UNIVERSITETI I EVROPËS JUGLINDORE
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POSTGRADUATE STUDIES – SECOND CYCLE

THESIS:

Sustainability Practices of Turkish Hotels: A Research in Izmir and Kusadası, Turkey

CANDIDATE:
Raifcan Şimşir

MENTOR:
Prof. Dr. Shenaj Haxhimustafa

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Abstract

Nowadays, preserving the environment and a number of practices which called as "green" rapidly increase under the name of sustainability. Nowadays, enterprises, no matter in which sector, understood that they cannot live without being sensitive to environmental problems. The aim of the research is to determine how different rate hotels use the practices of sustainability in Izmir and Kusadası. In order to determine the position of city center hotels in Izmir, a questionnaire was conducted regardless of certification of environment-friendly practices. During conducting a questionnaire, more than 100 hotels were visited and 57 of them applied to conduct to the questionnaire. Out of which 19 are located in Kusadası. The rest of 38 are located in the city center of Izmir. A questionnaire was conducted to general managers, front office managers, technical service managers or receptionists of hotels in January of 2019. Within the scope of the Green Star, most environmental protection practices have been determined to be "above the average" at hotels. Considering all these results, it is found that there are differences in the practice levels in terms of the status of hotels (different stars) and their locations. It is concluded that 5-star hotels are more environmentally friendly. When city center hotels in Izmir and hotels in Kusadası are compared, it is understood that city center hotels in Izmir are more environmentally friendly.

Keywords: Green-Star, Accommodation Enterprises, Green Practices, City center of Izmir, Kusadası.

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1. Introduction

Sustainability is known as the ability of an ecosystem to sustain without nonstop, destroyed and overconsumption. The root of "sustainability" comes from "Sustinere" which is a Latin word. *"Sustainable development is therefore about creating a better life for all people in ways that will be as viable in the future as they are at present. In other words, sustainable development is based on principles of sound husbandry of the world's resources, and on equity in the way those resources are used and in the way in which the benefits obtained from them are distributed*" (UNWTO, UNEP, 2005). Tourism has a special position in contribution to sustainable development. The first mission is dynamism and growth of the sector, the second one is tourism having a special relationship between consumers (visitors), the industry, the environment, and local communities.

Nowadays, as the adoption of sustainability in the business model has become unavoidable for sustainable development; the adoption of sustainable tourism by all stakeholders has a key importance for managing changing new tourism trends, practicing environmental sustainability, and preserving of shared values. This situation requires an approach to adapt to environmental and social sustainability and preserving the green policy instead of short-term anxieties in tourism.

The tourism industry is one of the sectors destroying the environment together with using energy, water, waste, and the highest carbon dioxide emission. At this point, developing sustainable tourism and its practices rapidly increase, preserving activities of accommodation enterprises for nature, local community, destination, etc. are very important. For this reason, the term eco-hotel or environment-friendly hotels' importance has increased day by day.

Tourism is continuously developing in Turkey as well as the World. In 2018, Turkey was the 8^{th} popular attracting tourist destination country and 14^{th} country according to its tourism revenue (kulturturizm.gov.tr) in the World. In addition, tourism has an important role for Turkey's economy. In 2018 tourism revenue was $29,512 billion (kulturturizm.gov.tr). When we look at these statics, sustainability is very important for Turkey's tourism. In 1993 within the scope of sustainable tourism, "Environment-friendly Enterprises Certificate (PINE ICON)" was given first time to enterprises which operate with in

sustainability, from the Republic of Turkey Ministry of Culture and Tourism for protecting the environment, developing environmental consciousness, encouraging the positive impact of accommodation enterprises on the environment. Hotels practice sustainability is analyzed with the research made at hotels in Izmir, which is Turkey's 3rd biggest city and in Kusadası which is one of the most important tourism destinations of Turkey. A survey with hotel managers is being conducted in order to value the sustainability of the hotel. The second data is also used from the Hotel Association of Turkey, Republic of Turkey Ministry of Culture and Tourism, TURKSTAT, etc.

1.1. Importance and aim

1.1.1. Importance

The tourism industry is the leading sector which uses significant natural and artificial resources. Natural resources are destroyed, pollution increases, and cultural and historical monuments have been damaged in many countries where tourism is developing. With sustainable development, sustainable tourism became a current issue at the result of increasing these problems and sustainable tourism became one of the most important concepts in the tourism industry.

Izmir and Kusadası are one of the most important tourist destinations in Turkey. There are lots of small medium and big size hotel in the city center of Izmir and Kusadası. The number of these hotels increases day by day. From 2008 to today, the number of incoming tourists in Izmir and Kusadası has increased approximately by 15% in Izmir and by 18% in Kusadası in the last 10 years.

Environmental protection is the beginning of the issues that should be taken seriously in the tourism sector as in all sectors. The management and protection of the environment is one of the most important issues to be considered in hotel enterprises, where the most important user of natural resources and the places where tourist activities occur. The small number of researches on environmentally conscious applications in hotels that serve the city tourism and coastal tourism, reveals that the current study is of particular importance.

1.1.2. Aim

Nowadays, preserving the environment and the number of practices which are called “green” rapidly increase under the name of sustainability. Nowadays, enterprises, no matter in which sector, understood that they cannot live without being sensitive to environmental problems. In addition, these enterprises are more preferred than other enterprises by tourists in the tourism industry.

Hotels practice sustainability for their future. Also, hotels in Turkey go towards the practice of sustainability. Hotels are not only supposed to operate and survive by preserving nature but also decrease their cost thanks to this concept. The aim of this research is to reveal the percentage of “Green Star” criteria and practices of the enterprises that serve tourism. On the other hand, another purpose of the study is whether differences between locations or their statues (e.g. 1-star hotels,2-star hotels, etc.) for practicing “Green Star”.

1.3. Methodology and Data

The thesis was generated by primary data. Quantitative and qualitative research methods were used in the thesis. Typical quantitative techniques that I used hypothesis testing. For the qualitative research that I used questionnaires. Secondary data was used from Republic of Turkey Ministry of Culture and Tourism

Hypothesis testing: After formulating the hypothesis, all of them are analyzed and tested. I collected and analyzed data which will help me to either support or reject the hypothesis.

Questionnaire: A questionnaire was conducted with some hotel managers about hotels where they work in the city center of İzmir or Kusadası. The questionnaire contains several questions related to the issue that I analyzed.

1.4. Research questions

Questions which will be answered within the scope of this study are as follows:

- ☞ What are the levels of application of Green Star criteria for the hotels in the city center of Izmir and Kusadası?
- ☞ Are there any differences in the practice level of the Green Star criteria for the hotels according to the classification of hotels?

- ☞ Do the practice levels of the Green Star criteria vary according to the city where the hotels operate?

1.5. Hypothesis

The following hypotheses will drive this study:

H1: Number of hotels which have green star increase year by year

H2: There is a statistical difference between hotels in which are located in the city center of Izmir and Kusadası for practicing sustainability.

H3: There is a statistical difference between star rating system of hotels for practicing sustainability.

H4: There is a statistical difference between target of hotels for practicing sustainability.

H5: There is a statistical difference between the size of hotels for practicing sustainability

2. Literature Review

2.1. Tourism

Tourism is a recreational travel or trip for enjoyment. Today, tourism is called a smokeless industry. There are lots of definitions of tourism. According to UNWTO (2005 - 2007) *"tourism comprises the activities of persons traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business, and other purposes."* Another definition *is "Tourism is defined as the activities of persons identified as visitors. A visitor is someone who is making a visit to the main destination outside his/her usual environment for less than a year for any main purpose (including) holidays, leisure and recreation, business, health, education, or other purposes…. This scope is much wider than the traditional perception of tourists, which included only those traveling for leisure"* (UNWTO, UNWTO Statistics Guidelines, 2010). Another definition of tourism *is "the business of providing services such as transport, places to stay, or entertainment for people on holiday"* (Cambridge, 2019)

Generally, the definition of tourism consists of these statements:

- ☞ Tourism is an activity in which people want to go and stay in different places. People go to different places from where they live and work for the purpose of travel thanks to tourism.
- ☞ Tourists are consumers in the places they visit.

If I define tourism according to these statements, tourism is a journey and temporarily accommodation in which tourists go to other places for vacation, amusement, and recreation.

There are many definitions of tourism like the above written, until today. The reason is that, tourism is all-round and has a complicated interaction. Tourism has several characteristics. These are:

- ☞ Tourism is a socio-cultural activity which composed cultural and social value, and tourism product is all accumulations which offer perceptibly.
- ☞ Tourism has a feature of fiscal as the result of tourist expenditures.

- ☞ Tourism is an economic activity which needed to protect the environment, historical and cultural structure.
- ☞ Tourism is one of the invisible export sectors. Because, spends of tourist for consuming is processed as an export with inflow of foreign currency.
- ☞ The tourism industry is close to the other sectors.
- ☞ Tourism is a sector that influences easily from the bad things, such as; terrorism, natural disasters, political and economic incidents.
- ☞ Tourism consists of 2 factors, such as; dynamic and static. Static factors are briefly defined as accommodation enterprises. Dynamic factors are briefly defined as transportation vehicles.

Tourism has a development process like all activities. Today, tourism facts have come since ancient times, and today's meaning of tourism was formed after World War II.

- **Ancient History (3300 BC – 375 AD)**

Generally, the reason for the travels in Ancient history is cultural, commercial, religious and military. Tourism activity starts with the invention of writing, money, and wheels by Sumerians in 3300 BC. The invention of wheels has contributed to the acceleration of travels.

Probably the Phoenicians were the first travelers in today's context, only because of the fact that they were sailors who travels for trading.

People from Ancient History planned trips to Ancient Egypt in order to see the pyramids and temples in 3000 B.C. In Ancient Egypt and Babylon Empire, they built houses and gardens for accommodation and resting, they secured trade routes for travelers.

In 776 BC, the Olympic games were seen in Ancient Greek. These games were the first sports games. Lots of people travel to the Olympia Region for watching the Olympic games.

"In 334 BC Ephesus State was found by Alexander the Great in Anatolia. This state became an important tourist destination in ancient times. Around 700,000 people visited Ephesus in one season" (Olalı, 1982).

☞ **Medieval (Middle) Age (375 AD – 1453 AD)**

The non-productive period began in recreation, enjoyment and medical tourism between the migration of the tribes in 375 and the conquest of Constantinople, whose modern name is Istanbul in 1453, although trips for the purpose of religion have increased. After the fall of the Roman Empire and the division of two parts, Western and Eastern, tourism has a negative impact. Crusades are the best example of travel for the purposes of religion.

Accommodation enterprises are one of the most important service enterprises in the tourism sector. The first example of accommodation enterprises appeared in Europe. These enterprises were called as "Hopis" at that time and travelers who pass the Alps for going on pilgrimage to accommodate in these enterprises in Medieval Age. Over time, this world has changed into "Hotel".

☞ **Early Modern Age (1453 – 1789)**

After the conquest of Constantinople which the modern name is Istanbul, scientists who live in Byzantine took refuge to the West Roman Empire. As a result of this, the sympathy of ancient culture and ancient works in the West Roman Empire increased. Thanks to this situation, travels for seeing ancient works in the West Roman Empire increased.

In 1672, the first travel guide was organized in France for travelers who want to see different places and learning knowledge before going. This guide not only for French but also other travelers who want to visit France. "Tour" word together with this guide has meant the first time to travel to different areas.

"Tour" word is used for the first time in the United Kingdom. However, this word was said only for traveling from the United Kingdom to Europe.

☞ **18^{th} – 19^{th} Century**

Bourgeoisie who appears with the French Revolution and upper class has influenced the tourism movement. Foundation of modern tourism was formed by the Industrial Revolution and trends of new economic and political reasons. The tourism movement got easy to join economic growth with the Industrial Revolution. The development of transportation technology is the main factor of an accelerator to the tourism movement.

In 1830, the development of railway transport and ship which work with steam power had a role in mass travel. In 1841, travel which was organized by Thomas Cook was the first mass travel and considered as the beginning of the modern tourism era. Thomas Cook was known as the first tour operator. He opened the first tourism agency in 1840. Now his tourism agency is one of the biggest travel agencies in the world.

American Express Company which was found for mail transportation, was considered as important for the development of mass tourism. In 1838, the first cruise line was considered as beginning with the "Great Western" ship which transport travelers between New York and the United Kingdom. In 1842, “Cunard” which is a British–American cruise line was found.

☞ **20th Century**

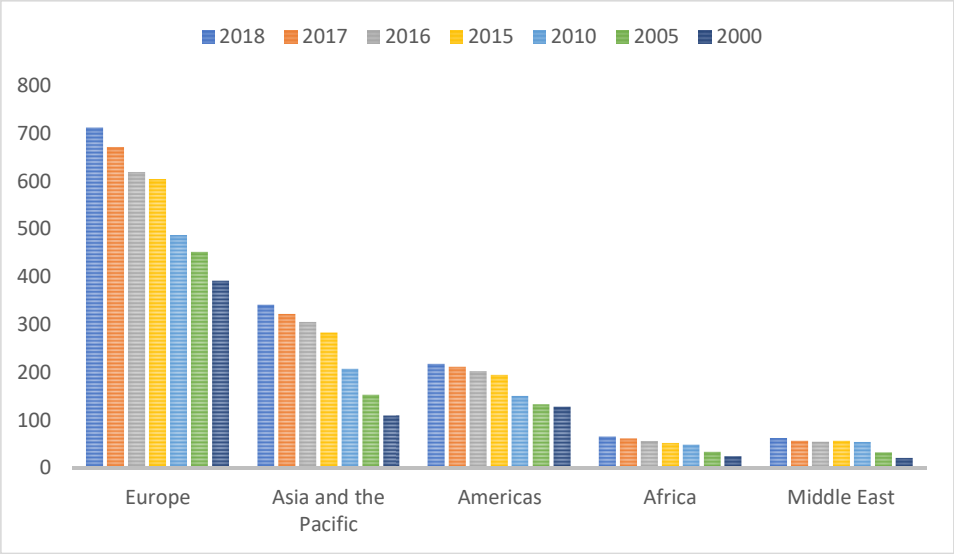
World Wars affected economic and social welfare; so, tourism activities influenced negatively. On the other hand, the invention of the automobile had an important role in the development of tourism. The invention of the automobile increased the mobility of people.

Transportation between Europe and America with transatlantic was the most famous type of transportation at the beginning of the 20th century. At the same time, transportation between Paris – Venezia – Istanbul, was of interest to the upper class and aristocrats.

Today, tourism is an industry for not only developed countries but also developing countries that provide foreign currency inflow, giving a positive impact on employment, increasing communication and interaction of countries. Tourism develops continuously, and the tourism sector is flexible. Figure 1 which is given below shows international tourist arrivals for regions in the World. In 2018, the size of the tourism sector has reached nearly 1,4 billion. The number of international tourist arrivals has increased by nearly 99% between

2000 – 2018 years. Figure 2 which is given below shows international tourism receipts between 2010 – 2018.

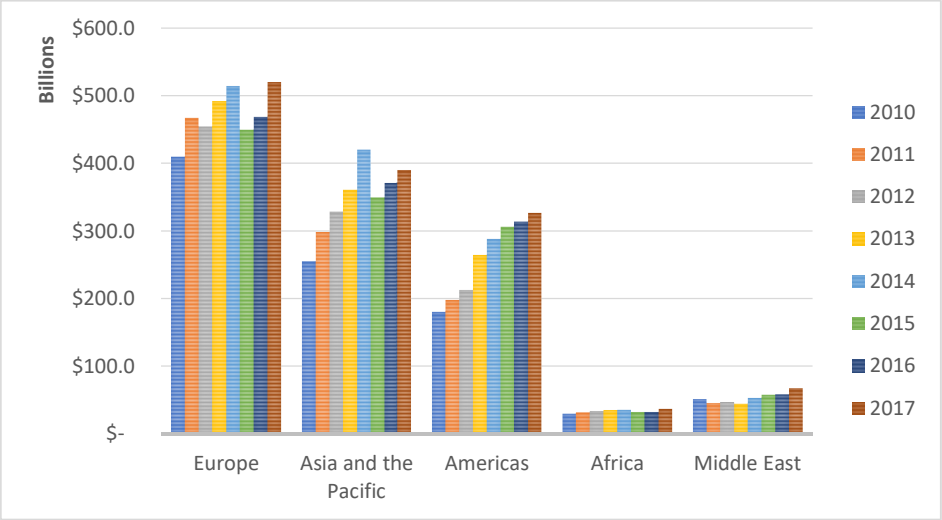
Figure 1: International Tourist Arrivals, 2000-2017 (millions)



Source: UNWTO. (2019). *World Tourism Barometer.*

According to Figure 1, most of the international tourists visited Europe between 2000 - 2018. Europe is the main tourist attraction, the rest of the world, Asia and the Pacific have the highest rate of change to the international tourist number. This number is nearly 67% and the respectively Middle East which has a nearly 65% changing international tourist number, Africa has nearly the same rate with the Middle East. According to Picture 1, the second most popular tourist destination is Asia and the Pacific. 342,6 million people visited Asia and the Pacific between 2000 – 2018.

Figure 2: International Tourism Receipts between 2010-2017



Source: UNWTO. (2011 - 2018). *UNWTO Tourism Highlights.*

According to Figure 2, Europe has the highest tourism receipts between 2010 – 2018. At the end of 2017, this number reached over 500 billion dollars. The tourism receipts in Europe is fluctuant. Asia and Pacific have the second region for tourism receipts. The highest tourism receipts of Asia And Pacific was in 2014. This was nearly $420 billion. America has the third highest tourism receipts. The tourism receipts in America has increased year by year. At the end of 2017, tourism receipts in America were $326 billion. Africa and the Middle East have the lowest tourism receipts between 2010 – 2017. The average tourism receipts in Africa was nearly $34 billion and the average tourism receipts in the Middle East was nearly $53 billion.

Tourism is a socio-economic activity that begins with an economic decision to use free time and savings and has an economic aspect such as investment, consumption, employment, exports, public revenues. International tourism is the largest element of international trade. Tourism is the main export item for many countries, and tourism is the sector that provides the highest inflows in foreign currency. At the end of the 1920s, tourism became a major sector for some economies in some countries. Table 1 shows tourism in some countries between 2013 and 2017. USA is the number one country for admission to international tourism. The United States International Tourist Recipes contributed an average of $ 196.8 billion to the US economy between 2013 and 2017. The international rating for tourism is important for the economies of France and Spain. An international tourist certificate is important for closing the current deficit for all countries.

Table 1 : International Tourism Receipt by Countries, 2013-2017 (millions)

	2013	2014	2015	2016	2017
United Kingdom	$ 41.208,00	$ 46.539,00	$ 45.642,00	$ 47.906,00	$ 51.211,00
France	$ 56.683,00	$ 58.147,00	$ 44.858,00	$ 54.531,00	$ 60.681,00
Germany	$ 41.279,00	$ 43.321,00	$ 36.908,00	$ 37.455,00	$ 39.823,00
Greece	$ 16.139,00	$ 17.793,00	$ 15.653,00	$ 14.619,00	$ 16.528,00
Spain	$ 65.565,00	$ 65.111,00	$ 56.468,00	$ 60.503,00	$ 67.964,00
Turkey	$ 27.977,00	$ 29.562,00	$ 26.616,00	$ 18.743,00	$ 22.478,00
USA	$ 172.901,00	$ 191.918,00	$ 205.418,00	$ 206.902,00	$ 210.747,00

Source: UNWTO. (2011 - 2018). *UNWTO Tourism Highlights.*

Table 2: Share of Tourism in GDP, 2013-2017

	2013	2014	2015	2016	2017
United Kingdom	1,5%	1,5%	1,6%	1,8%	2,0%
France	2,0%	2,0%	1,8%	2,2%	2,3%
Germany	1,1%	1,1%	1,1%	1,1%	1,1%
Greece	6,7%	7,5%	8,0%	7,6%	8,3%
Spain	4,8%	4,7%	4,7%	4,9%	5,2%
Turkey	2,9%	3,2%	3,1%	2,2%	2,6%
USA	1,0%	1,1%	1,1%	1,1%	1,1%

Source: UNWTO. (2011 - 2018). *UNWTO Tourism Highlights.*

Source: worldbank. *data.worldbank.org*. Retrieved from data.worldbank.org: https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?end=2017&start=2013

The earning of foreign currency from tourism for developed countries is higher than in developing countries. However, tourism receipts for developing countries is very important. From this aspect, economic benefits for developing countries is higher than in developed countries. Table 2. shows the share of tourism in the GDP of countries. According to table 2. share of tourism in Greece is the highest one between 2013 – 2017. Tourism is one of the important sectors for Greece's economy. Secondly, the share of tourism is very important for the economy of Spain.

