



RESORT *Atza*

An exquisite experience awaiting you
off the coast of Mexico.

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Introduction

CURRENT STATE OF CONSTRUCTION

- Construction is very unsustainable
- Main materials are concrete, bricks and metals due to cheapness
- Lack of availability of greener alternatives

CLIENT BRIEF

- Client wants to invest US\$4,000,000 for building a seaside resort
- Resort should be profitable while being as sustainable as possible
- Resort should be sustainable during operations as well

WHAT WE'RE DOING

- Utilizing sustainable materials during construction
- Using sustainable alternatives for operations of the resort
- Maintaining the client's budget
- Ensuring feasibility of the resort in the long run

CLIENT RESEARCH

BACKGROUND

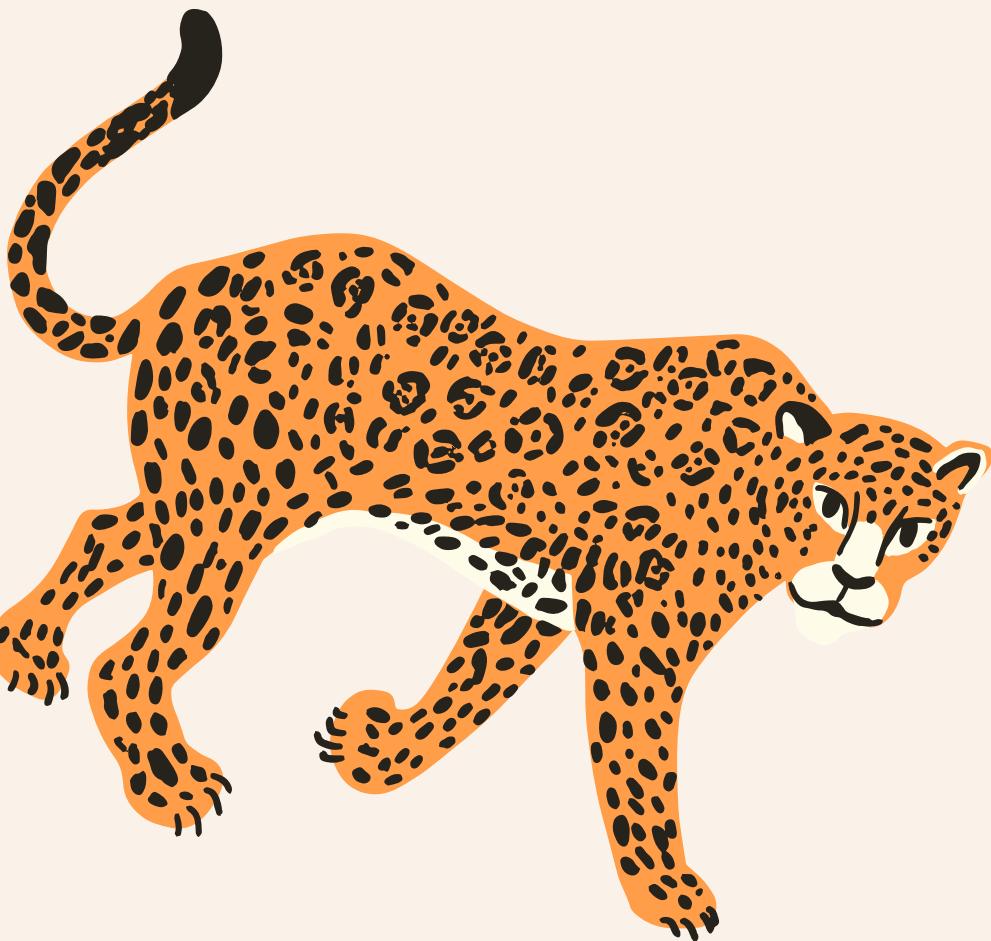
- Mr. Ali Anwar
- Businessman by profession
- Early 30s
- Well known for philanthropic work
- Invests in sustainable projects to promote sustainable development

REQUIREMENTS

- Resort should be as sustainable as possible, from construction to operations
- Diversity and culture of the resort's location should be displayed in design choices
- All amenities should be provided to guests

TARGET AUDIENCE

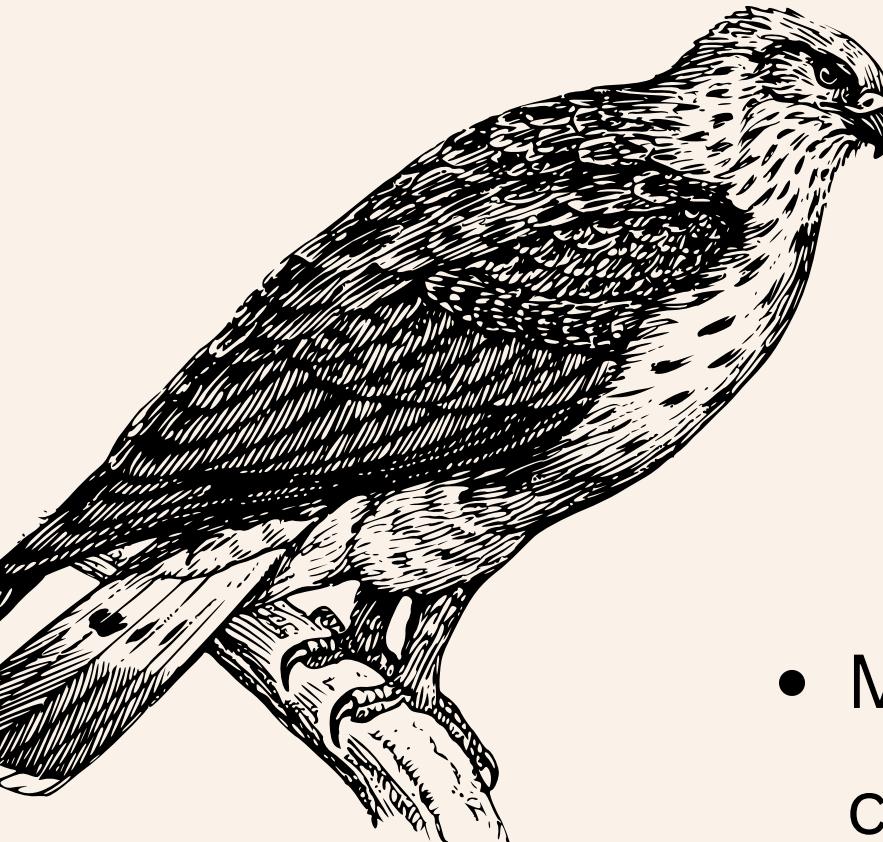
- Mainly targets international audience and families
- Open to all guests regardless of background



