hotel significance "going green."

Based on the preliminary conclusion, this research recommends that SBMA strictly implement policies or laws on "green hotels" among its hotel- tenants. Government and non-government agencies should coordinate and help one another develop guidelines to increase hotel owners' awareness of the significance of "going green." The Department of Education and Commission on Higher Education should mandate public and private schools to include in their curricula the effects of global warming; and how to mitigate and adapt to this natural occurrence. Furthermore, a study on the framework for the advocacy of "Greening Makes Good Economic Sense" is recommended. Lastly, they established an accrediting agency for green hotels in consortium with the academe whose objectives are to raise the hospitality industry's environmental excellence in the Philippines

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