"Forecasts to the year 2020 predict growth in tourism in all regions of the world, with the strongest relative growth occurring in parts of the developing world. Although Europe, the Americas, and East Asia and the Pacific will account for 80 per cent of total arrivals, and thus continue to dominate in terms of volume, international tourist arrivals to Africa are forecast to grow, on average, by 5.5 per cent per year during this period and those to South Asia by more than 6 per cent, compared with a world average of just over 4 per cent." (UNWTO, UNEP, 2005)

According to Lemma (2014) "*tourism has direct, indirect and induced impacts on local economies, these can often be largely divergent between countries, based on the*

structure of the sector but most importantly on how well linked tourism activities are with the local economy." The economic impact of tourism divided into 3 categories:

- ***"Direct impact** represents GDP generated by activities that directly deal with tourism such as hotels, travel agents, airlines and tour operators as well as restaurants and other activities that cater to tourists.*
- ***Indirect Impacts**, impacts which accrue due to the activities undertaken by the sector, and are a function of three different factors:*
  - ***Capital Investment in tourism:** Includes capital investment within all sectors that are directly involved in the tourism industry as well as spending by enterprises in other sectors on tourism assets such as transport or accommodation.*
  - ***Government Spending for Tourism:** Government spending to support the tourism sector, which can include both national and local spending. Activities include tourism promotion, visitor services, administration etc.*
  - ***Supply Chain Effects:** These represent the purchase of domestic goods and services, as inputs to the production of their final outputs, by enterprises within the tourism sector*
- ***Induced Impacts** represents the wider contribution of tourism through the expenditure of those who are directly or indirectly employed by the tourism sector.* (Lemma, 2014)*"*

Although tourism has a positive impact on certain areas, tourism also causes social problems. Not always has a positive impact on tourism. The development of tourism in one region or state can cause both positive and negative impacts. The positive impacts of tourism are:

- ***Impact on a balance of international payments***; tourism is an export activity which has an effect on the balance of international payments. If foreign exchange earnings are higher than foreign exchange expense, it has a positive effect on the balance of international payments.

- ***income-generating effect;*** the most important and positive effect of tourism is an income-generating effect. Expenses of tourists for tourism in a country or region generates an income or wage in this country or region.
- ***Impact on employment;*** the tourism sector is a labor force incentive. The development of tourism creates a new area of investment and business distinct; so, the demand for labor force increases together with employment.
- ***Impact on other economic sectors;*** tourism affects agriculture, industry and service sectors. The increased demand for agriculture in the tourist season provides an increase in GDP along with more quality goods and services. The effect of tourism is high for consumer goods and intermediate goods industries but is low for investment goods.
- ***Impact on infrastructure and superstructure;*** generally, public sectors invest infrastructure and private sectors invest superstructure. At the same time, this investment means the additional capacity for the tourism sector. The increasing demand for tourism influences not only the number of investments to the tourism sector but also the number of investments to another sector.
- ***Impact on public revenues and public expenditures;*** public revenues from tourism consists of taxes from enterprises which operates in tourism area, taxes from tourist expenses and entrance fee of natural parks, museums, ruins, etc. public revenues from tourism consists of researches, advertisement, introduction, cost of infrastructure and superstructure, etc.

There is not always a positive impact of tourism. Negative impacts of tourism are:

- ***Impact on import;*** some consumption goods necessitate import. Tourism may increase the propensity to import because of technological investment.
- ***Impact on inflation;*** the price of tourism products increases along with the tourist season due to the fact that the purchasing power of foreign tourists is higher than the local community. By increasing the price of tourism products, the price of these goods is increasing; So, the rate of inflation is increasing for this area. In addition, the price of real estate and land is increasing due to the inflation rate.

- ***Impact on opportunity cost;*** the opportunity cost of tourism is comparing between revenue from investment of tourism sector and expected revenue from investment of other sectors.

- ***Impact on seasonality;*** Impact on the season; In general, tourism activity concentrates at certain times and demand is high in these times. This situation causes the accommodation enterprises to stop working or to work with low incomes. Also, part of the workforce is rejected; So, there is a problem with the seasonal labor force and GDP per capita per capita.
- ***"Leakage;*** *The direct income for an area is the amount of tourist expenditure that remains locally after taxes, profits, and wages are paid outside the area and after imports are purchased; these subtracted amounts are called leakage. In most all-inclusive package tours, about 80% of travelers' expenditures go to the airlines, hotels and other international companies (who often have their headquarters in the travelers' home countries), and not to local businesses or workers."* (U.E.N.P, 2000)

The tourism sector has great potential for developing rapidly when tourism is well-planned and well-controlled for one region or country. Natural, cultural, historical beauties and riches are the raw material of the tourism sector. Environmental consciousness will be increased by developing tourism in a region or country for sustainability in the tourism sector. According to this perspective, tourism's positive impacts on the environment are:

- ***Preserving natural areas;*** tourism helps to preserve and develop marine life and regional or natural parks.
- ***Preserving to archeological areas, historical sites and architectural design of these sites;*** tourism helps to preserve historical and archaeological sites, causing caring to these sites.
- ***Increasing quality of environment and environmental consciousness;*** thanks to the tourists, the significance of the natural and artificial environment, where the locals

do not show interest, increases the awareness of the environment of the public administration and tourism enterprises.

Tourism destinations pull mass tourist. As a result of this, some environmental problems are seen:

- *"Pollution (air, water, noise, solid waste, and visual)*
- *Loss of natural landscape and agricultural lands to tourism development*
- *Loss of open space*
- *Destruction of flora and fauna (including collection of plants, animals, rocks, coral, or artifacts by or for tourists)*
- *Degradation of landscape, historic sites, and monuments*
- *Disruption of wildlife breeding cycles and behaviors"* (Kreag, 2001)

2.2. Tourism and Sustainability

Sustainability is known as the ability of the ecosystem to be sustained uninterruptedly, unmolested and exaggerated. The basis for sustainability is the conservation and development of resources. The root of "sustainability" comes from "Sustinere", which is a Latin word. The term sustainability was added to the agenda of the World Commission on Environment and Development in 1987 and was not defined until the Rio Conference in 1992.

"Sustainable development is therefore about creating a better life for all people in ways that will be as viable in the future as they are at present. In other words, sustainable development is based on principles of sound husbandry of the world's resources, and on equity in the way those resources are used and in the way in which the benefits obtained from them are distributed. Three dimensions or 'pillars' of sustainable development are now recognized and underlined. These are:

- ***Economic sustainability**, which means generating prosperity at different levels of society and addressing the cost effectiveness of all economic activity. Crucially, it is*

about the viability of enterprises and activities and their ability to be maintained in the long term

- ***Social sustainability**, which means respecting human rights and equal opportunities for all in society. It requires an equitable distribution of benefits, with a focus on alleviating poverty. There is an emphasis on local communities, maintaining and strengthening their life support systems, recognizing and respecting different cultures and avoiding any form of exploitation.*
- ***Environmental sustainability**, which means conserving and managing resources, especially those that are not renewable or are precious in terms of life support. It requires action to minimize pollution of air, land and water, and to conserve biological diversity and natural heritage."* (UNWTO, UNEP, 2005)

Tourism has a special position in contribution to sustainable development. The first mission is dynamism and growth of the sector, the second one is tourism has a special relationship between consumers (visitors), the industry, the environment and local communities. There are three important and unique aspects of the relationship between tourism and sustainable development. These aspects are shown in table 3:

Table 3: Three Aspects of Tourism and Sustainable Development

Interaction:	The nature of tourism, as a service industry that is based on delivering an experience of new places, which means that it involves a considerable amount of interaction, both direct and indirect, between visitors, host communities and their local environments.
Awareness:	Tourism makes people (visitors and hosts) become far more conscious of environmental issues and differences between nations and cultures. This can affect attitudes and concerns for sustainability issues not only while travelling but throughout people's lives.
Dependency:	Much of tourism is based on visitors seeking to experience intact and clean environments, attractive natural areas, authentic historic and cultural traditions, and welcoming hosts with whom they have a good relationship. The industry depends on these attributes being in place.

Source: Adapted from *UNWTO, UNEP. (2005). Making Tourism More Sustainable - A Guide for Policy Makers. P.9-10*

Tourism consists of natural and cultural resources and the use of unsustainable tourist resources destroys tourism. Today tourists are looking for preferences of tourism change and sustainable tourism. This situation reveals the term for sustainable tourism. Sustainable tourism is the main approach that determines the reason for the inadequacy of tourism practices and solutions and aims to reduce the negative impact of tourism. *"sustainable tourism is tourism which develops as quickly as possible, taking account of current accommodation capacity, the local population and environment… The development of tourism and new investment in the tourism sector shouldn't detract from tourism itself… New tourism facilities should be integrated with the environment."* (Swarbrooke, 1999). Other definitions of *"Sustainable tourism development guidelines and management practices apply to all forms of tourism in all types of destinations, including mass tourism and the various niche tourism segments. Sustainability principles refer to the environmental, economic and socio-cultural aspects of tourism development, and a suitable balance must be established between these three dimensions to guarantee its long-term sustainability."* (UNWTO, UNEP, 2005). Another definition for UNWTO is *"tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities"* (UNWTO, 2013). Characteristics of sustainable tourism are:

- ☞ *"Make optimal use of environmental resources that constitute a key element in tourism development, maintaining essential ecological processes and helping to conserve natural resources and biodiversity*
- ☞ *Respect the socio-cultural authenticity of host communities, conserve their built and living cultural heritage and traditional values, and contribute to inter-cultural understanding and tolerance.*
- ☞ *Ensure viable, long-term economic operations, providing socio-economic benefits to all stakeholders that are fairly distributed, including stable employment and income-earning opportunities and social services to host communities, and contributing to poverty alleviation."* (UNWTO, UNEP, 2005).

2.2.1. Sustainable tourism principles

"A fundamental requirement of the tourism sector is that it should embrace the principles of sustainable tourism and focus on the achievement of sustainable development goals.

Sustainable tourism should not be regarded as a separate component of tourism, as a set of niche products, but rather as a condition of the tourism sector as a whole, which should work to become more sustainable" (UNWTO, 2013).

"*A further elaboration of sustainable tourism by UNWTO refers to the need for it to:*

- ☞ *Make optimal use of environmental resources that constitute a key element in tourism development, maintaining essential ecological processes and helping to conserve natural heritage and biodiversity.*
- ☞ *Respect the socio-cultural authenticity of host communities, conserve their built and living cultural heritage and traditional values, and contribute to inter-cultural understanding and tolerance.*
- ☞ *Ensure viable, long-term economic operations, providing socio-economic benefits to all stakeholders that are fairly distributed, including stable employment and income-earning opportunities and social services to host communities, and contributing to poverty alleviation"* (UNWTO, 2013).

There are 12 aim of sustainable tourism. Table 4. shows these aims:

Table 4: 12 Aims Identified for Sustainable Tourism

Economic viability	Ensure the viability and competitiveness of tourism destinations and enterprises, so that they are able to continue to prosper and deliver benefits in the long term.
Local prosperity	Maximize the contribution of tourism to the prosperity of the host destination, including the proportion of visitor spending that is

	retained locally.
Employment quality	Strengthen the number and quality of local jobs created and supported by tourism, including the level of pay, conditions of service and availability to all without discrimination by gender, race, disability or in other ways.
Social equity	Seek a widespread distribution of economic and social benefits from tourism throughout the recipient community, including improving opportunities, income and services available to the poor.
Visitor fulfilment	Provide a safe, satisfying and fulfilling experience for visitors, available to all without discrimination by gender, race, disability or in other ways.
Local control	Engage and empower local communities in planning and decision making about the management and future development of tourism in their area, in consultation with other stakeholders.
Community wellbeing	Maintain and strengthen the quality of life in local communities, including social structures and access to resources, amenities and life support systems, avoiding any form of social degradation or exploitation.
Cultural richness	Respect and enhance the historic heritage, authentic culture, traditions and distinctiveness of host communities.
Physical integrity	Maintain and enhance the quality of landscapes, both urban and rural, and avoid the physical and visual degradation of the environment.

Biological Diversity	Support the conservation of natural areas, habitats and wildlife, and minimize damage to them.
Resource efficiency	Minimize the use of scarce and non-renewable resources in the development and operation of tourism facilities and services.
Environmental purity	Minimize the pollution of air, water and land and the generation of waste by tourism enterprises and visitors.

Source: Adapted from *UNWTO, UNEP. (2005). Making Tourism More Sustainable - A Guide for Policy Makers. p. 18 – 19*

2.2.2. The key actors in sustainable tourism

There are 5 actors in sustainable tourism. These are: the public sector, the tourism industry, the host community, the media and the tourist.

- **The public sector**

"The public sector refers to those bodies that are meant to stand for the entire community and/or public interests and are supposed to act delegated to the total population" (Swarbrooke, 1999). The public sector has a potential role in the development of sustainable tourism. For example; regulation, funding, government control over tourism sustainability, etc.

- **The tourism industry**

"there are a wide range of sizes and types of organizations within the tourism industry, like different locally, regionally, nationally owned and controlled small, medium, and large enterprises." (Swarbrooke, 1999)

Figure 3: Tourism Sectors and Geographical Aspects of the Tourism Industry

Generating Zone	Transition Zone	Destination Zone
• Tour operator • Travel agencies • Travel media	• It means tranportation vehicles (bus, train, plane ferry, etc.)	• Acoomodation entreprises • Tourist guides • Visitor attractions • Tourist information office

Source: Adapted from *Swarbrooke, J. (1999). Sustainable Tourism Management. Cabi. p. 104*

- **The host community**

The host community means people who live in a tourism destination. The host community might become an active player for using different methods to get benefits that can guide to ultimate community prosperity.

- **The media**

"It is obvious that in the tourism area, travel media and non-travel media take a very important position in advising and guiding tourists, as well as shaping tourist's behavior. Constructing a sound environment for the tourist and the tourism industry is the primary and crucial task by all kinds of media, and this is also a decisive foundation to move tourism towards more sustainability". (Huang, 2011)

- **The tourist**

Although tourist has problems and negative impacts in the tourism industry, many researchers argue that tourists can also bring profits and responsibilities. *"It is vital that raising awareness among tourists can significantly influence the development of sustainable tourism"* (Huang, 2011).

2.3. Sustainability in Accommodation Industry

With visible economic development, mass tourism activities had a positive impact and the number of mass tourism activities increased year by year. The environment has had

a negative impact over the years, along with huge investments in sea and sun tourism and increased demand. This situation has caused a problem in the environment from year to year.

The tourism industry is one of the sectors that destroy the environment, along with the use of energy, water, waste and the highest carbon dioxide emissions. At this point, it is very important to develop sustainable tourism and its practices that are rapidly increasing, preserving the activities of accommodation companies for nature, the local community, the destination, etc. For this reason, the term eco-hotel or ecologically-friendly hotels has risen daily.

Eco or ecological hotels are one of the hotels saving energy and water, reducing solid waste, recycling and reusing the program, developing sustainable landscapes and economic solutions. Popular hotels for the future are called ecological hotels or eco hotels or green hotels. *"Sustainability will be one of the key factors in the future for the hotel industry. With the ever-growing emissions, greenhouse gases and general population, the hospitality industry will be either voluntarily or involuntarily forced to change their classic business operations into sustainable ones"* (Rakická, 2016).

"The hospitality industry set about incorporating the philosophy of sustainability in the early 1990s. With the publishing of Agenda 21 for the Travel and Tourism Industry, for the first time, individual businesses and the hospitality industry were encouraged to adopt codes of conduct promoting sustainable travel and tourism best practice" (Philip Sloan, Willy Legrand, Joseph S. Chen, 2013). The first fully sustainable and environmentally friendly hotel was first established in 2008. This hotel used renewable energy for its solar panels and wind energy on the roof, installed rain mechanisms and devices for using rainwater in the toilets and for irrigation. *"The InterContinental Hotel Group (IHG) is believed to be the first hotel chain to introduce a set of guidelines for hotels wishing to become sustainable and green, where they proposed the so-called ''innovation hotel'' model, based on the usage of renewable and clean energy sources for the operations"* (Rakická, 2016).

Tourist companies are striving for these statements, which are found below along with the continuation of their nature conservation activities:

- ☞ To decrease costs

- ☞ To increase quality of products
- ☞ To develop relationship between local community
- ☞ To develop relationships between local authority

Accommodation enterprises and some projects are rewarded by certificates of an environmental management system which is called as eco-label for preserving the environment for decreasing the cost of energy, answering the changing tourist profile and take advantage for competition. Some examples of these certificates are:

1. **Bio hotels:** Hotels which have a Bio hotel certification, use only organic and regional products and purchase only organic certified products. Maximum three exceptions are allowed in this certification. For wild harvesting is generally allowed but the product must be sustainably certified. For beverage, the standard must be also only organic quality. Exceptions mustn't consist of coffee and cocoa.
2. **Green Star Hotel:** Green star hotel certificate is a national certificate programme in Egypt. It is the first step to sustainability for the tourism industry in Egypt.
3. **Green Flag Award:** "*The Green Flag Award® scheme recognises and rewards well managed parks and green spaces, setting the benchmark standard for the management of recreational outdoor spaces across the United Kingdom and around the world"* (www.greenflagaward.org).Its purposes are:

    - ☞ *"To ensure that everybody has access to quality green and other open spaces, irrespective of where they live.*
    - ☞ *To ensure that these spaces are appropriately managed and meet the needs of the communities that they serve.*
    - ☞ *To establish standards of good management.*
    - ☞ *To promote and share good practice amongst the green space sector.*
    - ☞ *To recognize and reward the hard work of managers, staff and volunteers."* (www.greenflagaward.org)

4. **International Eco Certification Program:** International ECO Certification program warrants travellers that certified products are supported by a strong to sustainable practices and provides high-quality nature-based tourism experiences. Nature tourism, eco-tourism and advanced eco-tourism are three levels International Eco Certification Program.
5. **Sustainable Tourism Eco-Certification Program:** Sustainable Tourism Eco-Certification Program is a non-profit organization and found in 2002. It is known as shortly STEP. It offers certification for tour operators, accommodations, luxury accommodation, attractions, transportation service providers, cruise line tour operators.
6. **LEED (Leadership in Energy & Environmental Design):** LEED which is one of the most popular green building certification programs used worldwide, developed by U.S. Green Building Council (USGBC). it consists of a set of rating systems for the design, construction, operation, and maintenance of green buildings, homes, and neighborhoods for helping to owners and operators of a building are environmentally responsible and use resources efficiently.

7. **ISO 14000 and ISO 14001:** These are environmental standard series which developed and published by the International Organization for Standardization (ISO) for organizations. These are a specific requirement of an environmental management system.
8. **Green Globe:** The Green Globe certification is a main assessment of the sustainability performance for the travel and tourism businesses and their supply chain partners. Green Globe certification has 44 criteria. *"It has for 20 different sectors of the travel and tourism industry, four very broad standards only: company standard, standard for communities, international ecotourism standard and design/construction standards."* (Susanne Klepsch, Julia Schneider, 2012)
9. **Green Key award:** Green Key is an international eco-label awarded to accommodations and other hospitality facilities for their sustainable business practices. Accommodations and other hospitality facilities award after very strict criteria. Its aim contributes to the prevention of climate change. Green Key is one of

the largest eco-labels for the hospitality industry worldwide and currently has more than 2,900 awarded hotels and other establishments in 57 countries.

10. **TUI Umwelt Champion & Eco Resort:** It is a sustainability program which is developed and published by one of the biggest tourism companies TUI in 1996. TUI's purpose with this label is to enhance hoteliers' awareness and commitment to sustainability.
11. **Blue Flag:** Blue Flag is an eco-certification for beaches and marinas. Blue Flag means that beaches or marinas are clean and accessible. Beaches or marinas have great water quality. Beaches or marinas meet high safety standards. Beaches or marinas are working hard to protect local shorelines and ecosystems.
12. **Travelife:** Travelife certification awards for encouraging sustainability to enterprises.
13. **GTBS (Green Tourism Business Scheme):** This certification programme began in 1997 and especially there are 2000 members in the United Kingdom. For awarding GTBS certificate, enterprises must perform some criteria like as environmental conscience, energy and water saving, buying and using local products, etc.