CULTURAL

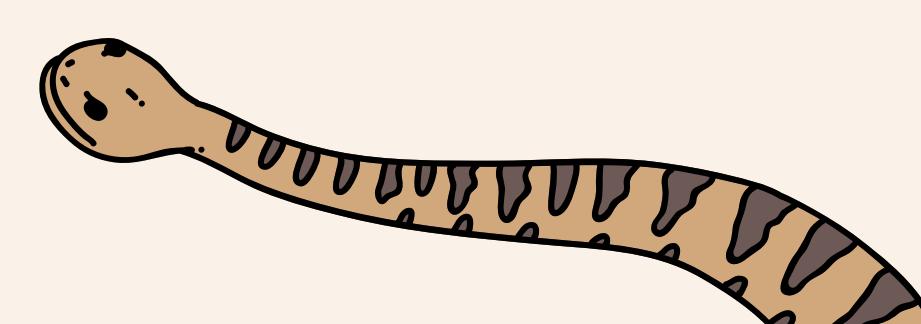
Features





WILDLIFE

- Mexico's diverse ecosystems range in different areas contributing to its rich wildlife
- The golden eagle, Mexico's national animal and bird, is famously depicted on the country's flag
- The jaguar is Mexico's national mammal.
- The Xoloitzcuintli is Mexico's national dog
- Migrating stop for birds and insects
- Home to a wide variety of unique and diverse wildlife
- Protected areas and national parks to safeguard natural heritage





Coat of Arms of Mexico depicting
a golden eagle eating a rattlesnake



Flamingos off the coast of Holbox Island

The Xoloitzcuintli, a breed
of hairless dog that is also
Mexico's national dog



TOURISM



74%

of tourists arrive from the American continent, followed by Europeans, Asians and Latin American countries

- In 2017, Mexico was the 6th most visited country globally and had the 15th highest tourism income worldwide.
- As of 2021, Mexico has fallen to the 40th most visited country in the world, reflecting changing tourism trends over time.



ARTS



- Street art representing different meanings.
- Vertical gardens offer perfect settings for vibrant photos.
- Traditional costumes (huipil, quechquémitl, rebozo, charro and china poblana)

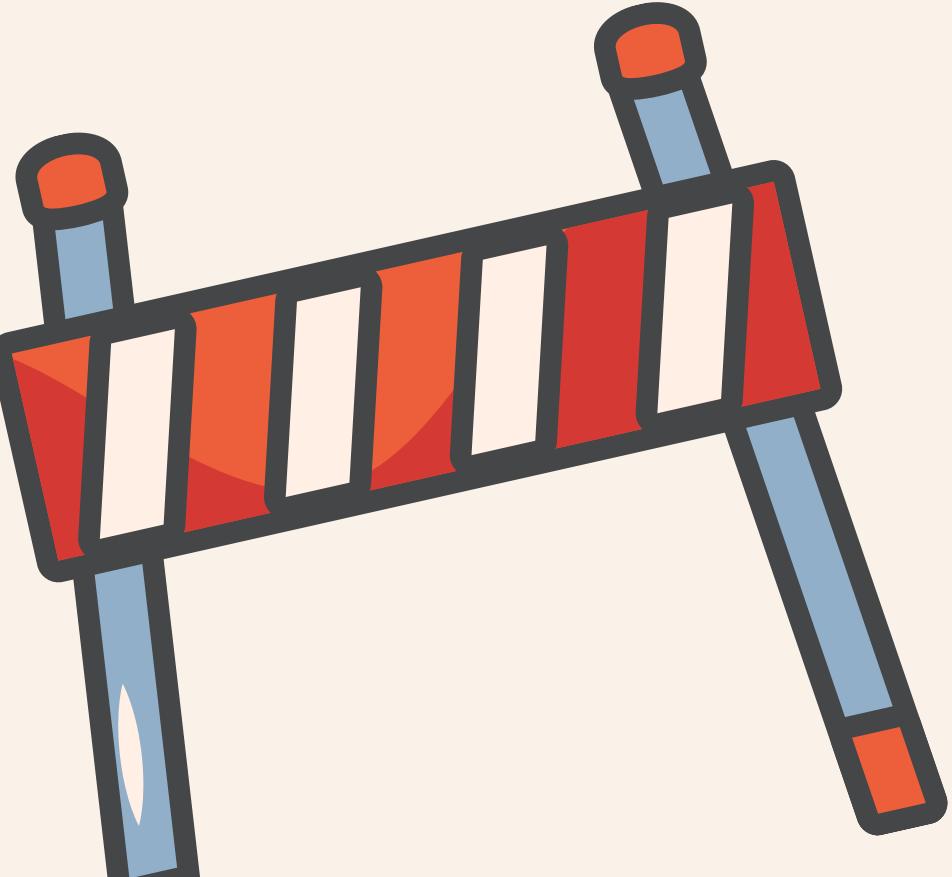


ARCHITECTURE

- Ancient ethnic groups and enduring traditions.
- Rich artistic heritage.
- Mayan architecture and Pucc architecture.
- Mexican-style houses are colorful and decorative.
- Roofs serve as both covering materials and provide heat relief in desert areas.