There are 3 steps for sustainability in the accommodation industry. These are; design step, construction step and management step. It is possible to say that hotels practice sustainability with fulfilling the criteria of these 3 steps. Moreover, hotels can be sustainable in 4 ways:

- ***Eco Lodge (Sense of Place):*** Ecotourism is a synonym of sustainable tourism; moreover, at the same time one of the sustainable tourism figure and form of the bottom side of sustainable tourism. Ecotourism influences the socio-cultural environment by contributing to sustainability while preserving the environment. The ecolodge is generally called a subsidiary of sustainable tourism. Ecolodge which has a role of preserving natural life and increasing prosperity of community should construct. Because eco-lodges contribute to developing of sustainable tourism.
- ***Sustainable Green Hotel:*** Sustainable hotel or green hotel is an enterprise which consuming fewer energy and water, reducing the emission of CO2, positively affecting climate change, constructing with environmentally friendly and recyclable materials. With starting to spread of sustainable tourism, from boutique hotels to

chain hotels have changed their hotel design and management. Some of the green hotels don't have electronic devices, some of them change towels and sheets.

- ***Corporate Social Responsibility:*** It is understood from the term of corporate social responsibility that, generally, enterprises perform their activities without harming the nature and the environment while they are producing in line with the objectives of sustainable growth. Corporate social responsibility which defined as a mission of enterprises for better community and enterprises is seen as a way for satisfying to buy green products which enterprises perform sustainable activities by people who cannot participate contributing activities to the community. Enterprises which perform in the tourism industry, should increase personal education and awareness, act general environmental management with preserving biodiversity, buy eco-label products, the practice of sustainability.
- ***Sustainable tourism approach:*** Tourism and environment have a strong relationship with each other. At some points, the attractiveness of the environment is the source of the tourism movement; so, the environment is very important for accommodation enterprises. Sustainable tourism trend increases rapidly because of climate change and decreasing resources. So, enterprises should make eco-innovation, environmental innovation with sustainable tourism approach.

2.3.1. Practices of sustainable in hotel industry

Development of technological, social and economic, misapplying environment policies cause destroying of environment. The tourism industry is one of the areas seen these problems. There is continuous interaction between tourism and the environment.

Environmental impact of accommodation enterprises which are the main components of the tourism industry is very important. *"Within the hotel sector, the areas of concern for the environment include pollution through solid and liquid waste, high energy consumption and the increasing release of greenhouse gases that cause changes in the atmosphere"* (Miriam Mbasera, Engelina Du Plessis, Melville Saayman, Martinette Kruger, 2015). Considering needs like heating, cooling, housekeeping, baths, pools, kitchen of accommodation enterprises, green areas such as golf area, garden, etc., the consumption of resources which consumed by in-house tourists are very high. As a result of these problems, constructions which called as environment-friendly hotels or green hotels, have appeared.

"Green Hotels are environmentally sustainable properties whose managers are eager to institute programmes that save water, save energy and reduce solid waste while saving money to help protect our one and only earth" (Philip Sloan, Willy Legrand, Joseph S. Chen, 2013). Green hotels which have a mission of preserving nature and management practice of sustainable tourism, help to both energy saving of accommodation enterprises and decreasing of waste. Green hotels are very important to practice in the tourism industry. Competitions, sustainability approach of consumers and non-governmental organizations (NGOs), environmental policies of countries are the reason for choosing sustainable tourism.

Sustainability practices of hotels decrease cots, save energy and water, decrease consumption of environmentally hazardous substances, encourage use renewable energy and recycle materials. Moreover, green hotels have advantages like competition, recognition at media, minimizing risk. *"Quite a number of best practices are undertaken in the hotel sector in this regard. This will render the sector more sustainable and environmentally friendly. Given that 85% of leisure travellers consider themselves environmentally conscious"* (Miriam Mbasera, Engelina Du Plessis, Melville Saayman, Martinette Kruger, 2015).

2.3.1.1. Reduce water consumption

It isn't possible to produce and give service without water in the accommodation enterprises. Tourists consume a high volume of water. Water consumption is very high in baths, pools, laundry, gardening, sports activities and golf courses of accommodation enterprises. For reducing water consumption, accommodation enterprises should: *"There is an urgent need for hotels, guesthouses, restaurants and golf courses to better manage wastewater, protect the environment and meet a growing customer demand for environmentally-friendly facilities"* (UNEP, 2003). For reducing water consumption, accommodation enterprises should:

- ☞ To repair draining toilet tanks, faucets, etc. Because draining toilets tank consumes 185 liters water per day.
- ☞ To use dual flush toilet mechanism.
- ☞ All toilet tanks convert to consume 6 liters per flush.
- ☞ Normal shower heads consume an average 15 – 22 liters of water per minute. But it is possible to decrease 7 – 9.5 liters per minute with air exhauster shower heads.

- ☞ Normal faucets consume average 8 – 10 liters water per a minute. But it is possible to decrease 4 – 6 liters per a minute with air exhauster faucets.
- ☞ To use faucets with sensor in bars and lavabos. Don't allow to unnecessary drained water.
- ☞ Don't run the dishwasher without topping up. Because it consumes water, energy, detergent same as full.
- ☞ To prefer consuming 320-litre water of dishwasher with a shelf or consuming 150 liters water of dishwasher with strappy.
- ☞ To prefer washing machine which consuming low water and energy in laundry.
- ☞ Don't run the washing machine without topping up. Because it consumes water, energy, detergent same as full.
- ☞ To install a drainage system around the pools for reusing the water.
- ☞ To water the lawn at nights in 2 or 3 times a week.
- ☞ To use a timer for watering the lawn.
- ☞ To use drip irrigation system for watering.
- ☞ To plant drought tolerance herbs and flowers.
- ☞ To collect rainwater in one area and use this water in toilets, kitchen and watering the plants.
- ☞ To stick an information papers in toilets, lobby, etc. for guests and staff use a water efficiency.

Table 5: Practices of Water Consumption

Hotels	***Practices of water***	***Economic & environmental benefits:***
Sånga Säby Conference & Study Centre, Sweden	A wastewater treatment plant is installed on site. In 1992, the plant was completely renewed and now it has 3-stage water purification process. Firstly, the water passes through mill strainers and is purified by oxygenation using air compressors. At the final precipitation stage, PAX 21 is added to sink sludge.	The total amount of waste water treated through this plant in 1995, which is also used by local apartments and a farm, was 15,398 m^3 Through these devices Sånga Säby estimates that the volume of water consumption has dropped by 40%, which equates to SEK 10,000-12,000 (US$ 1,506-1,807).

	(PAX 21 is free from chloride aluminum and is one the most environmentally friendly substances for separating sludge.) Residues are destroyed by bacteria before water is transported to the municipal sewage treatment plant. All water outlets have been fitted with water-saving nozzles and public restrooms furnished with urine-separating toilets.	
Phuket Yacht Club, Thailand	Wastewater from the hotel goes through a treatment process using BIO-BAC which treats the water biologically. It is then used for watering the gardens. Cards in bathrooms inform guests "Water is a precious commodity on our island and your co-operation in conserving this valuable resource during your stay with us will be greatly appreciated." They are also invited to reuse towels.	The Yacht Club estimates that per day it saves 70m3 of water and 1,750 Baht (US$ 70) in high season and 40m3 of water and 1000 Baht (US$ 40) in low season from recycling water. Laundry loads (especially towels) have been reduced by 25%.
Hotel Nikko Hongkong	After experimenting with devices such as plastic flow restrictors, Hotel Nikko installed a calibrated water control system, the "Platypus System", in June 1995. The core element of this system is a compact valve which is inserted into the hydraulic system to control the flow and temperature balance of each tap or shower. The chiller plant operates on a sea water cooling system, which eliminates the use of scarce fresh water. Towel re-use tent	The water control system was installed in June 1995. Between July 1995 and June 1996, despite an average occupancy increase of 4% over the previous year, water consumption per guest decreased by an average of 13%, equating to HK$ 13,000 (US$ 1,688) saved per month.

	cards are placed in all guest bathrooms. The feasibility of recycling laundry rinse waters is being studied.	
Derwentwater Hotel, Keswick, UK	During refurbishment, all baths are replaced by showers and flow-reducers are used in all outlets. Low flush toilets have been installed in the refurbished bathrooms. In the older toilets, used plastic mineral water bottles are filled and placed in cisterns to reduce flush flow.	In refurbished rooms, water consumption has reduced by 11 liters per day per room. In 1995 this represented a saving of 154,497 liters of water, which equates to £197 (US$ 303). The bottles in the cisterns alone save 30,000 liters of water per year, or £37 (US$ 57)
Hotel Guestline Days, Tirupati, India	Rain water is collected and used for many purposes. In an untreated form it is used for toilet flushing. Water which has been filtered, chlorinated and passed through an ultra-violet filter is used for cooking and drinking. A hydro-pneumatic ring system has been introduced to regulate flushing water which operates through control valves in each WC. All waste water, from flushing and bathing and from the kitchen and laundry is collected in grit chambers where grease is separated. The heavy particles which sink to the bottom of the chamber are removed at regular intervals. The water then flows to an aeration tank where bleaching powder, ferric chloride and copper sulphate are added. It then passes through a multi-layer filter before it is stored and used in the hotel garden and fountains. Excess grey water is used on local agricultural land.	The quantity of water per flush has been reduced from 12 to 8 liters. 365,000 liters of water is saved each year which equates to Rs. 1,369 (US$ 39). 150,000 liters of water are recycled per day, which equates to Rs. 152 per day and Rs.55,480 (US$ 1,585) per year in water costs.

Hotel Inter-Continental Miami, USA	In the bathrooms, water outlets and showers are equipped with aerators. Four-gallon toilets have 1.5-gallon water saver units.	These measures collectively save the hotel over 400,000 gallons of water per year, which amounts to $4,000

Source: *UNEP, IH&RA. (1995). Environmental Good Practice in Hotels: Case Studies from the International Hotel & Restaurant Association Environmental Award.*

2.3.1.2. Reduce energy consumption

Energy saving, use of alternative energy resources, especially increasing awareness of sustainable using nonrenewable resources in accommodation industry become a current issue. Energy which as part of environmental management, means consuming of nonrenewable resources. Consuming of energy as an area of lighting, laundry and dishes, etc. has an important role. Energy use for heating water and heating in winter periods is an important cost item.

It is possible to decrease the cost of energy with some practices. Technologies of energy saving have become basic component of sustainable development in developed countries. Sun control systems which have an advanced technology is the best proper solution to energy saving for enterprises. Thanks to efficient usage of computer system, it is possible to control of heating, lighting, ventilation. For reducing water consumption, accommodation enterprises should:

- ☞ Heating of hotel rooms should control with automatic air conditioner control system. When guests leave the hotel, the heating or air conditioner system of rooms close automatically.
- ☞ For minimizing the energy of lighting, utilize daylight maximumly.
- ☞ There should be sensor and energy saving lamps.
- ☞ Ceiling and walls should paint light and bright colors for reflecting lights. Light and bright colors reflect lights at the by 80%.
- ☞ Fiber optic lightings have a function of lighting to more points. This technique is suitable for decorative lighting.
- ☞ For lighting, led bulbs should use.

- ☞ To use thermostated system in rooms and heating should be 22 °C in summer times and 19 °C in winter times.
- ☞ When guests leave the room, heating should be above 26 °C in summer times and under 18 °C in winter times.
- ☞ Windows and doors of hotels should preserve to entering of hot and cold air from window bay and doorway.
- ☞ Glasses of windows or exterior door should be double-glazing.

Table 6: Practices of Energy Consumption

Hotels	***Practices of energy***	***Economic & environmental benefits:***
Hotel Nikko Hongkong	Hotel Nikko Hongkong estimated that approximately a third of its guests forgot to turn off the master switch controlling electrical units when leaving the room. The hotel installed a key card-controlled master switch to replace the button, which automatically ensures all electrical units are off when rooms are vacant. All water outlets have been fitted with water-saving nozzles and public restrooms furnished with urine-separating toilets. Daily thermometer readings ensure that indoor temperatures are maintained at 20°C degrees in summer and at 21-22°C in winter The hot water boilers are switched-off between 01h00 and 05h00. Water temperature has been reduced from 60°C to 55°C - hot enough for personal use and to prevent legionella growth	Hotel Nikko Hongkong estimates that the key card system brings a saving of HK$2,36 (US$0.30) per day per room. Switches cost HK$165 (US$ 21) per unit. The payback period is 70 days. In 1995, these measures combined brought Hotel Nikko Hongkong a 6% reduction in electricity costs, and over a 9% reduction in fuel oil costs which translated into savings of about $512,000 (US$66,000)

Hotel Guestline Days, Tirupati, India	All guest rooms have a master switch which guests are requested to turn off when leaving. Condensation from the air conditioning unit and the laundry and health club is fed back into the main boiler. As this water is already heated, the boiler operates at lower capacity and consumes less fuel. Sun control films have been added to all windows in public areas with direct sunlight, reducing air conditioning load and related costs. Energy saving light bulbs are complemented with dimmers in all public areas.	The hotel estimates that these measures collectively save about 2,815 kw per year which equates to Rs. 84,315 (US$ 2,409).
Hotel Inter-Continental Nairobi, Kenya	Reusing the condenser from the discarded liquid chillers to install a flash steam heat exchange unit. Water now enters the heat exchanger at 25°C where it is heated to 38°C. It is then pumped into the central water heater where it needs to be heated only another 12°C to reach 50°C. The cooling towers of the water-chilled air-conditioning system have been replaced by ones which operate on two-speed motors and fans. The temperature of the water entering the cooling towers is gauged automatically so when cooling demand falls and the water temperature is low, the motor operates at a lower speed.	By saving on the cost of a new heat exchanger (US$ 40,000) and using the heat exchanger recovered from the water chillers, the only cost incurred was US$2,000 for installation and modifications. Fuel consumption has been reduced by 24,000 gallons (90,909 liters), which amounts to US$ 34,000 per annum. Carbon dioxide and Sulphur dioxide emissions have also been reduced. As the motors frequently operate at a lower speed, approximately 8000 kwh of energy are saved per month. This equates to a reduction of US$ 8,400 in energy costs per annum. The noise level of the towers have been reduced by 60%.

Derwentwater Hotel, Keswick, UK	Individual combination boilers have been introduced in the self-catering apartments. They provide heating and hot water on demand and avoid hot water storage so consume less energy. The hotel has 3 gas-fired boilers each serving its own zone, so zones can be closed down at times of low occupancy. The main hotel is heated through low-pressure hot water radiators served by gas-fired boilers. An appraisal of the heating system showed that certain boilers were being used under capacity.	Despite regular and routine readings of gas and electricity meters, precise calculations of economic and environmental benefits are not possible due to the ongoing refurbishment. However, the hotel estimates that since 1994, combined energy saving efforts bring over 20% savings in energy costs which equates to £5,400 (US$ 8,308) per year.
Hotel Inter-Continental Miami, USA	Incandescent lights have been replaced with single fluorescent lamps, and in renovated guest rooms, the wattage has been reduced from 40 to 34 watts. The air-conditioning system has been retro-fitted to an automatic thermostat system.	Collectively these actions save an estimated 400,000 kwh of energy annually, which amounts to $2,400.

Source: *UNEP, IH&RA. (1995). Environmental Good Practice in Hotels: Case Studies from the International Hotel & Restaurant Association Environmental Award.*

2.3.1.3. Recycling and waste

Lots of solid and liquid wastes are occurred by accommodation enterprises, especially big hotels. This situation needs well-waste management. Characterization and disposal of wastes for recycling have an important role. Programs are developed for recycling. For reducing wastes and recycling, accommodation enterprises should:

- ☞ Rooms should provide recycler baskets for a newspaper, paper, glass, aluminum, cardboard, metal and plastic.
- ☞ Recycling bins should be both in public areas (i.e., poolside), in the kitchen, and in the back office (including one at each desk) for making recycling as easy as possible.

- ☞ Recycle or donate which is hard-to-recycle items (such as Styrofoam, packaging peanuts, planting pots, toiletries, bubble wrap, plastic bags, used mattresses, cooking oil (biodiesel), furniture, flooring) in your area should seek out and create a visible storage bin with signage to encourage employees and guests to throw these items into the separate bin.

- ☞ Managers and staffs should learn about the local hazardous waste collection (i.e., paint, coating, printer cartridges, mercury CFL bulbs, electronics, batteries) and how to keep to a separate bin to store these for drop off.

Table 7: Practices of Recycling and Waste

Hotels	***Practices of energy***	***Economic & environmental benefits:***
Budapest Hilton, Hungary	Wastepaper including stationery, office paper used on both sides and newspapers, metal cans and white and colored glass are collected, separated and sold for recycling. A waste compactor which reduces waste volumes by 50% was purchased at a cost of US$ 10,000.	In 1994 and 1995, through recycling initiatives and compacting non-recyclable waste, the Budapest Hilton's overall waste volumes were reduced by more than 30%. Waste collection fees were reduced by US$ 10,000 in 1995. The return on investment of the waste compactor was one year
Sånga Säby Conference& Study Centre, Sweden	A waste separation program ensures the separation of paper, aluminum, organic waste from kitchen and garden, glass, batteries and other hazardous waste substances. Waste water from the kitchen goes through a separate cycle where fats enter a separating tank before reaching the sewage plant for further treatment.	Waste volumes are estimated to have fallen by 60% in 1995.
Scandic Hotels, Sweden	A standard cake of hotel soap weighs 15 grams wrapped in plastic. An overnight guest	Across the chain, chemical effluent has been reduced annually by 30 tons. Plastic and

	uses approximately 3 grams and the rest is thrown away. Scandic have launched an entirely recyclable shampoo and soap system, replacing individual bars and bottles with dispensers made out of recycled plastic (polyethylene terephthalate). Soaps and shampoos use natural products and sugar cane and are biodegradable.	aluminum packing waste has been reduced by 8 tons per year.
Phuket Yacht Club, Thailand	Paper, cardboard boxes, plastic, metal, aluminum cans, organic waste, cooking oil and glass waste is collected, separated, stored (when required) and sold for recycling or reuse.	Over 1,000kg of newspapers are recycled each month and every day five 26-gallon containers of organic waste are sent to a local pig farm. Annual revenue earned from the recycling of waste is insignificant 800 - 1,200 Baht. (US$ 32- 48) but its primary objective is to raise staff awareness on the importance of recycling.
Derwentwater Hotel, Keswick, UK	Ionizers have been placed on the beer lines in the hotel cellar. The beer lines now need to be cleaned only once every 4 weeks instead of once a week.	This has reduced effluent by over 54 liters a week, which include 50 liters of waste beer. The reduction in waste beer and cleaning materials bring weekly savings of £134 (US$ 206), while the reduction in labour costs is £1,170 (US$ 1,800) per annum

Source: *UNEP, IH&RA. (1995). Environmental Good Practice in Hotels: Case Studies from the International Hotel & Restaurant Association Environmental Award.*

2.3.1.4. Building maintenance

☞ Filter changes, refrigerator coil cleaning, thermostat calibration and damper adjustments are important for building maintenance plan. At least every 3 months, all building energy and water equipment should check.

- ☞ The equipment makes repairs or replaces when usage changes indicate problems. The best way to reducing should be found and analyzed.
- ☞ If available, an energy audit should be scheduled by the local energy provider or from a local energy auditor.
- ☞ Water audit should be conducted or scheduled.
- ☞ For roofs, cool roofing or green roofing should be considered.

Table 8: Practices of Building Maintenance

Hotels	***Practices of building***
Kingfisher Bay Resort & Village Fraser Island, Australia	The introduction of mainland soil diseases was prevented by using landfill obtained from the Kingfisher Bay site itself or from approved mainland sources. Natural materials removed from the site were mulched and used for landscaping. Native plants from the site and surrounding area were used for landscaping. Thousands of plants were removed prior to construction and held in an on-site nursery for replanting later. A further 150,000 native plants were raised from seeds and cuttings. The on-site nursery continues to provide for all the resort's landscaping needs
Narayani Safari Hotel and Lodge, Nepal	The facilities were built on land of low agricultural value. Wooden beams, door and window frames from derelict houses on the land were reused for building the single-storey cottages of the hotel and lodge. No trees were felled for construction.
Scandic Hotels, Sweden	The material content of all materials, parts and design elements in the environmental

	rooms are labelled, so that the durability of each part can be assessed, and they can be effectively re-used. ☞ Floors are either wooden or laid with wall-to-wall wool carpets. ☞ Curtains and bedspreads are 100% cotton and flame-proof. ☞ Table tops have a laminated surface for extra durability. ☞ Wastepaper baskets are made with sheet steel to ensure fire safety. ☞ Corn starch-based bin liners are currently being tested. ☞ Cupboards and panels are made of wooden boards with a veneer of Nordic alder.

Source: *UNEP, IH&RA. (1995). Environmental Good Practice in Hotels: Case Studies from the International Hotel & Restaurant Association Environmental Award.*

2.3.1.5. Food service

- ☞ Leftover food should to a local nonprofit organization. Also, yard waste and biodegradable products should compost
- ☞ Reusable items such as cloth napkins, glass cups, silver wear, ceramic dishes, etc. with all food and beverage services should provide.
- ☞ For reducing food waste, hotels management and staffs should take precautions.