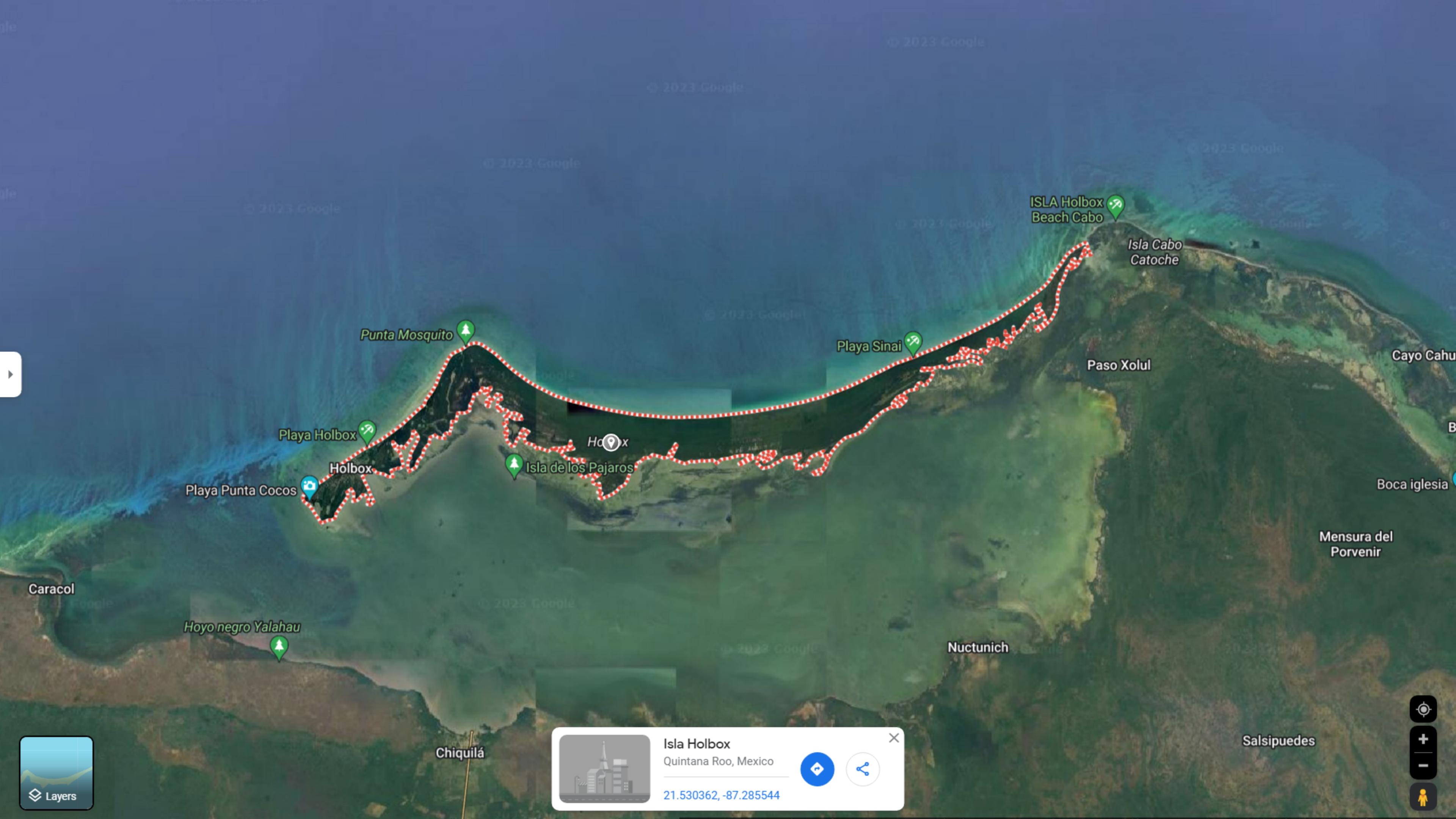


SITE *Analysis*



LOCATION

- Isla de Holbox, Quintana Roo, Yucatán
- Area of around 55,948 sq. km
- Long beaches and rich birdlife
- Separated from mainland Mexico by shallow lagoon
- Small public airport
- Resort is around 1.2 km away from airport
- Area of resort site is approximately 230 sq. m.

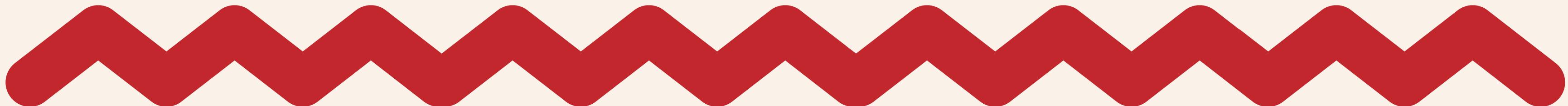


CLIMATE

- Diverse range of climatic conditions due to vast size
- Maritime air masses are primary source of precipitation
- Rains usually from May to August
- Hurricanes are common from August to October
- Holbox climate is mainly tropical
- August is the warmest month whereas January is the coldest

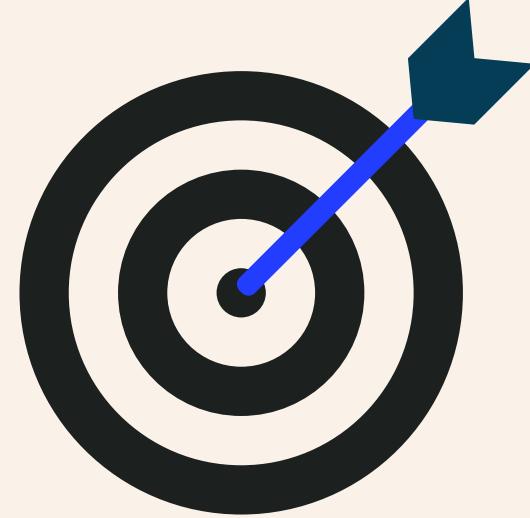
STRENGTHS

- Proximity to the airport
- Resort is the most sustainable hotel on the island, aligning with consumer trends



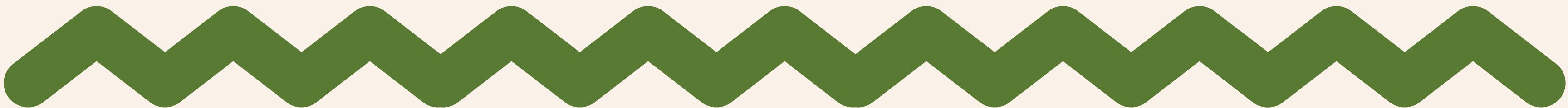
WEAKNESSES

- Established hotels in the area will compete with us
- Proximity to sea raises concerns of potential damage due to climate change



OPPORTUNITIES

- Resort appeals to guests with its sustainable theme
- Resort is constructed using materials that can be repurposed, ensuring responsible practices



THREATS

- Negativity in press could deter potential tourists. However, Mexico maintains a robust tourism industry which negates this threat.

CONSTRUCTION

Materials



Exterior Materials

HEMPCRETE

- Greener alternative to traditional concrete
- Hemp-lime composite building material
- Created by mixing chopped hemp shiv with lime-based binder
- Hemp grows rapidly
- Incredible insulating properties
- Resistant to water and its side effects

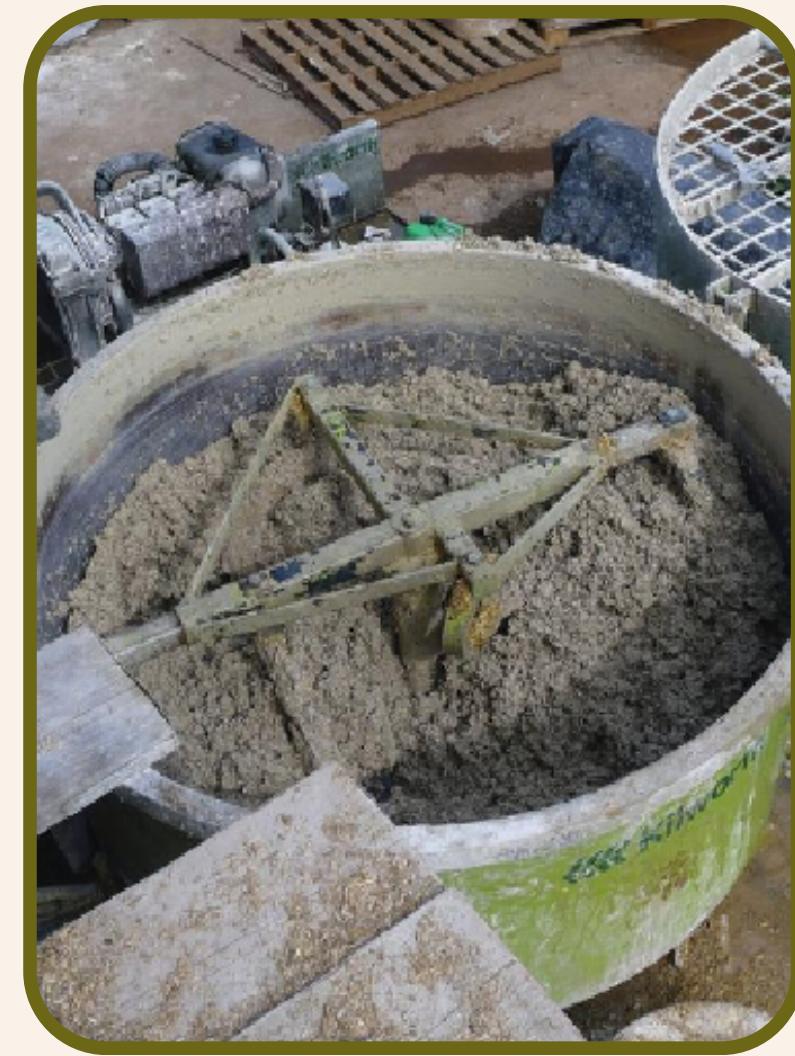


Hemp plant



Hempcrete
blocks in a wall

Hemp shiv -
used to create
hempcrete



Hempcrete
being processed
in a mixer

Exterior Materials



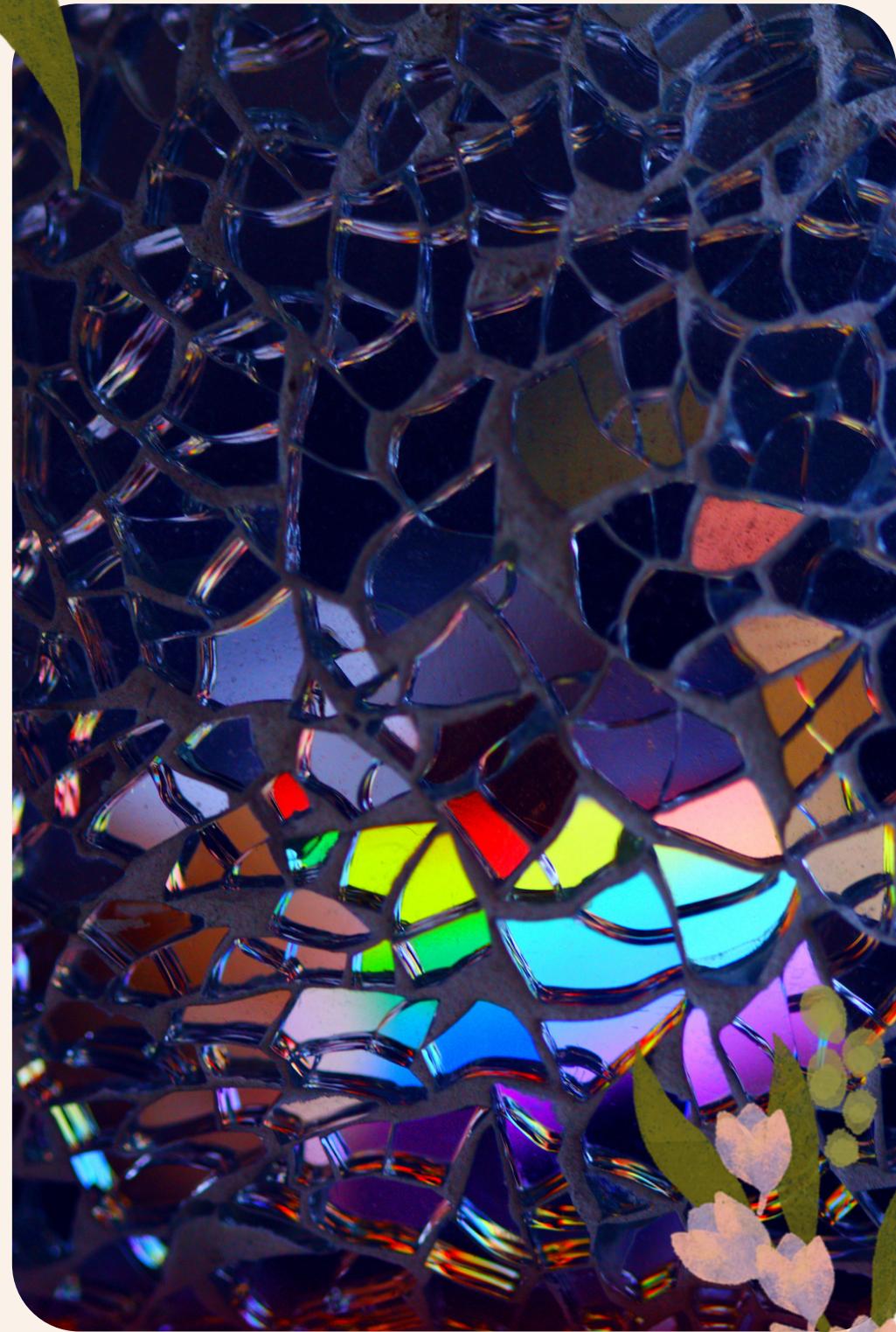
STEEL

- Alloy of iron and carbon - carbon content ranging up to 2 percent
- Most popular material in global infrastructure and industries
- Used to manufacture a variety of products, from sewing needles to oil tankers
- Excellent service life of steel structures built to industry standards
- Coatings to prevent corrosion are easily available