2.3.1.6. Purchases

Global warming and environmental pollution have a negative impact on our casual life and this negative impact start to threaten our life. So, people have changed their consumption habits. Generally, they want to buy eco or green products. Hotels should consider those statements at the purchasing step:

- ☞ The hotels should create a green purchasing policy for cleaners, sanitizers, paints, pesticides, office supplies, etc.
- ☞ The hotels should choose low VOC paint, sealant, primers and adhesives.

- ☞ The hotels should buy environmentally-friendly paper (copier paper, toilet paper, facial tissue, paper towels, etc.).
- ☞ The hotels should Minimize the amount of paper used for each guest and in the office (i.e., reduce paper size of invoices, etc.) and print something with soy-based inks.
- ☞ All products should contain recycled materials.

Table 9: Practices of Purchasing

Hotels	***Practices of purchasing***
Hotel Guestline Days, Tirupati, India	Hotel Guestline Days makes a conscious effort to use suppliers who buy back their packing for reuse and recycling. Preference is given to local products. Efforts are made to reduce items that require long-distance transportation which causes pollution. All wine and spirits served are made in India.
Neptune Hotel, Copenhagen, Denmark	Suppliers are asked to provide specifications to guarantee the environmental sensitivity and quality of their products. All paper products have to be recycled.

Source: *UNEP, IH&RA. (1995). Environmental Good Practice in Hotels: Case Studies from the International Hotel & Restaurant Association Environmental Award.*

2.4. Tourism and Sustainability in Turkey

Turkey is one of the most important tourism destinations around the World and tourism has a great role in the Turkish economy. Looking at the development of tourism in Turkey, development of tourism categorizes at 4 titles:

- **Before Republic Period**

Purchasing steamboats were one of the first examples of tourism activities. “Eser-I Hayır, Mersin Bahri, Tairi Bahri “which was the names of boats, were built in Aynalıkavak

shipyard and these boats were the foundation of Directorate General for Maritime Lines in Turkey. In 1963, “Sergi-i Umumi-i Osmani” was opened. This was the first domestic tourism activities which were seen in the Ottoman Empire. “Seyyahine Tercümanlık Edenler Hakkında Tatbik Edilecek 190 Sayılı Nizamname” which was the first law for developing foreign travel activities, was entered in force in 1890.

At the end of the 19th century and beginning of the 20th century, first hotels were established with starting operations of Orient Express to Istanbul. “Otel d ’angleteer” which was the first hotel in Turkey, was opened in 1841. “Pera Palas” was the most famous hotel at those times in Turkey. Generally, hotels were established near embassies.

- **Tourism in Turkey between 1923 – 1960**

All corporation changed from head to foot by the year of 1923. “National Association of Tourism Turkish Tourism Agency (NATTA)” which was the first travel agency was found in 1923. Ticket sale rent a car, brochure prepare, guiding service, etc. were the operations of NATTA. “Passrapid” was the other agency which was established at the same time of NATTA. Issuing a passport, giving visa to foreign tourists, booking a hotel, etc. were the operations of Passrapid. “Türk Seyyahın Cemiyeti” which was the first organization for tourism, was established in 1923. Then this name of the organization changed to “Türkiye Turing Klübü" (Touring Club Turc)”. After then its name changed to “Türkiye Turing ve Otomobil Kurumu (TURING)”

At the result of the agreement which signed with Wagon Lifts, first sleeping car voyage began operation in 1923. And first sleeping car voyage with a meal began to operation in 1925.

Another establishment of the tourism industry was “Türkiye Teyyare Cemiyeti”. This organization was founded in 1925. This name of the organization changed to “Turkish Airlines” in 1933. Its operations started with the same time as other big airline companies; such as Lufthansa, KLM, Imperial Airways, Aero Expresso.

In 1933, “Otelciler ve Hancılar Cemiyeti” was established in Istanbul. In 1934, the first public organization about tourism of Turkey which is “Iktisat Vekaleti Teşkilat ve Vazifeler Kanunu” was fulfilled. Starting with 1949, activities about tourism continued by

"Turizm Dairesi". In 1949, the first tourism policy which was "Turizm Ana Programı", was constituted.

From 1923 to 1950, a number of travel agencies reached 100 and the number of hotels which located in Istanbul reached 164. In 1950, there were legal forms whose name was "Turizm Müesseleri Teşvik Kanunu". This is the first law about Turkey's tourism development. First international hotel chains whose name is Hilton hotel, was opened in Istanbul.

- **Tourism in Turkey after 1960**

In 1961, the first tourism high school was opened. In 1963, "Ministry of Tourism and Promotion" was found. There were 281 tourism agencies in 1968. Association of Turkish Travel Agencies (TÜRSAB) was established.

- **Tourism in Turkey after 1980**

Tourism activities developed rapidly, and tourism receipt and the number of arrival tourists increased after 1980. In 1982, "Law for the Encouragement of Tourism" was enacted.

Today, according to the Republic of Turkey Ministry of Culture and Tourism (2018); Turkey hosted 46,112,592 tourists. This ratio increased by 21.45% when compared with 2017. At the end of 2018, tourism receipt of Turkey was 29.5 billion dollars. Tourism receipts increased by 12.3% when compared with the previous year. At the end of 2018, the rank of Turkey was 14th about tourism receipt and 8th about a number of tourist arrivals around the World. In 2018, the rate of tourism receipts in GDP was 3.8%. According to these statistics, tourism has a great impact on the Turkish economy. For this reason, the importance of sustainability in the tourism sector has increased year by year. According to data for 3rd May of 2019 (http://www.kultur.gov.tr),there are 480 hotels has a green certification in Turkey. Most of them are located in Antalya region.

Economic, natural and cultural sustainability have increased competitiveness power of countries, sectors or companies. In a large part of indexes which are located on the bottom side of "Travel and Tourism Competitiveness Report", are related to sustainability.

The position of Turkey changes for years. Table 10, table 11, table 12, shows that position of Turkey within sustainability.

Table 10: The Rank of Turkey within Environmental Sustainability

Environmental sustainability	***Rank of 2017***
Enforcement of environmental regulations	86
Sustainability of travel and tourism industry development	41
Stringency of environmental regulations	78
Particulate matter (2.5) concentration	90
Environmental treaty ratification	125
Baseline water stress	109
Threatened species	105
Forest cover change	41
Wastewater treatment	53
Costal shelf fishing pressure	80
Rank of Turkey	112

Source: *WEF. (2017). The Travel & Tourism Competitiveness Report 2017.*

Table 11: The Rank of Turkey within Natural Resources

Natural resources	***Rank of 2017***
Number of World Heritage natural sites	46
Total known species	65
Total protected areas	135
Natural tourism digital demand	27
Attractiveness of natural assets	69
Rank of Turkey	70

Source: WEF. (2017). The Travel & Tourism Competitiveness Report 2017.

Table 12: The Rank of Turkey within Cultural Resources and Business Travel

Cultural resources and business travel	***Rank of 2017***
Number of World Heritage cultural sites	13
Cultural and entertainment tourism digital demand	24
Rank of Turkey	16

Source: WEF. (2017). The Travel & Tourism Competitiveness Report 2017.

According to table 10, table 11 and table 12 position of Tukey was the bottom part of the list within environmental sustainability and natural resources sustainability. Part of a number of World Heritage cultural sites and cultural and entertainment tourism digital demand show parallelism with World average. Turkey needs to develop strong strategies for reaching top ranks. This is understanding from table 10, table 11 and table 12.

2.4.1. Major problems of sustainable tourism development in Turkey

Major problems of sustainable tourism development in Turkey are divided into 3 categories:

Environmental problems:

- *"Visual pollution*
- *Impact of tourism on flora and fauna*
- *Pollution*
- *Impacts of tourism on fragile geological formations*
- *Impacts of tourism on other natural resources*
- *Concentration of mass tourism development in certain spaces on the coastal areas"* (Tosun, 2008)

Economic problems:

- *"Over-dependency on international tour operators*
- *Market dependency*
- *Seasonality – under capacity utilization"* (Tosun, 2008)

Socio-cultural problems:

- *"Isolation of local people from development taking place in their locality*
- *Over-commercialization*
- *Demonstration effect of tourism on local people consumption"* (Tosun, 2008)

2.4.2. Sustainable tourism plan in Turkey

Turkey attach importance to sustainability. According to OECD (2018) "*the Ministry tourism agenda is mainly focused on competitiveness, sustainable tourism planning, keeping up with recent global tourism trends, destination-based planning and marketing".* We can understand the importance of sustainability from Five Year Development Plans and Tourism Strategy of Turkey 2023. These are:

- **8th Five Year Development Plan (2001 – 2005)**

- ☞ All investments made without harming to nature, social and cultural environment within the scope of a sustainability's principle.
- ☞ National and natural parks were opened to tourism within the scope of sustainability's principle.

- **9th Five Year Development Plan (2007 – 2013)**

Sustainability was adopted by 9th Five Year Development Plan. Plans which are about sustainability, include:

- ☞ Development of urban infrastructure
- ☞ Protecting the environment and culture
- ☞ Diversification of tourism products

- **Tourism Strategy of Turkey - 2023 (2007 – 2013)**

Tourism Strategy of Turkey – 2023 is a document which increasing a competition power. Vision of Tourism Strategy of Turkey 2023 refers to sustainable tourism. Vision of Tourism Strategy of Turkey 2023 is "*with an adaption of sustainable tourism approach tourism and travel industry will be brought to a leading position for leveraging rates of employment and regional development and it will be ensure that Turkey becomes a world brand in a tourism and major destination in the list of top five countries receiving higher number of tourist and highest tourism revenues by 2023"* (Republic of Turkey Ministry of Culture and Tourism, 2007). There are some actions realize the vision. About sustainability:

- ☞ *"To contribute to the objective of sustainable development by eliminating the interregional differences in the level of development.*
- ☞ *To support tourism development with sustainable environmental policies.*
- ☞ *To promote tourism and raise awareness in public, private companies and non-governmental organizations especially on ecotourism, plateau and agricultural tourism.*
- ☞ *Helping infrastructure related and environmental problems occurring at locations where tourism activities get denser be solved with joint efforts and contributions of local governments and private sector enterprises."* (Republic of Turkey Ministry of Culture and Tourism, 2007)

There isn't a sustainability world in the action of Tourism Strategy of Turkey 2023 but 6 of 172 actions are related to sustainability.

Table 13: Tourism Strategy of Turkey 2023 and Sustainability in Action Plan (2007 – 2013)

Number of actions	***Actions***	***Statements***	***Responsible corporations***	***Commencement date and expires***
27	Deficiency of infrastructure in brand cities	Practices will be made real by Ministry of Culture and Tourism, local administration and responsible corporations within a cooperativeness for completing deficiency of infrastructure in brand cities	☞ Ministry of Culture and Tourism ☞ Ministry of Interior ☞ Local administration ☞ TUROFED ☞ Nongovernmental organizations	2007 – 6 years
28	Completing deficiency of infrastructure of Tourism areas which are located backshore	deficiency of infrastructure in Tourism areas which are located backshore, will be completed	☞ Ministry of Culture and Tourism ☞ Ministry of Interior ☞ Local administration ☞ TUROFED ☞ Nongovernmental organizations ☞ TCDD ☞ General Directorate of Highways ☞ Ministry of Transport and Infrastructure	2007 – 6 years
29	Development of infrastructure in areas where covered diversificatio	Regulation will be made for development of infrastructure in alternative tourism area	☞ Ministry of Culture and Tourism ☞ Local administration ☞ Ministry of Environment and Urbanization	2007 – 6 years

	n of tourism			
63	Making a legal regulation in topics about directly connection with tourism within the scope of balance of "protection – use"	Legal regulation will be made for balance of protection and use about practice of Environmental Law, the Law for the Encouragement of Tourism, Code of Protection of Cultural and Natural Properties, National Parks Law and their bylaws.	☞ Ministry of Culture and Tourism ☞ Ministry of Environment and Forestry	2007 – 2 years
95	Port waste system	Infrastructure for the facilities where waste disposal and limber water of the yachts and system of floating collective in ports will be developed.	☞ Ministry of Culture and Tourism ☞ Ministry of Environment and Forestry ☞ Local administration ☞ Ministry of Transport and Infrastructure ☞ Undersecretariat for Maritime Affairs	2007 – 1 year
96	Reassessmen t of protection statues on the cost	Conservation status limiting the use of yachting on coasts will be reviewed and planning will be made in these areas which will require daily use.	☞ Ministry of Culture and Tourism ☞ Ministry of Environment and Forestry ☞ the Ministry of Public Works and Settlement	

Source: Republic of Turkey Ministry of Culture and Tourism. (2007). Tourism Strategy of Turkey - 2023.

- **10th Five Year Development Plan (2014 – 2018)**

The term "green growth" and "eco-efficiency" have seen in 10th Five Year Development Plan together with climate change, desertification, decreasing energy sources, increase in population. Emphasizing to another topic of 10th Five Year Development Plan is:

☞ Supporting sustainable tourism activities without compromising quality

2.4.3. Encouragement and policies of sustainable tourism and eco-hotel in Turkey

Considering visitor trends in world tourism, it is observed that visitors how sensitive they are to the environment where they travel. For this reason, stakeholders which are in the tourism sector should focus on environmental awareness and sustainable tourism-oriented activities. In this context, Republic of Turkey Ministry of Culture and Tourism has taken measures for developing environmental awareness like as Green Star Which one is known from public opinion of World. *"The green star practices of hotels are controlled by the Ministry of Culture and Tourism in the frame of these titles; "General Management", "Environmental Trainings", "Room Arrangements", "Accommodation to the Environment", "Energy Management", "Water Management", "Management of Hazardous Chemical Materials" and "Other Services"."* (TUROFED, 2019). Criteria of Green Stars in general terms:

☞ Enterprises have environmental policy and action plan.

☞ Increasing environmental awareness, personal tanning for procuring to environmental precaution and practicing of action plan by the enterprise.

☞ Having a wastewater plan

☞ Collecting data and monitoring to water, energy consuming.

Among 49 countries, Turkey is one of the countries having the most areas with Blue Flag. In addition, some articles of laws are suitable for sustainable tourism. These articles are:

☞ ***Environment law – article 11: "****All institutions, agencies and enterprises are obliged to establish waste treatment facilities or systems individually or collectively that are*

indicated in the legislation. Operational and utilization licenses will not be granted unless waste treatment facilities or systems are established. Any institution, agency and enterprise that have operational license planning to make changes in its field of activity and plan to expand its facilities, should beforehand notify the highest public authority in the region This authority will immediately notify the Undersecretariat of Environment and the corresponding Ministry. All institutions responsible for treatment, averting and eliminating harmful impacts of all kinds of wastes and scraps take necessary precautions to prevent possible harm to the environment during their operations. Technical methods to be applied for diffusing wastes and scraps directly or indirectly into the recipient environment will be specified in the regulations by considering the features of the environment and the possibilities to benefit from that environment" (Environment Law, 1983).

- ***Law for the Encouragement of Tourism – article 8/L: "****The principles and the procedures concerning the implementation of this article are governed by the regulation issued by the Ministry, within the framework of the paragraph (C), encouraging the direct foreign capital investment, bringing in the international brands, chains, technology and the standards to the country, effective area management, quality control and taking into consideration the sustainable tourism principles in compliance with social, cultural and physical environment"* (Law for the Encouragement of Tourism , 1982).
- ***Coast law – article 6;*** it says that; the coast is open to everyone for using with equality and freedom; barriers such as walls, fences, railings, trenches, piles and similar cannot be created. wastes like as rubble, soil, slag and litter cannot be poured into the coasts.
- ***National Parks Law – article 14;*** it says that, natural and ecological balance must protect, wildlife mustn't destroy.

Encouragement of sustainable tourism has become government policy in Turkey. Republic of Turkey Ministry of Culture and Tourism gives some encouragement to accommodation enterprises. One of this encouragement is the decision of "Environmentally Friendly accommodations Certified Electrical Energy Support to Business" which is published in Official Gazette. According to news, Republic of Turkey Ministry of Culture and Tourism

encourage to ₺ "7,103,000" (www.trthaber.com, 2018) for electric energy because of the practice of sustainability to hotels which awarded a green certificate. Another encouragement is ₺ "20,339,959" (http://www.milliyet.com.tr, 2015) giving from Turkey Ministry of Culture and Tourism to the eco-friendly hotel where located in Mugla between 20009 – 2013.

2.4.4. Practices of eco-hotel concept in Turkey

In 1993 within the scope of sustainable tourism, "Environment-friendly Enterprises Certificate (PINE ICON)" was given first time enterprises which operate with in sustainability, from Republic of Turkey Ministry of Culture and Tourism for protecting the environment, developing environmental consciousness, encouraging to the positive impact of accommodation enterprises on the environment.

In 2008, "Communiqué about Given an Environment-friendly Accommodation Facilities Certificate to Ministry Licensed Accommodation Facilities" was enacted by the Republic of Turkey Ministry of Culture and Tourism. There are 122 criteria Green Star which collects 10 categories with different points. Accommodation enterprises which want to take Green Star must make these criteria.

Stars of accommodation enterprises which awarded Green Certificate, paint green colour and write that "this hotel is environment-friendly" on their plaques. With a Green Star, accommodation enterprises take a competitive advantage. Numbers of environment-friendly accommodation enterprises have increased in recent years. Although there were 22 environment-friendly accommodation enterprises in 2008, today there are 480 environment-friendly accommodation enterprises.

Table 14: Sustainability Practices of Turkish Hotels

Hotels	***Awards***	***Sustainability Practices***
Panorama Hotel	Water Safety Certificate – 2018 Travelife Gold – 2014 / 2016 Travelife Gold – 2012 / 2014 TUI Umwelt Champion – 2017 Green Key – 2018 Environment friendly Enterprises Certificate	For purchasing, the hotel buys ISO14001 certification goods. Hotel shows its environment policy on bulletin boards for its guests and its staff Sheets change once in three days Hotel managements monitor the water and electricity every day Hotel encourages their guests and staffs to the environment

		Hotel uses a timer for controlling exterior lighting Hotel uses solar panels for hot water Hotels uses hotel use energy-saving bulbs Hotel uses flush less than 6 liters per flush, and they are equipped with a dual flush system Hotel uses drip irrigation system for watering the plants.
Baia Lara Hotel	Travelife Gold – 2015 / 2017 Blue Flag – 2017 Environment friendly Enterprises Certificate Travelife Sustainability system certificate – 2013 / 2015	Hotels uses hotel use energy-saving bulbs Hotel uses solar panels for hot water Hotel uses a timer for controlling exterior lighting There is a sensor at rooms. If the balcony door open, the air conditioner system will close Curtains of free rooms close in summer and open winter period for the decreasing use of air conditioners. Hotel managements monitor the water and electricity every day Hotel uses flush less than 6 liters per flush, and they are equipped with a dual flush system
Grand Yazıcı Hotels & Resorts Marmaris	Travelife Sustainability system certificate – 2014 / 2016	There is a sensor at rooms. If the balcony door open, the air conditioner system will close Hotels uses hotel use energy-saving bulbs Hotel uses solar panels for hot water Hotel uses flush less than 6 liters per flush, and they are equipped with a dual flush system Hotel uses drip irrigation system for watering.
Turquoise Hotel	TUI Umwelt Champion – 2013 TUI Environmental Champion – 2014 Travelife Silver – 2014	Hotel uses flush less than 6 liters per flush, and they are equipped with a dual flush system Hotels uses hotel use energy-saving bulbs Hotel uses a timer for controlling exterior lighting Bed sheets are changed every 3 days if there is not a special request by the guest.