Exterior Materials

RECYCLED GLASS

- Made of natural materials like sand, soda ash, limestone and recycled glass (known as cullet)
- Recycled glass is more sustainable
- Used for windows, vase , mirrors and other accessories



Exterior Materials



TIMBER

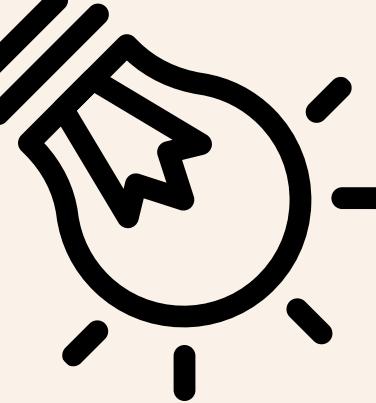
- Natural material used in many forms for building and construction
- Cheap and abundant material found throughout Mexico
- Acts as a carbon sink
- Provides thermal insulation

Exterior Materials

JUTE

- Incredible durability
- Maturity period is only 4 to 6 months
- Requires less land to grow
- Used to make rugs and rooftop coverings





INTERIOR MATERIALS

RECLAIMED WOOD



- Highly durable and eco friendly
- Extensive process required to procure it
- Primarily used in furniture

BAMBOO



- Found naturally in Mexico
- Grows rapidly
- Stronger than hardwood
- Used in chairs and decorative elements

CERAMIC



- Known for strength and durability
- Usually found as a paste/powder from raw materials
- Used for bathroom walls, shower box and infinity pool



Architecture

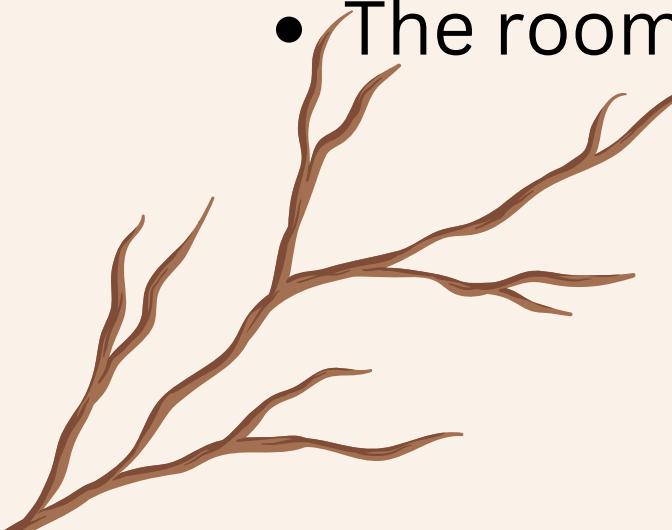
EXTERIOR DESIGN

- Square based pyramid made of steel, glass, hempcrete, and other sustainable materials
- Shaped similarly to the Chichen Itza to showcase culture
- Building is mainly made of hempcrete
- Infinity pool on the top offers breathtaking views
- Spacious designing to ensure comfort of guests
- Frequent inspections for maintaining building's structure

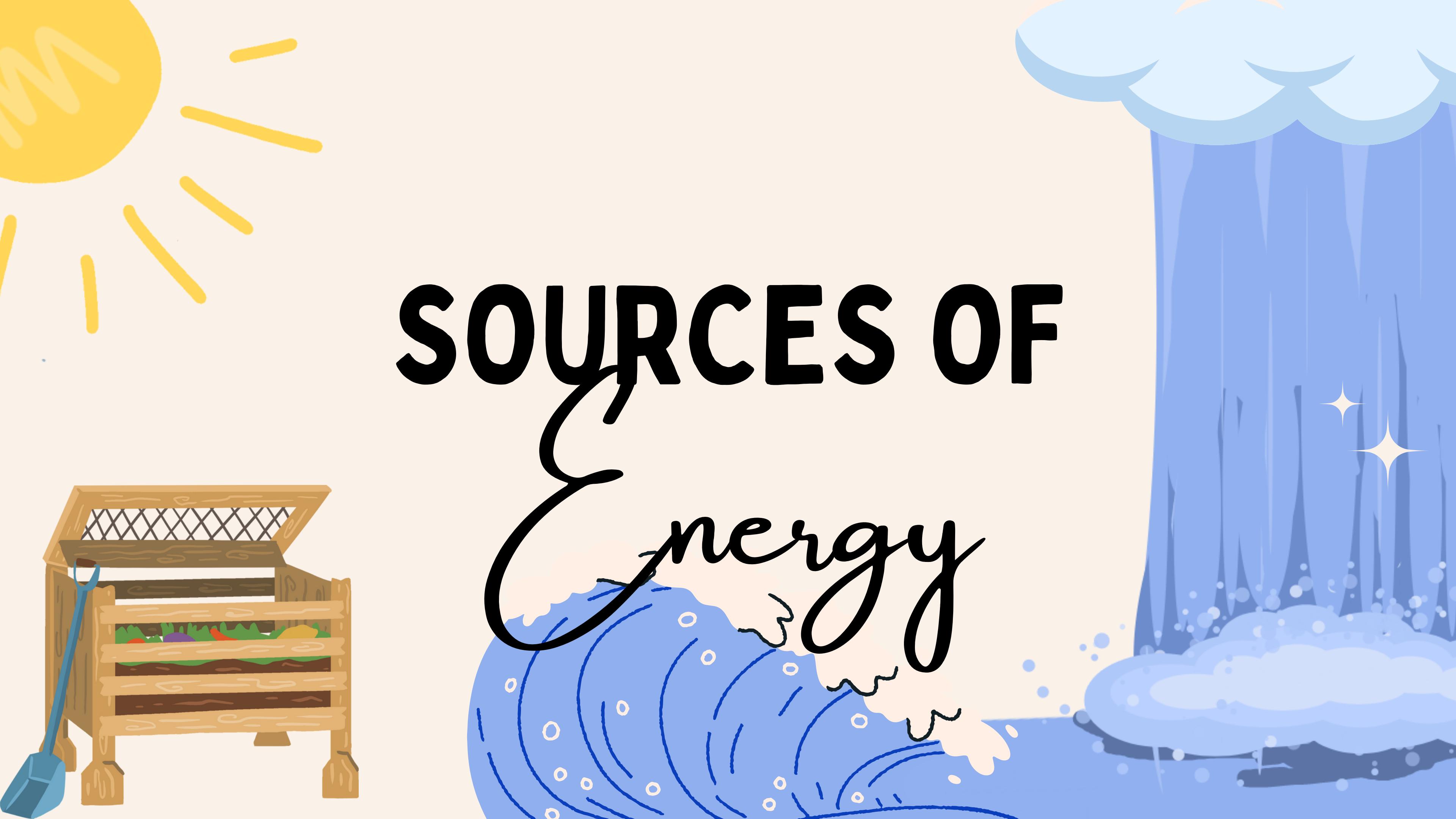


INTERIOR DESIGN



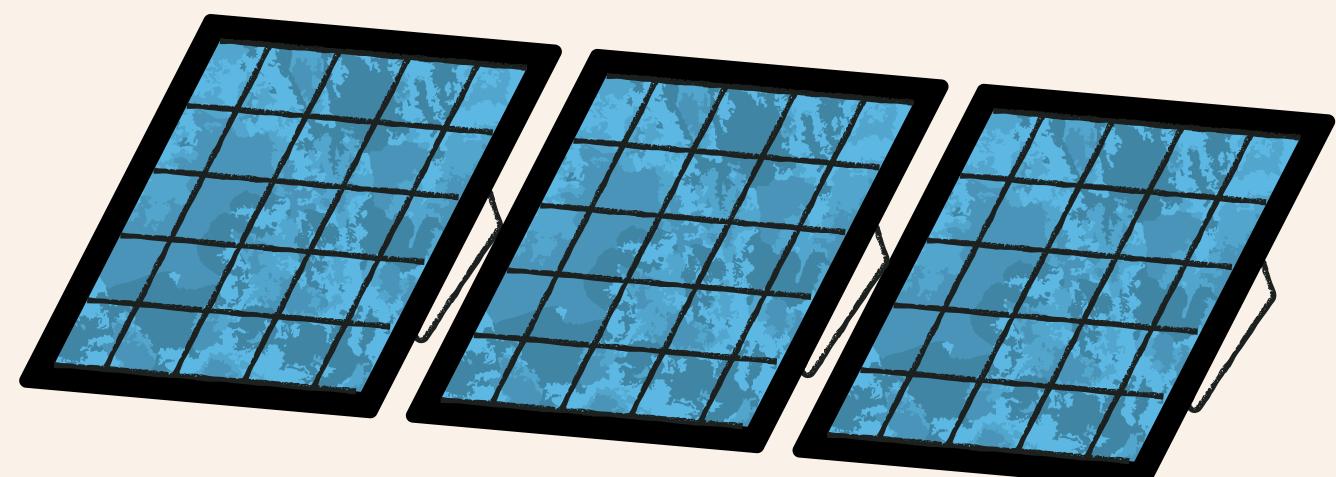
- Privacy and exclusivity are prioritized by excluding the ground floor from guest rooms
 - To cater to a variety of guests, the floors are divided into different structures, distinguishing standard hotel rooms from luxurious suites
 - Guests can stay fit and engaged with a gym and gaming room located on the 8th floor
 - The resort's ballroom on the 9th floor is perfect for events and gatherings
 - The infinity pool on the 10th floor boasts breathtaking views and a tranquil atmosphere
 - Guests can easily enter and exit the resort with two entrance/exit doors in the lobby
 - The room's aesthetic promotes relaxation with calming colors and lighting
- 
- 

SOURCES OF Energy



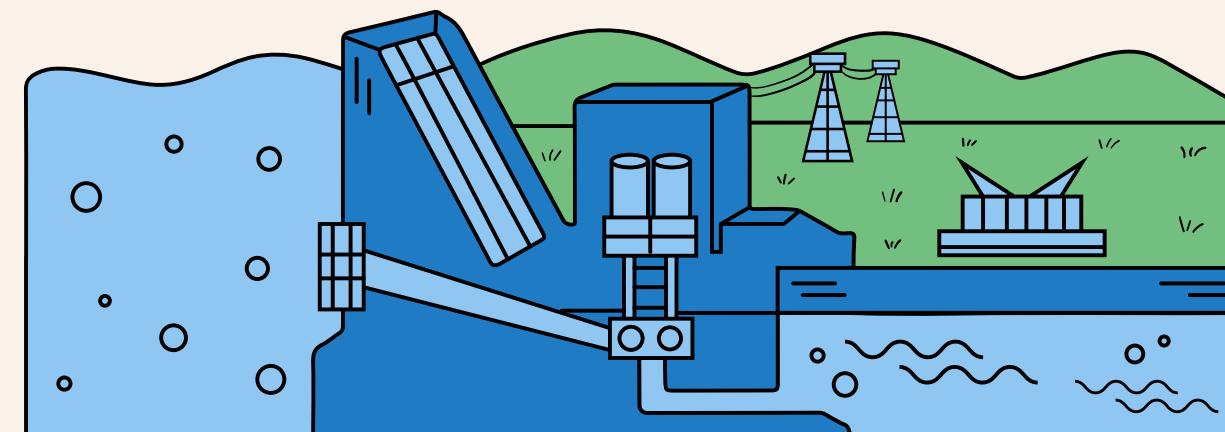
SOLAR ENERGY

- Harnessed from the sunny weather
- Works by converting energy from the sun into electric power
- Two forms of energy
- are generated from the sun for our use – electricity and heat
- Both are generated through the use of solar panels
- Panels range in size from residential rooftops to solar farms



HYDROELECTRIC POWER

- One of the oldest and largest sources of renewable energy
- Conventional Hydroelectric facilities include Run-of-the-river systems, where the force of the river's current applies pressure on a turbine.



BIOGAS

- Renewable and clean energy source.
- Produced from organic waste like food scraps and animal manure.
- Helps counter the environmental impact of LPG cylinders.
- Utilizes gases from natural decay, reducing environmental harm.
- Byproducts include organic digestate, a natural fertilizer.
- Reduces waste management costs and carbon footprint.