TUI MAGIC LIFE Waterworld	ISO 14001 Blue Flag Green Star – 2014 / 2018 TUI Umwelt Champion – 2010 / 2018 Clean Pool Certification – 2013 / 2018	Hotel monitors energy consumption daily with meters, taking actions in possible deviations Pipes are regularly checked for leakage The sea and poolside showers are timed Bed sheets are changed every 3 days if there is not a special request by the guest. Use of water dispensers in guest areas and abolition of straws in bars, to reduce plastic products Hotel uses flush less than 6 liters per flush, and they are equipped with a dual flush system Hotels uses hotel use energy-saving bulbs
Aqua Fantasy Aquapark Hotel & Spa	Travelife Gold ISO 14001 Blue Flag	Kitchen lighting, roof lightings, parking lot lighting and some lighting in the rooms are converted into LED systems. Use of duplex printing is possible for decreasing to paper consumption Waste batteries collect and deliver to TAB Hot water production scenarios in mechanical rooms have been changed and efficiency in domestic hot water has been increased Folding sunshades were installed in the terrace, so that the sun's rays were used in the most efficient way Along with the renovation of the boiler room mechanical installation system Stained sheets were converted into pillow cases during the winter months and the waste amount was reduced. In order to reduce hazardous wastes, instead of fluorescent lighting which includes mercury and shorter life cycle, we started to use long lasting led lighting. Hotel uses flush less than 6 liters per flush, and they are equipped with a dual flush system

Gloria Hotels & Resorts	Green Star – 2015 / … TUI Umwelt Champion – 2016 Blue Flag – 2017 TUI Umwelt Champion – 2017 Travelife Award for Sustainable Tourism – 2017 / 2019 TUI Umwelt Champion – 2018 TUI Umwelt Champion – 2019 ISO 14001 – 2004	Hotel has a central ventilation system All rooms have a card which tells their sustainability practices to their guests Hotels uses hotel use energy-saving bulbs Sensors are used for lighting in common areas such as toilets, corridors, staff areas and ground floors Hotel use a key card plug-in system to cut power in case of absence There is a sensor at rooms. If the balcony door open, the air conditioner system will close Hotel uses solar panels for hot water Hotel uses a timer for controlling exterior lighting Hotel uses flush less than 6 liters per flush, and they are equipped with a dual flush system Hotel uses drip irrigation system for watering the plants.

Sources: (http://panoramahotel.com.tr), (https://www.baiahotels.com), (www.grandyazicihotels.com), (www.turquoise.com.tr), (https://www.magiclife.com/en/en/resort-holiday/turkey/waterworld/resort-details/), (http://hotel.aquafantasy.com), (www.gloria.com.tr)

3. Research Methodology and Data Analysis

The concept of sustainability in the tourism industry has been the most popular term in recent years. In this context, environment-friendly hotels are preferred other types of hotels. According to written literature regarding sustainability practices in the tourism sector, there is a gap indicating the need for more sustainability in accommodation enterprises. In this regard, this research mainly focused on investigating current sustainability practices in city centre hotels of Izmir and hotels of Kusadası.

Generally, the thesis was generated primary data and also secondarily date was used. Quantitative and qualitative research methods were used in the thesis. Typical quantitative techniques that were used hypothesis testing in the thesis. For the qualitative research that was used questionnaire method and secondary data in the thesis.

To determine the position of city centre hotels in Izmir, the questionnaire was conducted regardless of certification of environmentally-friendly practices. During conducting a questionnaire, more than 100 hotels were visited and 57 of them applied to

conduct to the questionnaire. 19 of 57 are located in Kusadası. Other 38 of them are located in the city centre of Izmir. A questionnaire was conducted with general managers, front office managers, technical service managers or receptionists of hotels in January of 2019.

Questionnaire form consists of 2 categories. There are 5 questions which are related to demographics of hotels, in the first part of the questionnaire. There are 19 questions which are related to the practice of sustainability. The finding was analyzed via SPSS 22.0. Secondary data was used from Republic of Turkey Ministry of Culture and Tourism for learning how many green certified hotels in Turkey, the position of Turkey for the practice of environmentally-friendly hotels.

3.1. Finding and Analyze

Before starting to analyze the findings from the questionnaire, a number of hotels which has green stars, analyzed and their number and change of their rates are seen in table 15.

Table 15: Hotels which has "Green Star"

Years	*number of hotels which has green star*	*change in (%)*
2019*	480	3,8%
2018	462	26,6%
2017	339	8,8%
2016	309	27,8%
2015	223	15,7%
2014	188	72,3%
2013	52	40,4%
2012	31	29,0%
2011	22	54,5%
2010	10	80,0%
2009	2	100,0%
2008	0	0

2019 shows the first 5 months of 2019*

Sources: *kulturturizm.gov.tr.* (2018). Retrieved from kulturturizm.gov.tr: http://yigm.kulturturizm.gov.tr/TR-201136/turizm-yatirim-ve-isletme-bakanlik-belgeli-tesis-istati-.html

"H1: Number of hotels which green star increase year by year" was examined in this part. In 1993 within the scope of sustainable tourism, "Environment Friendly Enterprises

Certificate (PINE ICON)" was given first time to enterprises which operate with in sustainability, from Republic of Turkey Ministry of Culture and Tourism for protecting environment, developing environmental consciousness, encouraging to positive impact of accommodation enterprises on environment. According to table 15, "Green Star" practices and Environment-Friendly Hotel Certification was implemented first time by Republic of Turkey Ministry of Culture and Tourism in 2008 by changing the name of "Environment Friendly Enterprises Certificate (PINE ICON)". There weren't any hotels which fulfil the criteria about Green Star in 2008. 2 hotels certificated in 2009 for the table 15, "Calista Luxury Resort" which awarded Green Star in 2009 was one of the 2 hotels in Turkey. According to table 15, there was a remarkable change in 2014. Although there were 52 hotels which awarded Green Star, there were 188 hotels which awarded Green Star. In this context, there was an increment of 72% between 2013 – 2014. This number has increased year by year. At the end of 2018, number of Green Star hotels reached 462. This increment has still continued. First five months of 2019, the number of Green Star hotels has been 480. According to table 15, increment has been seen every year. At this context, the hypothesis is acceptable.

3.1.1. Demographics of Hotels which conducted a questionnaire

There is an analysis of finding about demographics of hotels which conducted a questionnaire in this part. 5 questions were asked to general managers, front office managers, technical service managers or receptionists of hotels about hotel for learning that how many years the hotel operates, how many stars hotel has, what size of hotel, what target market of hotel is, what revenue of hotel is. The findings are seen as table 16.

Table 16: Demographics of Hotels Which Conducted a Questionnaire

		Number of hotels in Kusadası	***Kusadası (%)***	***Number of hotels in the city centre of Izmir***	***Izmir city centre (%)***
Operation year of hotel	*0-5*	3	15,8%	11	28,9%
	6-10	3	15,8%	9	23,7%
	11-more	13	68,4%	18	47,4%

Size of hotel	*small hotel*	-	0,0%	-	0,0%
	medium hotel	6	31,6%	22	57,9%
	large hotel	5	26,3%	15	39,5%
	very large hotel	8	42,1%	1	2,6%
Number of stars	*1-star hotel*	-	0,0%	3	7,9%
	2-star hotel	1	5,3%	-	0,0%
	3-star hotel	2	10,5%	8	21,1%
	4-star hotel	7	36,8%	23	60,5%
	5-star hotel	9	47,4%	4	10,5%
Target market	*business hotel*	6	31,6%	35	91,9%
	airport hotel	-	0,0%	-	0,0%
	suite hotel	1	5,3%	2	5,4%
	resort	11	57,9%	-	0,0%
	conference and convention centre	1	5,3%	-	0,0%
	thermal hotel	-	0,0%	1	2,7%
Revenue of hotel	*Between ₺ 1,000,000 - 2,000,000*	-	0,0%	11	37,9%
	Between ₺ 2,000,001 - 3,000,000	2	22,2%	6	20,7%
	Between ₺ 3,000,001 - 4,000,000	-	0,0%	5	17,2%
	Between ₺ 4,000,001 - 5,000,000	-	0,0%	1	3,4%
	more than ₺ 5,000,000	7	77,8%	6	20,7%

According to table 16, hotels in Kusadası which conducted a questionnaire are very old hotels. 68,4% of hotels maintain their operations 11 or more than 11 years. 15,8% of hotels in Kusadası were newly established. They maintain their operations between 0 – 5 years. Other 15,8 % of hotels maintain their operations between 6 – 10 years. However, the operation years ratio of city centre hotels in Izmir which conducted a questionnaire is much closer than hotels in Kusadası. This situation shows that numbers of started businesses have been more than Kusadası. The ratio of a hotel which has maintained its operations 11 years or more than eleven years is 47,4%. The ratio of hotels which newly started their operations is more than between 6 – 10 years. According to table 16, the ratio of between 0 – 5 and 6 – 10 operation years are respectively 29,8% and 23,7%.

According to table 16, capacity or size of hotels in Kusadası are bigger than city centre hotels in Izmir. 42,1% of hotels in Kusadası have rooms more than 300. These group of hotels are called as very large size hotels. These types of hotels are generally resort hotels and have 5-star. 31,6% of hotels in Kusadası medium size hotels which have a 26 – 100 rooms. The ratio of large size hotels which have 101 – 300 rooms, is 26,3%. There are no small size hotels which have 1 – 25 rooms in Kusadası. However, most of the hotels which conducted a questionnaire, are medium size hotels in the city centre of Izmir. The ratio of medium size hotels is 57,9%. The ratio of large size hotels which are in the city center of Izmir, are higher than hotels in Kusadası but the ratio of very large size hotels which are located in the city centre of Izmir, are less than hotels in Kusadası. 39,5% of hotels are large hotels and 2,6% of hotels are very large hotels. There isn't any small size hotel according to table 16.

According to table 16, although the number of 5-star hotels in Kusadası is more than the city centre hotels in Izmir, the number of 4-star hotels in the city centre of Izmir are more than hotels in Kusadası. There aren't one-star hotels in Kusadası which conducted a questionnaire according to table 16. Although ratio of 2-star hotels in Kusadası is 5,3%, 3-star hotels are 10,5%, 4-star hotels are 36,8%, 5-star hotels are 47,4%, the ratio of 4-star hotels are 60,5%, the ratio of 3-star are 21%, 5-star hotels are 10,5% in the city centre of Izmir.

According to table 16, whereas most of the hotels in Kusadası are resort hotels, there aren't any resort hotel in the city centre of Izmir. Because a resort Hotel is usually

located in places where is good for relaxation or recreation such as beaches ski parks, etc. The ratio of a resort hotel in Kusadası is 57,9%. Most of the city centre hotels in Izmir are a business hotel. The ratio of business hotels is 91,9%. Hotels which located in the city centre are good for business; so, most of the hotels' target is business. There are boutique hotels in the city centre hotels in Izmir. The ratio of them is 7,9%. However, there aren't boutique hotels in Kusadası according to table 16. The ratio of suite hotels is nearly the same. 5,3% of hotels in Kusadası are suite hotels and 5,4% of the city centre hotels in Izmir are suite hotels. According to table 16, although Kusadası has a conference and convention centre the city centre hotels in Izmir hasn't got them. Izmir has got thermal hotels but Kusadası hasn't got. The percentage of conference and convention centre are 5,3%, the percentage of thermal hotels are 2,7%.

According to table 16, most of hotels revenue in Kusadası are more than ₺ 5,000,000. Because most of the hotels are located near the seaside and most of the tourist prefer these hotels summer times and nearly their occupancy rates are 90% and also, the percentage of revenue is 77,8% for more than ₺ 5,000,000 revenues. 22,2% of these hotels are between ₺ 2,000,001 – ₺ 3,000,000. The number percentage of the city centre hotel revenues in Izmir are close. 37,9% of their revenue is between ₺ 1,000,000 – ₺ 2,000,000. 20,7% of their revenue is between ₺ 2,000,001 – ₺ 3,000,000. 17,2% of their revenue is between ₺ 3,000,001 – ₺ 4,000,000. 3,4% of their revenue is between ₺ 4,000,001 – ₺ 5,000,000. 20,7% of its revenue is more than ₺ 5,000,000.

3.1.2. Finding of Hotels for Green Star Practices

Finding of hotels for Green star Practices classified 14 categories at this part of findings. While general findings for "Green Star" practices were analyzed in the first category; whether the location of the hotels has any effect on the levels of Green Star practices was examined in the second category. Whether the status of the hotels (according to their stars) has any effect on the levels of Green Star practices was examined in the third category. At the fourth category, the importance of target markets for practicing sustainability was analyzed. While the size of hotels how to relate the sustainability was examined in the fifth category, differences in water practices at 5-star in Kusadası and city hotel of Izmir were analyzed with comparing at the sixth category. At the seventh category, differences of sustainability practicing at resort and business hotels in Kusadası were

analyzed. How the practice of sustainability in 3-star city centre hotels, 4-star city centre hotels and 5- star city centre hotels of Izmir was examined in the eighth category. While comparing between large hotels how to practice sustainability in Kusadası and city centre hotels in Izmir was examined at the ninth category, whether the operation years of the hotels have any effect on the levels of Green Star practices was examined at the tenth category. At the eleventh category, differences of “Green Star” practices at 3-star hotels, 4-star hotels 5-star hotels were analyzed with comparing. While differences of “Green Star” practices at large hotels according to their target markets were analyzed with comparing at the twelfth category, differences of “Green Star” practices at business hotels according to their stars were analyzed with comparing at thirteenth category.

There are general findings for Green Star practices at this part. Table 17 show frequency means and standard deviation of 19 statements. Understanding from the table 17, the practice of the “Green Star” are advanced level hotel in Kusadası and hotel in the city centre of Izmir.

Table 17: General Findings for "Green Star" Practices

Statements	***No (%)***	***Partly applied (%)***	***Yes (%)***	***Mean***	***Standard deviation***
Does the hotel involve the public in its effort to operate in a green way?	15,8%	19,3%	64,9%	2,4912	0,75882
Does the hotel use energy from renewable sources? Are there on-site facilities or partnerships with local producers for the production of renewable energy?	33,3%	26,3%	40,4%	2,0702	0,86313
Does the hotel inform its staff with regard to environmental policy, and the role of staff in the implementation of this policy?	14,0%	21,1%	64,9%	2,5088	0,73492
Does the hotel have an energy-efficient heating system?	14,1%	17,5%	68,4%	2,5439	0,73364
Does the hotel use energy-saving bulbs?	-	5,3%	94,7%	2,9474	0,22528
Does the hotel use efficient shading systems, such as blackout curtains, shutters, and blinds?	19,3%	22,8%	57,9%	2,3860	0,79629
Does the hotel use timers and motion detectors to optimize energy use?	10,5%	7,0%	82,5%	2,7193	0,64792

Does the hotel use a key card plug-in system to cut power in case of absence?	3,5%	8,8%	87,7%	2,8421	0,45472
Does the hotel regularly collect data on energy consumption, and take action to reduce it?	8,8%	15,8%	75,4%	2,6667	0,63621
Is the total water consumption being registered on a monthly basis?	3,5%	15,8%	80,7%	2,7719	0,50063
Do toilets flush less than 6 liters per flush, and are they equipped with a dual flush system?	5,3%	14,0%	80,7%	2,7544	0,54382
Does the hotel use a filter system for an efficient water usage? Are all guests informed about efficient water usage?	15,8%	24,6%	59,6%	2,4386	0,75634
Is rain water being used where appropriate, e.g. for flushing toilets, water the lawn, etc.?	41,1%	28,1%	29,8%	1,8772	0,84664
Is waste being separated into the categories outlined by local and national authorities?	15,8%	17,5%	66,7%	2,5088	0,75882
Is there a possibility to separate waste in rooms? Is there a possibility to separate garbage in cleaning carts (e.g. plastic and paper)?	19,3%	22,8%	57,9%	2,3860	0,79629

Have measures been taken to reduce the use of disposable products to a minimum, e.g. cups, plates and cutlery?	5,3%	28,1%	66,7%	2,6140	0,59023
Does the hotel use paper towels and toilet paper that is made of non-chlorine bleached paper, or paper with an eco-label? Does the hotel buy eco-friendly paper?	14,0%	33,3%	52,6%	2,3860	0,72591
Does the hotel avoid fossil-fuel as much as possible?	7,0%	28,1%	64,9%	2,5789	0,65528
Is the ventilation system being inspected at least once a year?	3,5%	3,5%	93,0%	2,8947	0,40901
Total (average)	13,88%	18,93%	64,90%	2.5434	0,65441

According to table 17, for the first 3 questions and the last 2 questions are related to management and environment. While there are 4 questions for water practicing, 6 questions are related to reducing energy consumptions. There are 3 questions for waste practicing and 1 question for purchasing. The level of “Green Star” practicing is very high in the hotel of Kusadası and city centre hotels of Izmir. The average number of “Green Star” practicing is 64,9%. The highest ratio for all practicing is seen for using energy-saving bulbs. Nearly all hotels apply this practice for their hotel. Its ratio for using energy-saving bulbs in the hotels is 94,7%, 5,3% of the hotels partly apply to use energy-saving bulbs for lighting the exterior and interior areas. Inspecting a ventilation system at least once a year has the second highest level for practicing. 93,0% of the hotels inspect ventilation system at least once a year. One of the other most applied practice is that hotel use a key card plug-in system to cut power in case of absence. 87,7% of the hotel use a key card plug-in system to cut power in case of absence.

Understanding table 17, the lowest ratio for all practicing is seen for using rainwater where appropriate, e.g. for flushing toilets, water the lawn. Only 29,8% of the hotels use rainwater where appropriate, e.g. for flushing toilets, water the lawn. Using paper towels and toilet paper that is made of non-chlorine bleached paper, or paper with an eco-label buying eco-friendly paper has the second lowest level for practicing. 52,6% of the hotels use paper towels and toilet paper that is made of non-chlorine bleached paper, or paper with an eco-label buying eco-friendly paper.

Table 18: Comparison Findings for "Green Star" Practices in Kusadası and City Hotels of Izmir

Statements	***Kusadası (%)***			***City hotels of Izmir (%)***		
	No	Partly applied	Yes	No	Partly applied	Yes
Does the hotel involve the public in its effort to operate in a green way?	10,5%	10,5%	79,0%	18,4%	23,7%	57,9%
Does the hotel use energy from renewable sources? Are there on-site facilities or partnerships with local producers for the production of renewable energy?	31,6%	31,6%	36,8%	34,2%	23,7%	41,2%
Does the hotel inform its staff with regard to environmental policy, and the role of staff in the implementation of this policy?	10,5%	21,1%	68,4%	15,8%	21,1%	63,2%
Does the hotel have an energy-efficient heating system?	-	26,3%	73,7%	21,1%	13,2%	65,8%
Does the hotel use energy-saving bulbs?	-	5,3%	94,7%	-	5,3%	94,7%
Is the ventilation system being inspected at least once a year?	5,3%	-	94,7%	2,6%	5,3%	92,1%
Does the hotel use efficient shading systems, such as blackout curtains, shutters, and blinds?	21,1%	26,3%	52,6%	18,4%	21,1%	60,5%
Does the hotel use timers and motion detectors to optimize energy use?	5,3%	10,5%	84,2%	13,2%	5,3%	81,6%
Does the hotel use a key card plug-in system to cut power in case of absence?	-	15,8%	84,2%	5,3%	5,3%	89,5%
Does the hotel regularly collect data on energy consumption, and take action to reduce it?	10,5%	10,5%	78,9%	7,9%	18,4%	73,7%

Is the total water consumption being registered on a monthly basis?	5,3%	21,1%	73,7%	2,6%	13,2%	84,2%
Do toilets flush less than 6 liters per flush, and are they equipped with a dual flush system?	5,3%	21,1%	73,7%	5,3%	10,5%	84,2%
Does the hotel use a filter system for an efficient water usage? Are all guests informed about efficient water usage?	26,3%	21,1%	52,6%	10,5%	26,3%	63,2%
Is rain water being used where appropriate, e.g. for flushing toilets, water the lawn, etc.?	42,1%	21,1%	36,8%	42,1%	31,6%	26,3%
Is waste being separated into the categories outlined by local and national authorities?	15,8%	21,1%	63,2%	15,8%	15,8%	68,4%
Is there a possibility to separate waste in rooms? Is there a possibility to separate garbage in cleaning carts (e.g. plastic and paper)?	10,5%	31,6%	57,9%	23,7%	18,4%	57,9%
Have measures been taken to reduce the use of disposable products to a minimum, e.g. cups, plates and cutlery?	10,5%	31,6%	57,9%	2,6%	26,3%	71,1%
Does the hotel use paper towels and toilet paper that is made of non-chlorine bleached paper, or paper with an eco-label? Does the hotel buy eco-friendly paper?	5,3%	52,6%	42,1%	18,4%	23,7%	57,9%
Does the hotel avoid fossil-fuel as much as possible?	5,3%	31,6%	63,2%	7,9%	26,3%	65,8%

"H2: There is a statistical difference between hotels in which are located in city center of Izmir and Kusadası for practicing sustainability" was examined at this part.

According to table 18, there are 5 environmental practices. 4 of environmental practices are high than 50% of hotels in Kusadası and hotels in the city centre of Izmir. Using renewable sources and on-site facilities or partnerships with local producers for the production of renewable energy is the lowest level between 4 of practices which are related to the environment. Distribution of rates is nearly the same for hotels in Kusadası and hotels in the city centre of Izmir. Although 41,2% of hotels use renewable sources and have on-site facilities or partnerships with local producers for the production of renewable energy in the city centre of Izmir, this ratio is 36,8% in Kusadası.

Water resources which are our life sources decrease make unfit against global warming and population growth. In the coming years, the value of water considered as white oil will be better understood. In this context, accommodation enterprises should be careful about water consumption and. There are 4 practices for reducing water consumption according to table 18. Comparing between the hotels in Kusadası and city centre of Izmir, the ratio of practices for water in city centre hotels of Izmir is higher than hotels in Kusadası. The ratio of using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. is the lowest level of all practices. The ratio of using rainwater is 36,8% in hotels of Kusadası; whereas, the ratio of using rainwater is 26,3%.

According to table 18, there are 6 practices for reducing energy consumption. Using energy-saving bulbs and LED for lighting is the highest level for energy practicing at hotels in Kusadası and hotels in city centre of Izmir. The rates of Using energy-saving bulbs and LED for lighting are 94,7% of the hotels in Kusadası and hotels in city centre of Izmir. For the table 18, there are 3 practices for waste reuse. Comparing between the hotels in Kusadası and city centre of Izmir, the ratio of practices for waste in city centre hotels of Izmir is higher than hotels in Kusadası. The ratio of using paper towels and toilet paper that is made of non-chlorine bleached paper, or paper with an eco-label and buying eco-friendly paper is the second lowest level of all practices. The ratios are 42,1% for hotels in Kusadası and 57,9% for city centre hotel of Izmir.

In addition to the previous there are statistical differences between hotels in Kusadası and city centre hotel of Izmir. Ratio of some practices are high at hotels in Kusadası. Some of them are also high at city centre hotels in Izmir. At this context, the hypothesis is acceptable.

"H3: There is a statistical difference between star rating system of hotels for practicing sustainability" was examined at for table 19 which is located below.

According to table 19 which located at the below, the highest ratio for "Green Star" practices is seen at 5-star hotels. Generally, 5-star hotels apply all practices at the by 100%. One of the lowest applied practices is that hotel use energy from renewable sources and have on-site facilities or partnerships with local producers for the production of renewable energy for 5-star hotels. The ratio of this application is 69,2%. One of the other lowest applied practices is that using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. for 5-star hotels.

The lowest ratio for "Green Star practices" is seen at 1-star hotels and 2-star hotels for the table 19. Although some practices higher at 2-star hotels, some practices higher at 1-star hotels. Using energy-saving bulbs, using a key card plug-in system to cut power in case of absence and inspecting ventilation system at least once a year have the highest ratio for both 1-star and 2-star hotels. The ratio of Using energy-saving bulbs, using a key card plug-in system to cut power in case of absence and inspecting ventilation system at least once a year for both 1-star and 2-star hotels is 100%. There are statistical differences between 1-star, 2-star, 3-star, 4-star and 5-star hotels. The highest ratio level of all practices is seen at 5-star hotels. 1-star and 2-star hotels have the lowest level for practices of sustainability. At this context, the hypothesis is acceptable.

Table 19: Comparison Findings for "Green Star" Practices at Different Star of Hotels

Statements	***1-star hotels (%)***			***2-star hotels (%)***			***3-star hotels (%)***			***4-star hotels (%)***			***5-star hotels (%)***		
	No	Partly applied	Yes	No	Partly applied	Yes	No	Partly applied	Yes	No	Partly applied	Yes	No	Partly applied	Yes
Does the hotel involve the public in its effort to operate in a green way?	-	66,7%	33,3%	100%	-	-	50,0%	10,0%	40,0%	10,0%	26,7%	63,3%	-	-	100%
Does the hotel use energy from renewable sources? Are there on-site facilities or partnerships with local producers for the production of renewable energy?	33,3%	33,3%	33,3%	100%	-	-	80%	20%	-	23,3%	33,3%	43,3%	15,4%	15,4%	69,2%
Does the hotel inform its staff with regard to environmental policy, and the role of staff in the implementation of this policy?	33,3%	66,7%	-	100%	-	-	50,0%	10,0%	40,0%	6,7%	33,3%	60,0%	-	-	100%
Does the hotel have an energy-efficient heating system?	33,3%	-	66,7%	-	-	100%	30,0%	30,0%	40,0%	13,3%	20,0%	66,7%	-	7,7%	92,3%
Does the hotel use energy-saving bulbs?	-	-	100%	-	-	100%	-	10,0	90,0%	-	3,3%	96,7%	-	-	100%
Does the hotel use efficient shading systems, such as blackout curtains, shutters, and blinds?	33,3%	-	66,7%	-	100%	-	20,0%	40,0%	40,0%	23,3%	23,3%	43,4%	7,7%	7,7%	84,6%
Does the hotel use timers and motion detectors to optimize energy use?	-	100%	-	-	100%	-	10,0%	20,0%	70,0%	13,3%	6,7%	80,0%	10,5%	7,0%	82,5%
Does the hotel use a key card plug-in system to cut power in case of absence?	-	-	100%	-	-	100%	10,0%	20,0%	70,0%	3,3%	10,0%	86,7%	-	-	100%
Does the hotel regularly collect data on energy	33,3%	33,3%	33,3%	-	100%	-	10,0%	40,0%	50,0%	6,7%	10,0%	83,3%	7,7%	-	92,3%

consumption, and take action to reduce it?															
Is the total water consumption being registered on a monthly basis?	-	33,3%	66,7%	-	100%	-	-	10,0%	90,0%	3,3%	20,0%	76,7%	7,7%	-	92,3%
Do toilets flush less than 6 liters per flush, and are they equipped with a dual flush system?	-	33,3%	66,7%	-	-	100%	10,0%	10,0%	80,0%	6,7%	16,7%	76,6%	-	7,7%	92,3%
Does the hotel use a filter system for an efficient water usage? Are all guests informed about efficient water usage?	33,3%	-	66,7%	100%	-	-	40,0%	20,0%	40,0%	6,7%	40,0%	53,3%	7,7%	-	92,3%
Is rain water being used where appropriate, e.g. for flushing toilets, water the lawn, etc.?	100%	-	-	100%	-	-	100%	-	-	40,0%	36,7%	23,3%	23,1%	7,7%	69,2%
Is waste being separated into the categories outlined by local and national authorities?	33,3%	66,7%	-	-	100%	-	10,0%	40,0%	50,0%	20,0%	16,7%	63,3%	7,7%	7,7%	84,6%
Is there a possibility to separate waste in rooms? Is there a possibility to separate garbage in cleaning carts (e.g. plastic and paper)?	33,3%	66,7%	-	-	100%	-	30,0	20,0%	50,0%	20,0%	23,3%	56,7%	7,7%	7,7%	84,6%
Have measures been taken to reduce the use of disposable products to a minimum, e.g. cups, plates and cutlery?	-	33,3%	66,7%	-	100%	-	-	40%	60,0%	6,7%	30,0%	63,3%	7,7%	7,7%	84,6%
Does the hotel use paper towels and toilet paper that is made of non-chlorine bleached paper, or paper with an eco-label? Does the hotel buy eco-friendly paper?	66,7%	33,3%	-	100%	-	-	30,0	40,0%	30,0%	16,7%	33,3%	50,0%	-	23,1%	76,9%
Does the hotel avoid fossil-fuel as much as possible?	33,3%	-	66,7%	-	100%	-	10,0%	60,0%	30,0%	3,3%	30,0%	66,7%	7,7%	-	92,3%
Is the ventilation system being inspected at least once a year?	-	-	100%	-	-	100%	-	10,0%	90%	-	-	100%	-	-	100%

Table 20: Comparison Findings for "Green Star" Practices at Different Target Markets of Hotels

Statements	***Business hotels (%)***			***Suite hotels (%)***			***Resort hotels (%)***			***Conference and convention centre (%)***			***Thermal hotels (%)***		
	No	Partly applied	Yes	No	Partly applied	Yes	No	Partly applied	Yes	No	Partly applied	Yes	No	Partly applied	Yes
Does the hotel involve the public in its effort to operate in a green way?	22,0%	26,8%	51,2%	-	-	100%	-	-	100%	-	-	100%	-	-	100%
Does the hotel use energy from renewable sources? Are there on-site facilities or partnerships with local producers for the production of renewable energy?	36,6%	26,8%	36,6%	-	66,7	33,3%	36,4%	18,2%	45,5%	-	-	100%	-	-	100%
Does the hotel inform its staff with regard to environmental policy, and the role of staff in the implementation of this policy?	19,5%	26,8%	53,7%	-	-	100%	-	9,1%	91,9%	-	-	100%	-	-	100%
Does the hotel have an energy-efficient heating system?	19,5%	24,4%	56,1%	-	33,3%	66,7%	18,2%	18,2%	63,6%	-	100%	-	-	-	100%
Does the hotel use energy-saving bulbs?	12,2%	7,3%	80,5%	-	-	100%	9,1%	-	91,9%	-	100%	-	-	-	100%
Does the hotel use efficient shading systems, such as blackout curtains, shutters, and blinds?	4,9%	9,8%	85,4%	-	-	100%	-	-	100%	-	100%	-	-	-	100%
Does the hotel use timers and motion detectors to optimize energy use?	-	100%	-	-	-	100%	10,0%	20,0%	70,0%	-	-	100%	-	-	100%
Does the hotel use a key card plug-in system to cut power in case of absence?	4,9%	9,8%	85,4%	-	-	100%	-	-	100%	-	100%	-	-	-	100%
Does the hotel regularly collect data on energy consumption, and take action to reduce it?	9,8%	19,5%	70,7%	-	33,3%	66,7%	9,1%	-	91,9%	-	-	100%	-	-	100%
Is the total water consumption being registered on	2,4%	19,5%	78,0%	-	-	100%	9,1%	9,1%	81,8%	-	-	100%	-	-	100%

a monthly basis?															
Do toilets flush less than 6 liters per flush, and are they equipped with a dual flush system?	4,9%	14,6%	80,5%	-	-	100%	-	18,2%	81,8%	100%	-	-	-	-	100%
Does the hotel use a filter system for an efficient water usage? Are all guests informed about efficient water usage?	17,1%	29,3%	53,7%	-	-	100%	9,1%	18,2%	72,7%	100%	-	-	-	-	100%
Is rain water being used where appropriate, e.g. for flushing toilets, water the lawn, etc.?	46,3%	29,3%	24,4%	33,3%	33,3%	33,3%	27,3%	27,3%	45,5%	100%	-	-	-	-	100%
Is waste being separated into the categories outlined by local and national authorities?	14,6%	19,5%	65,9%	-	33,3%	66,7%	18,2%	9,1%	72,7%	100%	-	-	-	-	100%
Is there a possibility to separate waste in rooms? Is there a possibility to separate garbage in cleaning carts (e.g. plastic and paper)?	22,0%	24,4%	53,7%	-	-	100%	18,2%	18,2%	63,6%	-	100%	-	-	-	100%
Have measures been taken to reduce the use of disposable products to a minimum, e.g. cups, plates and cutlery?	2,4%	31,7%	65,9%	-	-	100%	18,2%	18,2%	63,6%	-	100%	-	-	-	100%
Does the hotel use paper towels and toilet paper that is made of non-chlorine bleached paper, or paper with an eco-label? Does the hotel buy eco-friendly paper?	19,5%	31,7%	48,8%	-	-	100%	-	45,5%	54,5%	-	100%	-	-	-	100%
Does the hotel avoid fossil-fuel as much as possible?	7,3%	31,7%	61,0%	-	33,3%	66,7%	9,1%	9,1%	81,8%	-	100%	-	-	-	100%
Is the ventilation system being inspected at least once a year?	-	4,9%	95,1%	-	-	100%	9,1%	-	90,9%	-	-	100%	-	-	100%

"H4: There is a statistical difference between target market of hotels for practicing sustainability" was examined at this part for table 20 which is located above.

According to table 20, thermal hotels have the highest ratio for applying all "Green Star" practices. The ratio of applying all "Green Star" practices is 100% for thermal hotels.

Using energy-saving bulbs for lighting the exterior or interior areas, using a key card plug-in system to cut power in case of absence, inspecting ventilation system at least once a year, have the highest percentage for applying the "Green Star" practices among the business hotels, suite hotels, resort hotels, conference and convention centre, thermal hotels. Although generally, the ratio of applying these practices 100%, the ratio of using a key card plug-in system to cut power in case of absence is 85,4% at business hotels, the ratios of inspecting ventilation system at least once a year are 95,1% at business hotels, 90,9% at resort hotels, the ratios of using energy-saving bulbs for lighting the exterior or interior areas are 80,5% at business hotels, 91,9% at resort hotels. Using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. has the lowest ratio among the business hotels, suite hotels, resort hotels, conference and convention centre. Although the ratio of using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. is 100% at thermal hotels, the ratios of using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. are 24,4% at business hotels, 33,3% at suite hotels, 45,5% at resort hotels, 0% at conference and convention centre.

Understanding table 20, there are huge statistical differences between thermal hotels, business hotels, resort hotels, suite hotels and conference and convention centre. The highest ratio level of all practices is seen at thermal hotels then suite hotels. At this context, the hypothesis is acceptable.

Table 21: Comparison Findings for "Green Star" Practices at Different Size of Hotels

Statements	***Small hotels (25 rooms or less)***			***Medium hotels (26 – 100 rooms)***			***Large hotels (101 – 300 rooms)***			***Very large hotels (more than 300 rooms***		
	No	Partly applied	Yes	No	Partly applied	Yes	No	Partly applied	Yes	No	Partly applied	Yes
Does the hotel involve the public in its effort to operate in a green way?	-	-	-	28,6%	28,6%	42,9%	5,0%	15,0%	80,0%	-	-	100%
Does the hotel use energy from renewable sources? Are there on-site facilities or partnerships with local producers for the production of renewable energy?	-	-	-	46,4%	32,1%	21,4%	20,0%	20,0%	60,0%	22,2%	22,2%	55,6%
Does the hotel inform its staff with regard to environmental policy, and the role of staff in the implementation of this policy?	-	-	-	25,0%	28,6%	46,4%	5,0%	20,0%	75,0%	-	-	100%
Does the hotel have an energy-efficient heating system?	-	-	-	25,0%	28,6%	46,4%	5,0%	5,0%	90,0%	-	11,1%	88,9%
Does the hotel use energy-saving bulbs?	-	-	-	-	7,1%	92,9%	-	-	100%	11,1%	-	88,9%
Does the hotel use efficient shading systems, such as blackout curtains, shutters, and blinds?	-	-	-	28,6%	32,1%	39,3%	10,0%	15,0%	75,0%	11,1%	11,1%	77,8%
Does the hotel use timers and motion detectors to optimize energy use?	-	-	-	14,3%	14,3%	71,4%	5,0%	0	95,0%	11,1%	-	88,9%
Does the hotel use a key card plug-in system to cut power in case of absence?	-	-	-	7,1%	14,3%	78,6%	-	5,0%	95,0%	-	-	100%
Does the hotel regularly collect data on energy consumption, and take action to reduce it?	-	-	-	14,3%	32,1%	53,6%	-	-	100%	11,1%	-	88,9%

Is the total water consumption being registered on a monthly basis?	-	-	-	3,6%	25,0%	71,4%	-	10,0%	90,0%	11,1%	-	88,9%
Do toilets flush less than 6 liters per flush, and are they equipped with a dual flush system?	-	-	-	10,7%	17,9%	71,4%	-	10,0%	90,0%	11,1%	-	88,9%
Does the hotel use a filter system for an efficient water usage? Are all guests informed about efficient water usage?	-	-	-	25,0%	21,4%	53,6%	5,0%	40,0%	55,0%	11,1%	-	88,9%
Is rain water being used where appropriate, e.g. for flushing toilets, water the lawn, etc.?	-	-	-	60,7%	32,1%	7,1%	20,0%	30,0%	50,0%	33,3%	11,1%	55,6%
Is waste being separated into the categories outlined by local and national authorities?	-	-	-	21,4%	25,0%	53,6%	10,0%	10,0%	80,0%	11,1%	11,1%	77,8%
Is there a possibility to separate waste in rooms? Is there a possibility to separate garbage in cleaning carts (e.g. plastic and paper)?	-	-	-	25,0%	32,1%	42,9%	15,0%	15,0%	70,0%	11,1%	11,1%	77,8%
Have measures been taken to reduce the use of disposable products to a minimum, e.g. cups, plates and cutlery?	-	-	-	3,6%	39,3%	57,1%	5,0%	20,0%	75,0%	11,1%	11,1%	77,8%
Does the hotel use paper towels and toilet paper that is made of non-chlorine bleached paper, or paper with an eco-label? Does the hotel buy eco-friendly paper?	-	-	-	17,9%	35,7%	46,4%	15,0%	30,0%	55,0%	-	33,3%	66,7%
Does the hotel avoid fossil-fuel as much as possible?	-	-	-	10,7%	46,4%	42,9%	-	15,0%	85,0%	11,1%	-	88,9%
Is the ventilation system being inspected at least once a year?	-	-	-	-	7,1%	92,9%	5,0%	-	95,0%	11,1%	-	88,9%

"H5: There is a statistical difference between size of hotels for practicing sustainability" was examined for table 21 which is located above.

According to table 21, there are no small hotels which conducted questionnaire. There are 28 medium size hotels which conducted questionnaire. While the highest numbers of applying "Green Star" practices are using energy-saving bulbs for lighting the exterior or interior areas and inspecting ventilation system at least once a year among the medium size hotels, using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. has the lowest number among the medium size hotels. Although 92,9% of the medium size hotels apply to use energy-saving bulbs for lighting the exterior or interior areas and inspect ventilation system at least once a year, only 7,1% of the medium size hotels use rainwater where appropriate, e.g. for flushing toilets, water the lawn. There are 20 large size hotels which conducted questionnaire. While the highest numbers of applying "Green Star" practices are using energy-saving bulbs for lighting the exterior or interior areas and regularly collect data on energy consumption and take action to reduce the consumption among the large size hotels, using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. has the lowest number among the large size hotels. Although 100% of the large size hotels apply to use energy-saving bulbs for lighting the exterior or interior areas and regularly collect data on energy consumption and take action to reduce the consumption, 50,0% of the large size hotels use rainwater where appropriate, e.g. for flushing toilets, water the lawn.

According to table 21, there are 9 very large size hotels which conducted questionnaire. While most of "Green Star" practices apply at the all very large size hotels, 55,6% of the very large size hotels use rainwater where appropriate, e.g. for flushing toilets, water the lawn. There are numerical differences between small size hotels, medium size hotels, large size hotels and very large size hotels. The highest ratio for the applying "Green Star" practices is seen at very large hotels. The hypothesis is acceptable for the reason of above statements.

Table 22: Comparison Findings between 5-star Hotels in Kusadası and 5-star City Hotels of Izmir for Water Practicing

Statements	***5-star hotel in Kusadası***			***5 -star City hotels of İzmir***		
	No	Partly applied	Yes	No	Partly applied	Yes
Is the total water consumption being registered on a monthly basis?	11,1%		88,9%	-	-	100%
Do toilets flush less than 6 liters per flush, and are they equipped with a dual flush system?	-	11,1%	88,9%	-	-	100%
Does the hotel use a filter system for an efficient water usage? Are all guests informed about efficient water usage?	11,1%		88,9%	-	-	100%
Is rain water being used where appropriate, e.g. for flushing toilets, water the lawn, etc.?	33,3%	11,1%	55,6%	-	-	100%

According to table 22, there are 4 practices for reducing water consumption. These are water consumption is registered on a monthly basis, toilets flush less than 6 liters per flush, and equipped with a dual flush system, use a filter system for an efficient water usage and all guests informed about efficient water usage, rainwater is used where appropriate, e.g. for flushing toilets, water the lawn.

Understanding from the table 22, comparing between the 5-star hotels in Kusadası and city centre of Izmir, the ratio of practices for water at the 5-star hotels in city centre of Izmir is higher than hotels in Kusadası. The ratio of using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. at the 5-star hotels in Kusadası is the lowest level of all water practices. The ratio of using rainwater is 55,6% at the 5-star hotels in Kusadası; whereas, the ratio of using rainwater is 100% at the 5-star hotels in the city centre of Izmir. In spite of the fact that 100% of the 5-star hotels in city centre of Izmir are registered water consumption on a monthly basis, Using a filter system for an efficient water usage and informing all guests about efficient water usage and their toilets flush less than 6 liters per flush and equipped with a dual flush system; the rate of registering water consumption on a monthly basis Using a filter system for an efficient water usage and informing all guests about efficient water usage and flushing toilets less than 6 liters per flush and equipped with a dual flush system is 88,9% at the 5-star hotels in Kusadası.