BACKUP

STANDBY GENERATORS

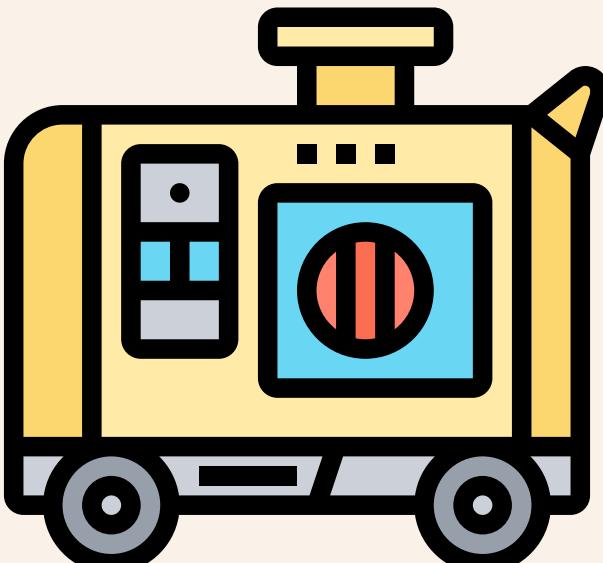
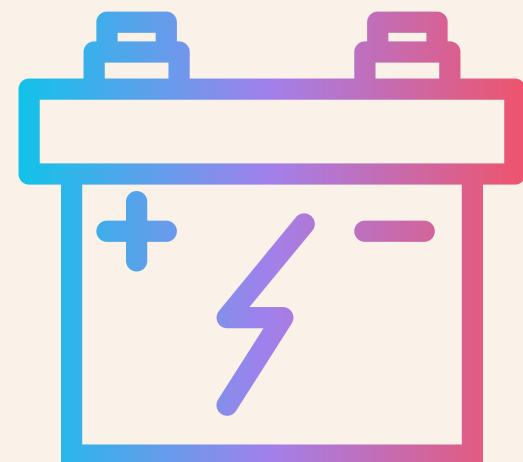
- Automatically activated generators
- Natural gas and diesel variants
- Can run indefinitely if connected to the main gas line
- Require regular maintenance

PORABLE GENERATORS

- Use gasoline, diesel, or propane
- Affordable but with limited capacity
- Suitable for short-term use during outages

BATTERY BACKUPS

- Work alongside UPS generators
- Ensure minimal power interruptions
- Often paired with off-grid power systems
- Provide critical power when generation is not possible

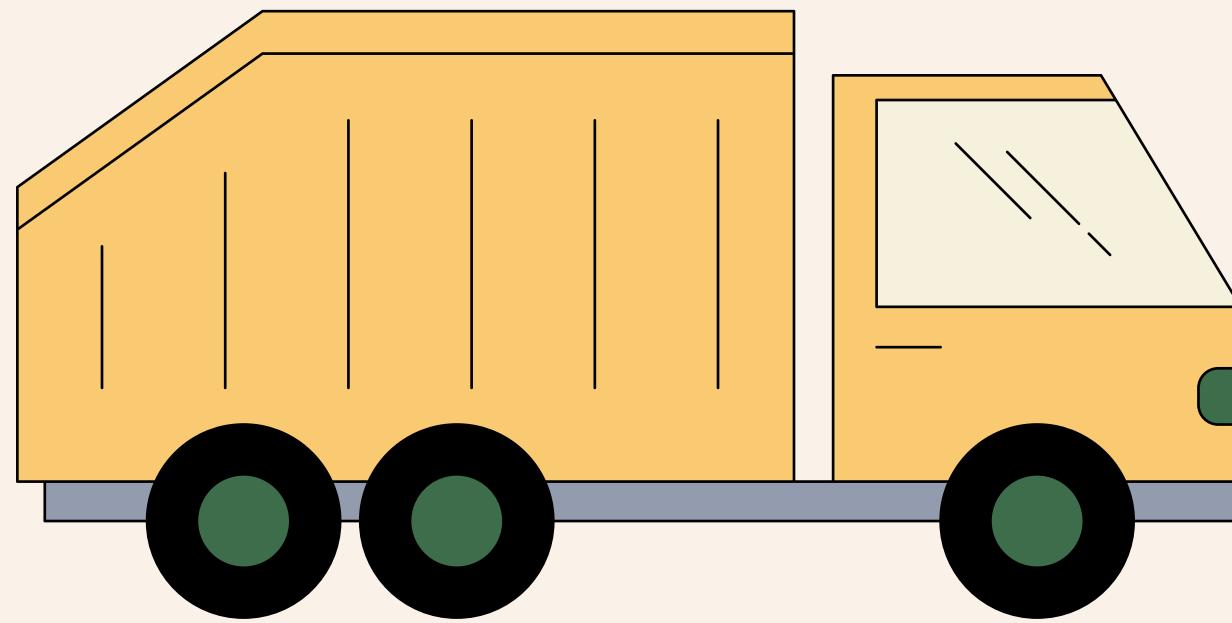


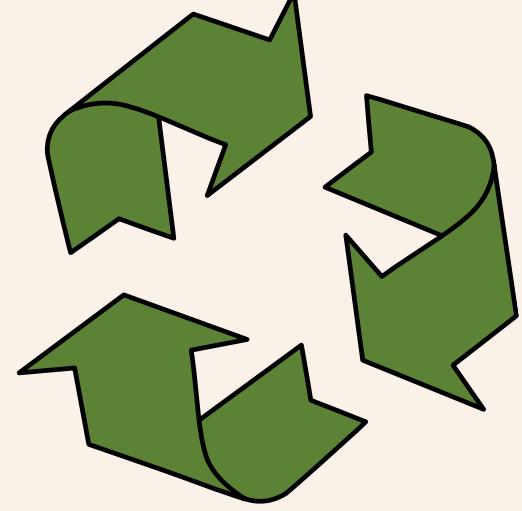


**Backup Uninterrupted
Power Supply (UPS)**

MANAGEMENT OF

Waste





GUEST WASTE



PLASTIC

- Usually generated from cups, straws, coffee lids, bottles and amenity kits.
- We are partnering with Polyfloss, which specializes in recycling plastic materials to create fibers for manufacturing products

PAPER

- Generally comes from usage of brochures, flyers, receipts, paper cups and other paper-based materials
- We will partner with Bio Pappel to recycle paper waste

METAL

- Typically generated from cans, such as tinned food and soft drink cans
- Mexican company Hormesa will handle metal waste

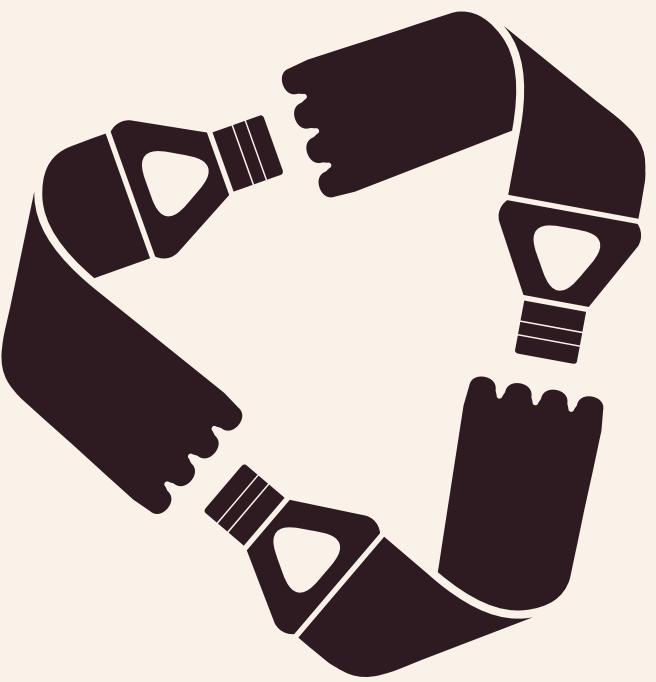
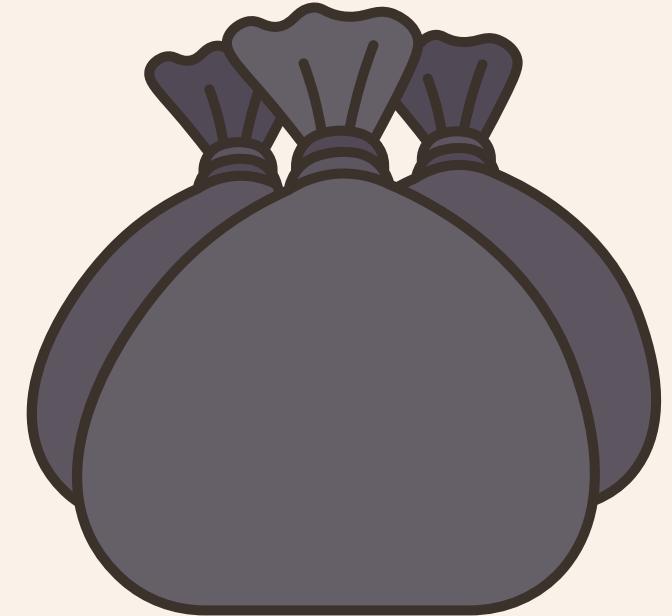
GLASS

- Primarily generated by accident, such as the breakage of a vase or a jar or something similar
- Promapi will ensure the proper recycling of glass waste

GUEST WASTE

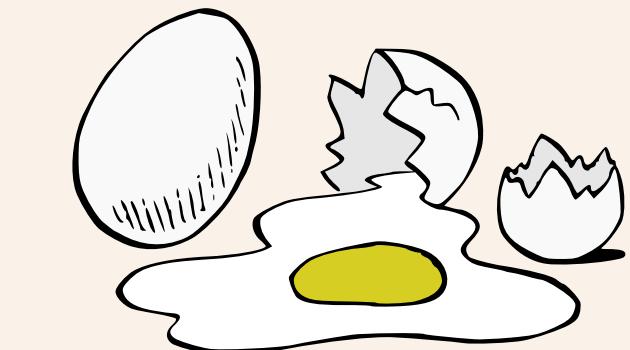
NON-RECYCLABLE WASTE

- Includes items such as styrofoam cups and utensils.
- Waste that cannot be reused or recycled
- This waste will be sent to the local garbage collection point, where it may be incinerated or sent to a landfill.



KITCHEN WASTE

- Kitchen waste is mainly composed of food items or items used to prepare the food.
- This type of waste is rich in nutrients
- Kitchen waste is a perfect fuel for generating biogas
- Kitchen waste will be converted to biogas to power up the resort's kitchen



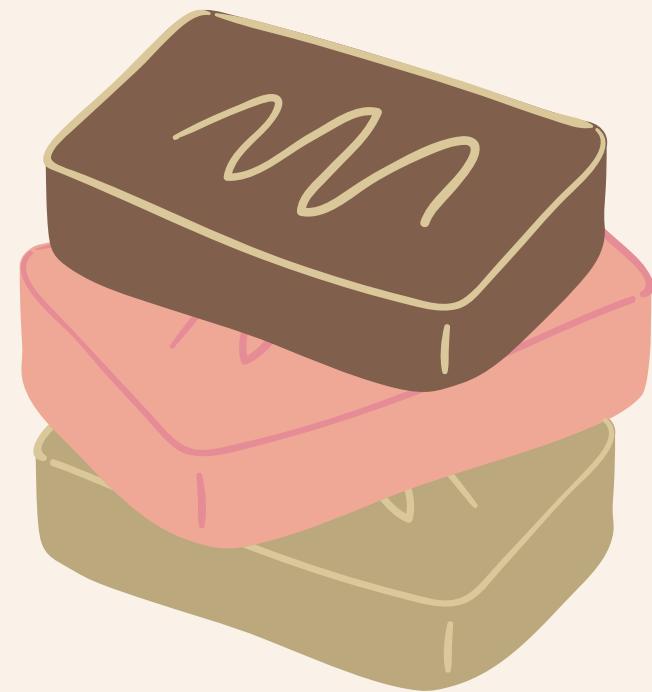
TEXTILE WASTE

- Hotel industry has a large impact when it comes to generating textile waste such as sheets, bathrobes, pillowcases and towels
- When used over time, these can be recycled and remade into something new, such as clothes.



SOAP BARS & TOILETRIES

- One of the biggest contributors to waste from a resort
 - This waste contains personal hygiene items that cannot be reused
 - Clean the World Foundation has come up with an innovative solution
 - Used bars of soap are ground into pellets, cleaned and remade into soap bars and sold in low-income countries
- 





Conclusion



Discussion.