According to table 23 which located at the below, the ratio of applying “Green Star” practices at resort hotels in Kusadası is higher than business hotels in Kusadası. According to table 23 which located at the below, while involving the public in its effort to operate in a green way and using a key card plug-in system to cut power in case of absence are 100% for the resort hotels in Kusadası, the ratio of involving the public in its effort to operate in a green way is 33,3% at business hotels in Kusadası and the ratio of using a key card plug-in system to cut power in case of absence is 66,7% at business hotels in Kusadası. Only the ratio of using energy-saving bulbs for lighting the exterior or interior areas and inspecting ventilation system at least once a year among business hotels in Kusadası is higher than resort hotels in Kusadası. The ratio of the using energy-saving bulbs for lighting the exterior or interior areas and inspecting ventilation system at least once a year 100% at business hotel in Kusadası; whereas, this ratio is 90,9% at resort hotels in Kusadası.

Using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. has the lowest ratio for business hotel in Kusadası and resort hotels in Kusadası. While this ratio is 45,5% at resort hotels in Kusadası, this ratio is 33,3% at business hotels in Kusadası.

Table 23: Comparison Findings between Resort Hotels and Business Hotels in Kusadası

Statements	***Business hotels in Kusadası (%)***			***Resort Hotels in Kusadası (%)***		
	No	Partly applied	Yes	No	Partly applied	Yes
Does the hotel involve the public in its effort to operate in a green way?	33,3%	33,3%	33,3%	-	-	100,0%
Does the hotel use energy from renewable sources? Are there on-site facilities or partnerships with local producers for the production of renewable energy?	33,3%	50,0%	16,7%	36,4%	18,2%	45,5%
Does the hotel inform its staff with regard to environmental policy, and the role of staff in the implementation of this policy?	33,3%	50,0%	16,7%	-	9,1%	90,9%
Does the hotel have an energy-efficient heating system?	-	50,0%	50,0%	-	9,1%	90,9%
Does the hotel use energy-saving bulbs?	-	-	100,0%	-	9,1%	90,9%
Does the hotel use efficient shading systems, such as blackout curtains, shutters, and blinds?	16,7%	50,0%	33,3%	18,2%	18,2%	63,6%
Does the hotel use timers and motion detectors to optimize energy use?	-	16,7%	83,3%	9,1%	-	90,9%
Does the hotel use a key card plug-in system to cut power in case of absence?	-	33,3%	66,7%	-	-	100,0%
Does the hotel regularly collect data on energy consumption, and take action to reduce it?	16,7%	33,3%	50,0%	9,1%	-	90,9%
Is the total water consumption being registered on a monthly basis?	-	50,0%	50,0%	9,1%	9,1%	81,8%

Do toilets flush less than 6 liters per flush, and are they equipped with a dual flush system?	-	33,3%	66,7%	-	18,2%	81,8%
Does the hotel use a filter system for an efficient water usage? Are all guests informed about efficient water usage?	50,0%	33,3%	16,7%	9,1%	18,2%	72,7%
Is rain water being used where appropriate, e.g. for flushing toilets, water the lawn, etc.?	50,0%	16,7%	33,3%	27,3%	27,3%	45,5%
Is waste being separated into the categories outlined by local and national authorities?	-	50,0%	50,0%	18,2%	9,1%	72,7%
Is there a possibility to separate waste in rooms? Is there a possibility to separate garbage in cleaning carts (e.g. plastic and paper)?	-	50,0%	50,0%	18,2%	18,2%	63,6%
Have measures been taken to reduce the use of disposable products to a minimum, e.g. cups, plates and cutlery?	-	50,0%	50,0%	18,2%	18,2%	63,6%
Does the hotel use paper towels and toilet paper that is made of non-chlorine bleached paper, or paper with an eco-label? Does the hotel buy eco-friendly paper?	16,7%	66,7%	16,7%	-	45,5%	54,5%
Does the hotel avoid fossil-fuel as much as possible?	-	66,7%	33,3%	9,1%	9,1%	81,8%
Is the ventilation system being inspected at least once a year?	-	-	100,0%	9,1%	-	90,9%

Table 24: Comparison Findings for Green Star Practices between 3-star Hotels, 4-star Hotels and 5-star Hotels in city centre hotels in Izmir

Statements	***3-star hotels (%)***			***4-star hotels (%)***			***5-star hotels (%)***		
	No	Partly applied	Yes	No	Partly applied	Yes	No	Partly applied	Yes
Does the hotel involve the public in its effort to operate in a green way?	50,0%	-	50,0%	13,0%	30,4%	56,5%	-	-	100,0%
Does the hotel use energy from renewable sources? Are there on-site facilities or partnerships with local producers for the production of renewable energy?	87,5%	12,5%	-	21,7%	30,4%	47,8%	-	-	100,0%
Does the hotel inform its staff with regard to environmental policy, and the role of staff in the implementation of this policy?	50,0%	-	50,0%	8,7%	30,4%	60,9%	-	-	100,0%
Does the hotel have an energy-efficient heating system?	37,5%	25,0%	37,5%	17,4%	13,0%	69,6%	-	-	100,0%
Does the hotel use energy-saving bulbs?	-	12,5%	87,5%	-	4,3%	95,7%	-	-	100,0%
Does the hotel use efficient shading systems, such as blackout curtains, shutters, and blinds?	25,0%	25,0%	50,0%	17,4%	26,1%	56,5%	-	-	100,0%
Does the hotel use timers and motion detectors to optimize energy use?	12,5%	12,5%	75,0%	17,4%	4,3%	78,3%	-	-	100,0%
Does the hotel use a key card plug-in system to cut power in case of absence?	12,5%	12,5%	75,0%	4,3%	4,3%	91,3%	-	-	100,0%
Does the hotel regularly collect data on energy consumption, and take action to reduce it?	-	50,0%	50,0%	8,7%	8,7%	82,6%	-	-	100,0%

Is the total water consumption being registered on a monthly basis?	-	-	100,0%	4,3%	17,4%	78,3%	-	-	100,0%
Do toilets flush less than 6 liters per flush, and are they equipped with a dual flush system?	12,5%	-	87,5%	4,3%	13,0%	82,6%	-	-	100,0%
Does the hotel use a filter system for an efficient water usage? Are all guests informed about efficient water usage?	25,0%	25,0%	50,0%	4,3%	34,8%	60,9%	-	-	100,0%
Is rain water being used where appropriate, e.g. for flushing toilets, water the lawn, etc.?	62,5%	37,5%	-	39,1%	34,8%	26,1%	-	-	100,0%
Is waste being separated into the categories outlined by local and national authorities?	12,5%	25,0%	62,5%	17,4%	17,4%	65,2%	-	-	100,0%
Is there a possibility to separate waste in rooms? Is there a possibility to separate garbage in cleaning carts (e.g. plastic and paper)?	37,5%	12,5%	50,0%	21,7%	17,4%	60,9%	-	-	100,0%
Have measures been taken to reduce the use of disposable products to a minimum, e.g. cups, plates and cutlery?	-	37,5%	62,5%	4,3%	26,1%	69,6%	-	-	100,0%
Does the hotel use paper towels and toilet paper that is made of non-chlorine bleached paper, or paper with an eco-label? Does the hotel buy eco-friendly paper?	25,0%	37,5%	37,5%	21,7%	21,7%	56,5%	-	-	100,0%
Does the hotel avoid fossil-fuel as much as possible?	12,5%	50,0%	37,5%	4,3%	26,1%	69,6%	-	-	100,0%
Is the ventilation system being inspected at least once a year?	-	12,5%	87,5%	4,3%	4,3%	91,3%	-	-	100,0%

According to table 24, all 5-star hotels in city centre of Izmir apply “Green Star” practices.

Understanding from table 24, while the highest of applying “Green Star” practices is that water consumption registers on a monthly basis among 3-star hotels in city centre of Izmir. 100% of the 3-star hotels in city centre of Izmir register water consumption on a monthly basis. Using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. has the lowest ratio among 3-star hotels in city centre of Izmir. All hotels don’t use rainwater where appropriate, e.g. for flushing toilets, water the lawn. While the highest of applying “Green Star” practices is that hotels use energy-saving bulbs among 4-star hotels in city centre of Izmir. 95,7% of the 4-star hotels in city centre of Izmir use energy-saving bulbs. Using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. has the lowest ratio among 4-star hotels in city centre of Izmir. Only 26,1% of 4-star hotels in city centre of Izmir use rainwater where appropriate, e.g. for flushing toilets, water the lawn.

Table 25: Comparison Findings for "Green Star" between large hotels in Kusadası and city centre hotels of Izmir

Statements	***Large hotels in Kusadası (%)***			***Large hotel in city centre hotels of Izmir (%)***		
	No	Partly applied	Yes	No	Partly applied	Yes
Does the hotel involve the public in its effort to operate in a green way?	-	20,0%	80,0%	6,7%	13,3%	80,0%
Does the hotel use energy from renewable sources? Are there on-site facilities or partnerships with local producers for the production of renewable energy?	40,0%	40,0%	20,0%	13,3%	13,3%	73,3%
Does the hotel inform its staff with regard to environmental policy, and the role of staff in the implementation of this policy?	-	40,0%	60,0%	6,7%	13,3%	80,0%
Does the hotel have an energy-efficient heating system?	-	-	100,0%	6,7%	6,7%	86,7%
Does the hotel use energy-saving bulbs?	-	-	100,0%	-	-	100,0%
Does the hotel use efficient shading systems, such as blackout curtains, shutters, and blinds?	20,0%	40,0%	40,0%	6,7%	6,7%	86,7%
Does the hotel use timers and motion detectors to optimize energy use?	-	-	100,0%	6,7%	-	93,3%
Does the hotel use a key card plug-in system to cut power in case of absence?	-	20,0%	80,0%	-	-	100,0%
Does the hotel regularly collect data on energy consumption, and take action to reduce it?	-	-	100,0%	-	-	100,0%

Is the total water consumption being registered on a monthly basis?	-	20,0%	80,0%	-	6,7%	93,3%
Do toilets flush less than 6 liters per flush, and are they equipped with a dual flush system?	-	40,0%	60,0%	-	-	100,0%
Does the hotel use a filter system for an efficient water usage? Are all guests informed about efficient water usage?	20,0%	40,0%	40,0%	-	40,0%	60,0%
Is rain water being used where appropriate, e.g. for flushing toilets, water the lawn, etc.?	20,0%	40,0%	40,0%	20,0%	26,7%	53,3%
Is waste being separated into the categories outlined by local and national authorities?	20,0%	20,0%	60,0%	6,7%	6,7%	86,7%
Is there a possibility to separate waste in rooms? Is there a possibility to separate garbage in cleaning carts (e.g. plastic and paper)?	20,0%	20,0%	60,0%	13,3%	13,3%	73,3%
Have measures been taken to reduce the use of disposable products to a minimum, e.g. cups, plates and cutlery?	20,0%	20,0%	60,0%	-	20,0%	80,0%
Does the hotel use paper towels and toilet paper that is made of non-chlorine bleached paper, or paper with an eco-label? Does the hotel buy eco-friendly paper?	-	40,0%	60,0%	20,0%	20,0%	60,0%
Does the hotel avoid fossil-fuel as much as possible?	-	40,0%	60,0%	-	6,7%	93,3%
Is the ventilation system being inspected at least once a year?	-	-	100,0%	6,7%	-	93,3%

According to table 25, the ratio of applying “Green Star” practices at large hotels in Kusadası is higher than large hotel in city centre hotels of Izmir. While having an energy-efficient heating system, using energy-saving bulbs, using use timers and motion detectors to optimize energy, regularly collect data on energy consumption, and take action to reduce energy consumption, inspecting ventilation system at least once a year are 100% for large hotels in Kusadası, using a key card plug-in system to cut power in case of absence, using energy-saving bulbs, regularly collect data on energy consumption and take action to reduce energy consumption, inspecting ventilation system at least once a year, toilets flush less than 6 liters per flush, and are they equipped with a dual flush system are 100% large hotel in city centre hotels of Izmir.

There is a huge difference between large hotels in Kusadası and large hotel in city centre hotels of Izmir for using energy from renewable sources having on-site facilities or partnerships with local producers to produce renewable energy. Although using energy from renewable sources having on-site facilities or partnerships with local producers for the production of renewable energy is 20% for large hotels in Kusadası, this ratio is 73,3% for large hotel in city centre hotels of Izmir. Using energy from renewable sources having on-site facilities or partnerships with local producers for the production of renewable energy has a lowest ratio for large hotels in Kusadası. Although using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. has the lowest ratio for large hotel in city centre hotels of Izmir, this ratio is higher than large hotels in Kusadası. While the of using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. is 53,3% at large hotel in city centre hotels of Izmir, this ratio is 40% for large hotels in Kusadası.

Table 26: Comparison Findings for "Green Star" Practices at different operation years of hotels

Statements	***between 0 – 5 years (%)***			***between 6 – 10 years (%)***			***11 – 11+ years (%)***		
	No	Partly applied	Yes	No	Partly applied	Yes	No	Partly applied	Yes
Does the hotel involve the public in its effort to operate in a green way?	14,3%	7,1%	78,6%	16,7%	50,0%	33,3%	16,1%	12,9%	71,0%
Does the hotel use energy from renewable sources? Are there on-site facilities or partnerships with local producers for the production of renewable energy?	35,7%	21,4%	42,9%	16,7%	33,3%	50,0%	38,7%	25,8%	35,5%
Does the hotel inform its staff with regard to environmental policy, and the role of staff in the implementation of this policy?	28,6%	-	71,4%	8,3%	50,0%	41,7%	9,7%	19,4%	71,0%
Does the hotel have an energy-efficient heating system?	14,3%	28,6%	57,1%	16,7%	8,3%	75,0%	12,9%	16,1%	71,0%
Does the hotel use energy-saving bulbs?	-	7,1%	92,9%	-	8,3%	91,7%	-	3,2%	96,8%
Does the hotel use efficient shading systems, such as blackout curtains, shutters, and blinds?	28,6%	7,1%	64,3%	16,7%	25,0%	58,3%	16,1%	29,0%	54,8%
Does the hotel use timers and motion detectors to optimize energy use?	7,1%	14,3%	78,6%	8,3%	-	91,7%	12,9%	6,5%	80,6%
Does the hotel use a key card plug-in system to cut power in case of absence?	7,1%	14,3%	78,6%	8,3%	-	91,7%	-	9,7%	90,3%
Does the hotel regularly collect data on energy consumption, and take action to reduce it?	-	21,4%	78,6%	8,3%	16,7%	75,0%	12,9%	12,9%	74,2%
Is the total water consumption being registered on a monthly basis?	-	14,3%	85,7%	-	25,0%	75,0%	6,5%	12,9%	80,6%
Do toilets flush less than 6 liters per flush, and are they equipped with a dual flush system?	7,1%	-	92,9%	8,3%	16,7%	75,0%	3,2%	19,4%	77,4%
Does the hotel use a filter system for an efficient water usage? Are all guests informed about efficient water usage?	28,6%	21,4%	50,0%	8,3%	33,3%	58,3%	12,9%	22,6%	64,5%
Is rain water being used where appropriate, e.g. for flushing toilets, water the lawn, etc.?	64,3%	21,4%	14,3%	41,7%	25,0%	33,3%	32,3%	32,3%	35,5%

Is waste being separated into the categories outlined by local and national authorities?	21,4%	7,1%	71,4%	8,3%	16,7%	75,0%	16,1%	22,6%	61,3%
Is there a possibility to separate waste in rooms? Is there a possibility to separate garbage in cleaning carts (e.g. plastic and paper)?	28,6%	21,4%	50,0%	25,0%	25,0%	50,0%	12,9%	22,6%	64,5%
Have measures been taken to reduce the use of disposable products to a minimum, e.g. cups, plates and cutlery?	-	35,7%	64,3%	-	33,3%	66,7%	9,7%	22,6%	67,7%
Does the hotel use paper towels and toilet paper that is made of non-chlorine bleached paper, or paper with an eco-label? Does the hotel buy eco-friendly paper?	28,6%	21,4%	50,0%	16,7%	41,7%	41,7%	6,5%	35,5%	58,1%
Does the hotel avoid fossil-fuel as much as possible?	7,1%	14,3%	78,6%	8,3%	25,0%	66,7%	6,5%	35,5%	58,1%
Is the ventilation system being inspected at least once a year?	-	7,1%	92,9%	-	8,3%	91,7%	6,5%	3,2%	90,3%

According to table 26, using energy-saving bulbs, toilets flush less than 6 liters per flush and equipped with a dual flush system, inspecting ventilation system at least once a year have the highest ratio for the all “Green Star” practices and also their ratios are same for hotels which operate their activities between 0 – 5 years. The ratios of using energy-saving bulbs, toilets flush less than 6 liters per flush and equipped with a dual flush system, inspecting ventilation system at least once a year are 92,9%. Using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. has the lowest ratio for hotels which operate their activities between 0 – 5 years. The ratio of Using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. is 14,3% hotels which operate their activities between 0 – 5 years.

Using energy-saving bulbs, using timers and motion detectors to optimize energy consumption, inspecting ventilation system at least once a year, using a key card plug-in system to cut power in case of absence have the highest ratio for the all “Green Star” practices and also their ratios are same for hotels which operate their activities between 6 – 10 years. The ratios of using energy-saving bulbs, using timers and motion detectors to optimize energy consumption, inspecting ventilation system at least once a year, using a key card plug-in system to cut power in case of absence are 91,7%. Using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. has the lowest ratio for hotels which operate their activities between 0 – 5 years. The ratio of Using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. is 33,3% hotels which operate their activities between 6 – 10 years.

Using energy-saving bulbs has the highest ratio for the all “Green Star” practices at hotels which operate their activities 11 – more than 11 years. The ratio of using energy-saving bulbs is 96,8%. Using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. has the lowest ratio for hotels which operate their activities 11 – more than 11. The ratio of Using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. is 35,5% hotels which operate their activities 11 – more than 11 years.

According to table 27 which located below, all large 5-star hotels apply “Green Star” practices. Using energy-saving bulbs, using a key card plug-in system to cut power in case of absence, regularly collect data on energy consumption, and take action to reduce energy consumption have the highest ratio for the all “Green Star” practices and also their ratios are same for large 4- star hotels. The ratios of using energy-saving bulbs, using a key card plug-in system to cut power in case of absence, regularly collect data on energy consumption, and take action to reduce energy consumption are 100%. Using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. has the lowest ratio for large 4- star hotels. The ratio of Using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. is 35,7% at large 4- star hotels.

According to table 27 which located below, using energy-saving bulbs, using timers and motion detectors to optimize energy consumption, inspecting ventilation system at least once a year, having an energy-efficient heating system, regularly collect data on energy consumption, and take action to reduce energy consumption, registering water consumption on monthly basis, separating waste in rooms and garbage in cleaning carts (e.g. plastic and paper), reducing the use of disposable products to a minimum, e.g. cups, plates and cutlery have the highest ratio for the all “Green Star” practices and also their ratios are same for at large 3- star hotels. The ratios of these are 100%. Using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. and using paper towels and toilet paper that is made of non-chlorine bleached paper, or paper with an eco-label buying eco-friendly paper have the lowest ratio for at large 3- star hotels. The ratio of using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. and using paper towels and toilet paper that is made of non-chlorine bleached paper, or paper with an eco-label buying eco-friendly paper is 0% at large 3- star hotels.

Table 27: Comparison Findings for "Green Star" Practices between 3-star, 4-star and 5-star Large Hotels

Statements	***Large 3-star hotels (%)***			***Large 4- star hotels (%)***			***Large 5-star hotels (%)***		
	No	Partly applied	Yes	No	Partly applied	Yes	No	Partly applied	Yes
Does the hotel involve the public in its effort to operate in a green way?	-	50,0%	50,0%	7,1%	14,3%	78,6%	-	-	100,0%
Does the hotel use energy from renewable sources? Are there on-site facilities or partnerships with local producers for the production of renewable energy?	-	100,0%	-	28,6%	14,3%	57,1%	-	-	100,0%
Does the hotel inform its staff with regard to environmental policy, and the role of staff in the implementation of this policy?	-	50,0%	50,0%	7,1%	21,4%	71,4%	-	-	100,0%
Does the hotel have an energy-efficient heating system?	-	-	100,0%	7,1%	7,1%	85,7%	-	-	100,0%
Does the hotel use energy-saving bulbs?	-	-	100,0%	-	-	100,0%	-	-	100,0%
Does the hotel use efficient shading systems, such as blackout curtains, shutters, and blinds?	-	50,0%	50,0%	14,3%	14,3%	71,4%	-	-	100,0%
Does the hotel use timers and motion detectors to optimize energy use?	-	-	100,0%	7,1%	-	92,9%	-	-	100,0%
Does the hotel use a key card plug-in system to cut power in case of absence?	-	50,0%	50,0%	-	-	100,0%	-	-	100,0%
Does the hotel regularly collect data on energy consumption, and take action to reduce it?	-	-	100,0%	-	-	100,0%	-	-	100,0%
Is the total water consumption being registered on a monthly basis?	-	-	100,0%	-	14,3%	85,7%	-	-	100,0%
Do toilets flush less than 6 liters per flush, and are they equipped with a dual flush system?	-	50,0%	50,0%	-	7,1%	92,9%	-	-	100,0%
Does the hotel use a filter system for an efficient water usage? Are all guests	50,0%	50,0%	-	-	50,0%	50,0%	-	-	100,0%

informed about efficient water usage?									
Is rain water being used where appropriate, e.g. for flushing toilets, water the lawn, etc.?	-	50,0%	50,0%	28,6%	35,7%	35,7%	-	-	100,0%
Is waste being separated into the categories outlined by local and national authorities?	-	50,0%	50,0%	14,3%	7,1%	78,6%	-	-	100,0%
Is there a possibility to separate waste in rooms? Is there a possibility to separate garbage in cleaning carts (e.g. plastic and paper)?	-	-	100,0%	21,4%	21,4%	57,1%	-	-	100,0%
Have measures been taken to reduce the use of disposable products to a minimum, e.g. cups, plates and cutlery?	-	-	100,0%	7,1%	28,6%	64,3%	-	-	100,0%
Does the hotel use paper towels and toilet paper that is made of non-chlorine bleached paper, or paper with an eco-label? Does the hotel buy eco-friendly paper?	-	100,0%	-	21,4%	28,6%	50,0%	-	-	100,0%
Does the hotel avoid fossil-fuel as much as possible?	-	50,0%	50,0%	-	14,3%	85,7%	-	-	100,0%
Is the ventilation system being inspected at least once a year?	-	-	100,0%	-	7,1%	92,9%	-	-	100,0%

According to table 28 which located below, all large suite hotels and thermal hotels apply “Green Star” practices. Using energy-saving bulbs, regularly collect data on energy consumption, and take action to reduce energy consumption and inspecting ventilation system at least once a year have the highest ratio for the all “Green Star” practices and also their ratios are same for large business hotels. The ratios of using energy-saving bulbs, regularly collect data on energy consumption, and take action to reduce energy consumption and inspecting ventilation system at least once a year are 100%. Using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc., using paper towels and toilet paper that is made of non-chlorine bleached paper, or paper with an eco-label buying eco-friendly paper, using filter system for an efficient water usage and informing all guests informed about efficient water consumption have the lowest ratio for large business hotels. The ratio of Using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. is 50% at large business hotels.

Involving the public in its effort to operate in a green way, having an energy-efficient heating system, using energy-saving bulbs, using timers and motion detectors to optimize energy consumption, regularly collect data on energy consumption, and take action to reduce consumption, inspecting ventilation system at least once a year, using a key card plug-in system to cut power in case of absence have the highest ratio for the all “Green Star” practices and also their ratios are same for at large 3- star hotels. The ratios of these are 100%. Using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. and using energy from renewable source having on-site facilities or partnerships with local producers for the production of renewable energy have the lowest ratio for at large resort hotels. The ratio these are 25% at large resort hotels.

Table 28: Comparison Findings for "Green Star" Practices between Large Hotels According to Their Target Markets

Statements	***Business hotels (%)***			***Suite hotels (%)***			***Resort hotels (%)***			***Thermal hotels (%)***		
	No	Partly applied	Yes	No	Partly applied	Yes	No	Partly applied	Yes	No	Partly applied	Yes
Does the hotel involve the public in its effort to operate in a green way?	7,1%	21,4%	71,4%	-	-	100%	-	-	100%	-	-	100%
Does the hotel use energy from renewable sources? Are there on-site facilities or partnerships with local producers for the production of renewable energy?	14,3%	21,4%	64,3%	-	-	100%	50,0%	25,0%	25,0%	-	-	100%
Does the hotel inform its staff with regard to environmental policy, and the role of staff in the implementation of this policy?	7,1%	21,4%	71,4%	-	-	100%	-	25,0%	75,0%	-	-	100%
Does the hotel have an energy-efficient heating system?	7,1%	7,1%	85,7%	-	-	100%	-	-	100%	-	-	100%
Does the hotel use energy-saving bulbs?	-	-	100%	-	-	100%	-	-	100%	-	-	100%
Does the hotel use efficient shading systems, such as blackout curtains, shutters, and blinds?	7,1%	14,3%	78,6%	-	-	100%	25,0%	25,0%	50,0%	-	-	100%
Does the hotel use timers and motion detectors to optimize energy use?	7,1%	-	92,9%	-	-	100%	-	-	100%	-	-	100%
Does the hotel use a key card plug-in system to cut power in case of absence?	-	7,1%	92,9%	-	-	100%	-	-	100%	-	-	100%
Does the hotel regularly collect data on energy consumption, and take action to reduce it?	-	-	100%	-	-	100%	-	-	100%	-	-	100%

Is the total water consumption being registered on a monthly basis?	-	7,1%	92,9%	-	-	100%	-	25,0%	75,0%	-	-	100%
Do toilets flush less than 6 liters per flush, and are they equipped with a dual flush system?	-	7,1%	92,9%	-	-	100%	-	25,0%	75,0%	-	-	100%
Does the hotel use a filter system for an efficient water usage? Are all guests informed about efficient water usage?	7,1%	42,9%	50,0%	-	-	100%	-	50,0%	50,0%	-	-	100%
Is rain water being used where appropriate, e.g. for flushing toilets, water the lawn, etc.?	21,4%	28,6%	50,0%	-	-	100%	25,0%	50,0%	25,0%	-	-	100%
Is waste being separated into the categories outlined by local and national authorities?	7,1%	14,3%	78,6%	-	-	100%	25,0%	-	75,0%	-	-	100%
Is there a possibility to separate waste in rooms? Is there a possibility to separate garbage in cleaning carts (e.g. plastic and paper)?	14,3%	14,3%	71,4%	-	-	100%	25,0%	25,0%	50,0%	-	-	100%
Have measures been taken to reduce the use of disposable products to a minimum, e.g. cups, plates and cutlery?	-	21,4%	78,6%	-	-	100%	25,0%	-	75,0%	-	-	100%
Does the hotel use paper towels and toilet paper that is made of non-chlorine bleached paper, or paper with an eco-label? Does the hotel buy eco-friendly paper?	21,4%	28,6%	50,0%	-	-	100%	-	50,0%	50,0%	-	-	100%
Does the hotel avoid fossil-fuel as much as possible?	-	14,3%	85,7%	-	-	100%	-	25,0%	75,0%	-	-	100%
Is the ventilation system being inspected at least once a year?	-	-	100%	-	-	100%	-	-	100%	-	-	100%

According to table 29 which located below, all 5-star business hotels apply “Green Star” practices.

Understanding table 29 which located below, using energy-saving bulbs, using timers and motion detectors to optimize energy consumption, using a key card plug-in system to cut power in case of absence and inspecting ventilation system at least once a year have the highest ratios at the 1-star business hotels. The ratios of these are 100%. Using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. and separating waste in rooms and garbage in cleaning carts (e.g. plastic and paper) have the lowest ratio at the 1-star business hotels. The ratio of these are 0%. Although using energy-saving bulbs, having an energy-efficient heating system, using timers and motion detectors to optimize energy consumption, using a key card plug-in system to cut power in case of absence toilets flush less than 6 liters per flush, and equipped with a dual flush system, separating waste into the categories outlined by local and national authorities have the highest ratios at the 2-star business hotels and the ratios of these are 100%, most of “Green Star” practices don’t apply at the 2-star business hotels.

According to table 29 which located below, comparing to “Green Star” practices between 3-star business hotels and 4-star hotels, the ratio of applying “Green Star” practices at 4-star hotels is higher than 3-star business hotels. Using energy-saving bulbs and inspecting ventilation system are the highest ratios for both 3-star business hotels and 4-star business hotels. While the ratios of using energy-saving bulbs and inspecting ventilation system are 90% for 3-star business hotels; whereas, the ratios for these are 95,7% for 4-star business hotels. Using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc. has the lowest ratio for both 3-star business hotels and 4-star business hotels. While the ratio of this is 10% for 3-star business hotels, the ratio is 21,7% for 4-star business hotels.

Table 29: Comparison Findings for "Green Star" Practices between Different Stars Groups of Business Hotels

Statements	***1- star hotels (%)***			***2- star hotels (%)***			***3- star hotels (%)***			***4- star hotels (%)***			***5- star hotels (%)***		
	No	Partly applied	Yes	No	Partly applied	Yes	No	Partly applied	Yes	No	Partly applied	Yes	No	Partly applied	Yes
Does the hotel involve the public in its effort to operate in a green way?	-	66,7%	33,3%	100,0%	-	-	50,0%	10,0%	40,0%	13,0%	34,8%	52,2%	-	-	100,0%
Does the hotel use energy from renewable sources? Are there on-site facilities or partnerships with local producers for the production of renewable energy?	33,3%	33,3%	33,3%	100,0%	-	-	80,0%	20,0%	-	21,7%	34,8%	43,5%	-	-	100,0%
Does the hotel inform its staff with regard to environmental policy, and the role of staff in the implementation of this policy?	-	33,3%	66,7%	100,0%	-	-	50,0%	10,0%	40,0%	8,7%	39,1%	52,2%	-	-	100,0%
Does the hotel have an energy-efficient heating system?	33,3%	-	66,7%	-	-	100,0%	30,0%	30,0%	40,0%	13,0%	21,7%	65,2%	-	-	100,0%
Does the hotel use energy-saving bulbs?	-	-	100,0%	-	-	100,0%	-	10,0%	90,0%	-	4,3%	95,7%	-	-	100,0%
Does the hotel use efficient shading systems, such as blackout curtains, shutters, and blinds?	33,3%	-	66,7%	-	100,0%	-	20,0%	40,0%	40,0%	21,7%	21,7%	56,5%	-	-	100,0%
Does the hotel use timers and motion detectors to optimize energy use?	-	-	100,0%	-	-	100,0%	10,0%	20,0%	70,0%	17,4%	4,3%	78,3%	-	-	100,0%
Does the hotel use a key card plug-in system to cut power in case of absence?	-	-	100,0%	-	-	100,0%	10,0%	20,0%	70,0%	4,3%	8,7%	87,0%	-	-	100,0%
Does the hotel regularly collect data on energy consumption, and take action to reduce it?	33,3%	33,3%	33,3%	-	100,0%	-	10,0%	40,0%	50,0%	8,7%	8,7%	82,6%	-	-	100,0%
Is the total water consumption being	-	33,3%	66,7%	-	100,0%	-	-	10,0%	90,0%	4,3%	21,7%	73,9%	-	-	100,0%

registered on a monthly basis?															
Do toilets flush less than 6 liters per flush, and are they equipped with a dual flush system?	-	33,3%	66,7%	-	-	100,0%	10,0%	10,0%	80,0%	4,3%	17,4%	78,3%	-	-	100,0%
Does the hotel use a filter system for an efficient water usage? Are all guests informed about efficient water usage?	33,3%	-	66,7%	100,0%	-	-	40,0%	20,0%	40,0%	4,3%	43,5%	52,2%	-	-	100,0%
Is rain water being used where appropriate, e.g. for flushing toilets, water the lawn, etc.?	66,7%	33,3%	-	100,0%	-	-	60,0%	30,0%	10,0%	43,5%	34,8%	21,7%	-	-	100,0%
Is waste being separated into the categories outlined by local and national authorities?	33,3%	-	66,7%	-	-	100,0%	10,0%	40,0%	50,0%	17,4%	17,4%	65,2%	-	-	100,0%
Is there a possibility to separate waste in rooms? Is there a possibility to separate garbage in cleaning carts (e.g. plastic and paper)?	33,3%	66,7%	-	-	100,0%	-	30,0%	20,0%	50,0%	21,7%	21,7%	56,5%	-	-	100,0%
Have measures been taken to reduce the use of disposable products to a minimum, e.g. cups, plates and cutlery?	-	33,3%	66,7%	-	100,0%	-	-	40,0%	60,0%	4,3%	30,4%	65,2%	-	-	100,0%
Does the hotel use paper towels and toilet paper that is made of non-chlorine bleached paper, or paper with an eco-label? Does the hotel buy eco-friendly paper?	-	33,3%	66,7%	-	100,0%	-	30,0%	40,0%	30,0%	21,7%	30,4%	47,8%	-	-	100,0%
Does the hotel avoid fossil-fuel as much as possible?	33,3%	-	66,7%	-	100,0%	-	10,0%	60,0%	30,0%	4,3%	26,1%	69,6%	-	-	100,0%
Is the ventilation system being inspected at least once a year?	-	-	100,0%	-	-	100,0%	-	10,0%	90,0%	-	4,3%	95,7%	-	-	100,0%

4. Conclusions and Recommendations

Environmental problems in the world is an important problem facing human beings. The problems that can be taken against environmental problems and the lack of relevant laws and many others are among the biggest triggers of these problems. Looking root of the problem, it is seen that people are the most important reason for these problems. For meeting the demands and needs of the people rapidly and enormously, many different types of production have become in very much areas of the world. These demands and needs are also seen in the tourism industry like other industries. Performing of touristic activities are become by the use of natural and artificial resources which exist in the world. Reducing the environmental problems at the world level, some measures have been developed to eliminate environmental problems after the 1970s with increasing environmental awareness, and it has been revealed that tourism activities should be continued with an understanding that not only economic aspect but also prioritizes sustainable tourism and the environment. The accommodation enterprises have started to take some precautions against the negative effects on the environment during their activities and aim to minimize these problems by participating in social responsibility campaigns.

In this research, the level of “Green Star” practices which developed by the Republic of Turkey Ministry of Culture and Tourism in the Kusadası and city centre hotels in Izmir was searched. 57 of hotels was conducted a questionnaire in the city centre of Izmir and Kusadası. Questions which are related to the general management of the hotels, practices of the environment at the hotels, energy consumption, water consumption, waste management was asked examined with the questionnaire to the general manager of the hotel, department managers of hotels or reception staffs of the hotels.

Most of the hotels have an environmental policy and action plan. The environmental sensitivity of hotels can be perceived as effective in the management process. However, it has understood that practices of sustainability at most small, medium hotels and most of 1-star and 2-star hotel is very low level. it is seen that most of the hotels collect and monitor data on water, electricity, energy consumption and waste.

Within the scope of the Green Star, most environmental protection practices have been determined to be “above the average” at hotels. Practices of using energy from renewable sources and having on-site facilities or partnerships with local producers for the production of renewable energy, using efficient shading systems, such as blackout curtains, shutters, and blinds, using a filter system for an efficient water usage and informing all guests about efficient water usage, using rainwater where appropriate, e.g. for flushing toilets, water the lawn, etc., separating waste in rooms and garbage in cleaning carts (e.g. plastic and paper) and using paper towels and toilet paper that is made of non-chlorine bleached paper, or paper with an eco-label and buying eco-friendly paper have the lowest level among the all practices.

It has seen that hotels apply practices at the rooms about reducing the consumption energy, water. However, some practices have been very low for water consumption. It was understood that most the hotels don’t use rainwater where appropriate, e.g. for flushing toilets, water the lawn.

In the research, it has seen that there are statistical differences for “Green Star” practices between hotels in the city centre of Izmir and hotels in Kusadası. The “Green Star” practices in the city centre of Izmir are higher than Kusadası. Furthermore, it has been concluded that 1-star hotels, 2-star hotels and 3-star hotels are inadequate for “Green Star” practices according to 4-star hotels and 5-star hotels star hotels. It is thought that a significant part of 1-star hotels, 2-star hotels and 3-star hotels have the status of individual hotel, environment-friendly practices require cost, hotel owners are not open to innovations and these applications are unnecessary and they are the most important reasons for differences.

Hotels need an efficient central heating system to keep the temperature of all rooms and public spaces warm during the cold days. Inadequate central heating in 3-star hotels both increases the costs and increases the damage caused to the natural environment due to the use of more resources.

In hotels which are not open to innovation and do not benefit from technology, the costs and hence the damage to the environment will increase more due to the fact that activities are not carried out effectively. Another cost aspect of hotels is energy use. Using

energy from renewable sources and having on-site facilities or partnerships with local producers for the production of renewable energy at city centre hotels in Izmir is higher than Kusadası.

Considering all these results, it has found that there are differences in the practice levels in terms of the status of hotels (different stars) and their locations. It concludes that 5-star hotels are more environmentally friendly. When city centre hotels in Izmir and hotels in Kusadası are compared, it is understood that city centre hotels in Izmir is more environmentally friendly. Considering the findings, the following suggestions can be presented to hotel managers working at city centre hotels in Izmir and hotels in Kusadası in order to increase Green Star application levels:

- ☞ In order to carry out the environmental policies of the city centre hotels in Izmir and hotels in Kusadası in a systematic way, they should more prefer environmental management systems. In addition, specialized units for environmental activities should be established in hotels to carry out these activities.
- ☞ It can be advised that hotels can be have a partnership with institution which work for sustainable environment for controlling their environmental activities.
- ☞ It can be advised that hotels can take certificate of environment.
- ☞ Consumption of water at rooms and main areas of hotels are very high. For reducing the costs of hotels and to protect the environment, hotels should install water treatment systems. Furthermore, hotels should use waste water and rainwater where appropriate, e.g. for flushing toilets, water the lawn.
- ☞ Heat management in the hotel is an important issue for the use of resources. It can be advised that installing a central heating system in hotels as the attempt to adjust the heat balance in different parts of the hotel without a system will increase the heat costs and damage to the environment.

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Appendix 1

Dear sir/madam,

Sustainable tourism is changing, from being relatively niche and misunderstood into the mainstream of the tourism industry and is increasingly being sought by guests. I am interested in learning how green your tourism business is. Can you complete this questionnaire for helping my MBA thesis?

Name of hotel:

Phone number:

e-mail address:

address:

Section 1: *The first 5 questions are about hotel background*

1) How many years does hotel operate?

☐ between 0 – 5 years ☐ between 6 – 10 years ☐ 11 – 11+ years

2) Please give an information to size of hotel.

☐ Small hotel (25 rooms or less) ☐ Medium Hotel (26 – 100 rooms)

☐ Large Hotels (101 – 300 rooms) ☐ Very Large Hotels (more than 300 rooms)

3) According to star rating system, how many stars does hotel have?

☐☆ ☐☆☆ ☐☆☆☆ ☐☆☆☆☆ ☐☆☆☆☆☆

4) what is the target market of hotel? (according to classification of target market)

☐ Business hotel ☐ Airport hotel

☐ Suite Hotel ☐ Resort Hotel

☐ Conference and Convention Centers ☐ Thermal Hotel

5) What is the annual revenue of hotel?

☐ Between 1,000,000 – 2,000,000 ₺ ☐ Between 2,000,001 – 3,000,000 ₺

☐ Between 3,000,001 – 4,000,000 ₺ ☐ Between 4,000,001 – 5,000,000 ₺

☐ More than 5,000,000 ₺

Section 2: *Green Hotel Project: (1 = no, 2 = partially applies, 3 = yes)*

Statement	**1**	**2**	**3**
Does the hotel involve the public in its effort to operate in a green way?			
Does the hotel use energy from renewable sources? Are there on-site facilities or partnerships with local producers for the production of renewable energy?			
Does the hotel inform its staff with regard to environmental policy, and the role of staff in the implementation of this policy?			
Does the hotel have an energy-efficient heating system?			
Does the hotel use energy-saving bulbs?			
Does the hotel use efficient shading systems, such as blackout curtains, shutters, and blinds?			
Does the hotel use timers and motion detectors to optimize energy use?			
Does the hotel use a key card plug-in system to cut power in case of absence?			
Does the hotel regularly collect data on energy consumption, and take action to reduce it?			
Is the total water consumption being registered on a monthly basis?			
Do toilets flush less than 6 litres per flush, and are they equipped with a dual flush system?			
Does the hotel use a filter system for an efficient water usage? Are all guests informed about efficient water usage?			
Is rain water being used where appropriate, e.g. for flushing toilets, water the lawn, etc.?			
Is waste being separated into the categories outlined by local and national authorities?			
Is there a possibility to separate waste in rooms? Is there a possibility to separate garbage in cleaning carts (e.g. plastic and paper)?			
Have measures been taken to reduce the use of disposable products to a minimum, e.g. cups, plates and cutlery?			
Does the hotel use paper towels and toilet paper that is made of non-chlorine bleached paper, or paper with an eco-label? Does the hotel buy eco-friendly paper?			
Does the hotel avoid fossil-fuel as much as possible?			
Is the ventilation system being inspected at least once a year?			