Ecolabelling Marari Beach

cBalance Solutions Hub

The Green Signal is India's only sustainability ecolabelling body & is proud to award Marari beach as part of the CGH Earth Group of hotels.

Ecolabelling

is a voluntary method of environment performance certification & labelling that is practiced around the world. An 'ecolabel' is a label which identifies overall environment preference of a product or service within a specific product/service category based on life cycle considerations. A sustainability ecolabel assesses overall sustainability of both products & service categories from 'Lifecycle', i.e. cradle-to-grave perspective.

The Green Signal Decoded

1 Bar:
disclosure of Scope 1 and Scope 2 GHG emissions
2 Bar:
disclosure of key Scope 3 GHG emissions
3 Bar:
disclosure of Scope 1 and Scope 2 emissions of primary supply chain vendor/contractor stakeholders
3.5 Bar:
disclosure of excellence in energy conservation, energy efficiency,renewable energy practices
4 Bar:
disclosure of excellence in water conservation practices
4.5 Bar:
disclosure of excellence in material management, waste reduction and waste management practices
5 Bar:
disclosure of excellence in socio-economic -environmental sustainability initiatives for positive social impact on local community and equitable growth

Contents

Introduction

Marari beach, is a resort based in the small village of Maraikulam in Kochi, Kerala. It is highly inspired by the rustic life of the fishermen folk of the village and these very village aesthetics are echoed in the architecture and the layout of this 3 star resort. Simple living in surroundings of a modern day luxury resort is a uniquely Marari experience. With no access to TV, newspapers or internet in the guest rooms, one is encouraged to go out and explore the natural surroundings. The 36 acre property has walking pathways running all through it, thus allowing one to explore it entirely on foot.

This Ecolabelling report seeks to provide a comprehensive overview of the environmental practices of the hotel based on a meticulous evaluation of its operational activities - for the primary purpose of acquiring the highest possible rating awarded by the The Green Signal Ecolabelling Body.

On a Personal Note

Our reason to go for ecolabelling is that through this process there is a measurement of the fulfilment of environment sensitivity which, along with local community inclusion and adoption of the local ethos, constitutes the core values which are fundamental to our offering of a premium experience. Our promise is not just a memorable experience but a transformational one, where you are able to take back the learning that true luxury is when the interests of the planet and the community are not subjugated to the interests of the consumer.

-Jose Dominic,
Managing Director - CGH Earth Group of Hotels

Ecolabelling Framework

The Ecolabelling process is based on 3 general areas of investigation, verification and documentation. These are:

1. GHG (Greenhouse Gas) Inventory assessment of the hotel (with respect to Energy, Water, Waste, Mobility and Material Consumption/Generation)
2. The Material & Waste, Water, and Energy Conservation practices within the hotel
3. Sustainability initiatives promoted/operated by the hotel

Step 1 Carbon

ENTERPRISE
RESOURCE
PLANNING

This report is indicative of the comprehensive Carbon ERP approach that should be integrated into the central planning, design, implementation, and operational philosophy of all planned expansion activities of the hotel.

This involves creating a framework to:

- Seamlessly develop dynamic GHG inventories based on mapping of existing energy, water, and waste flows
- Identify specific operations / activities and their respective GHG intensities (i.e. GHG emissions per unit of productivity)
- Identify potential alternatives for mitigating GHG emissions to devise a low-carbon development roadmap

How does the ecolabel help you?
-Make more informed choices
-Understand the implication of your buying decisions
-Avoid being taken in by "Greenwashing" claims.

A comprehensive GHG Inventory in accordance with the IPCC (Inter-Governmental Panel on Climate Change) 2006 Guidelines, ISO 14064 Protocol, or GHG Protocol, requires the definition of Operational Boundaries and Organizational Boundaries.

Step 2 Defining Operational Boundary

This process involves categorization of all activities as sources of Direct or Indirect Emissions.
Direct Emissions – are physical emissions directly occurring from sources that are owned or controlled by the organization. In terms of life-cycle analyses – these are attributional emissions that can be directly attributed to the organization.
Indirect Emissions – are emissions that are consequential in nature i.e. emissions that are consequences of activities of the organization but occur at sources owned or controlled by other entities.

For the purposes of GHG Inventorying, Direct and Indirect Emissions are more usefully segregated across Scopes as defined below

Scope 1 Emissions: Contributing directly to GHG Emissions

– activities where direct control can be exercised over the magnitude of activity and the emission coefficient through technological choices

Captive Power Generation

Owned Transport (e.g. trucks, trains, ships, airplanes, cars)

Process Emissions (e.g. cement, aluminium, waste processing)

Fugitive Emissions (e.g. air conditioning leaks, refrigerations leaks)

Scope 2 Emissions: Contributing indirectly to GHG

Emissions – activities where direct control can be exercised over the magnitude of activity but not the emission coefficient through technological choices.

Electricity

Heat

Steam

Cooling

Scope 3 Emissions: Contributing indirectly to GHG Emissions

– activities where direct control can neither be exercised over the magnitude of activity nor the emission coefficient through technological choices.

Purchased materials and fuels (e.g. extraction, processing and production)

Transport-related activities (e.g. commuting, business travel, distribution)

Sold Goods and Services (e.g. Use of goods and services)

Leased assets, franchising and outsourcing

Waste disposal:recycling

The Operational Boundary for the GHG Inventory of Marari Beach is defined below:

Activity Scope	Activity Type
Scope 1 Emissions	Fossil fuels: Gas/Diesel Oil Fossil Fuels: Motor Gasoline Fossil Fuels: Liquefied Petroleum Gases Biomass Fuels: Charcoal Incineration Refrigerent use Fossil Fuels: Kerosene
Scope 2 Emissions	Electricity: Purchased Electricity Electricity T&D Losses Potable Water Consumption (Public & Private Water Supply)
Scope 3 Emissions	Mobility: Air Travel Mobility: Road Travel Dairy: Milk and Milk Products Meat: Red Meats and Pork Packaged Water Solid Waste Management

Step3
Defining Organizational Boundary

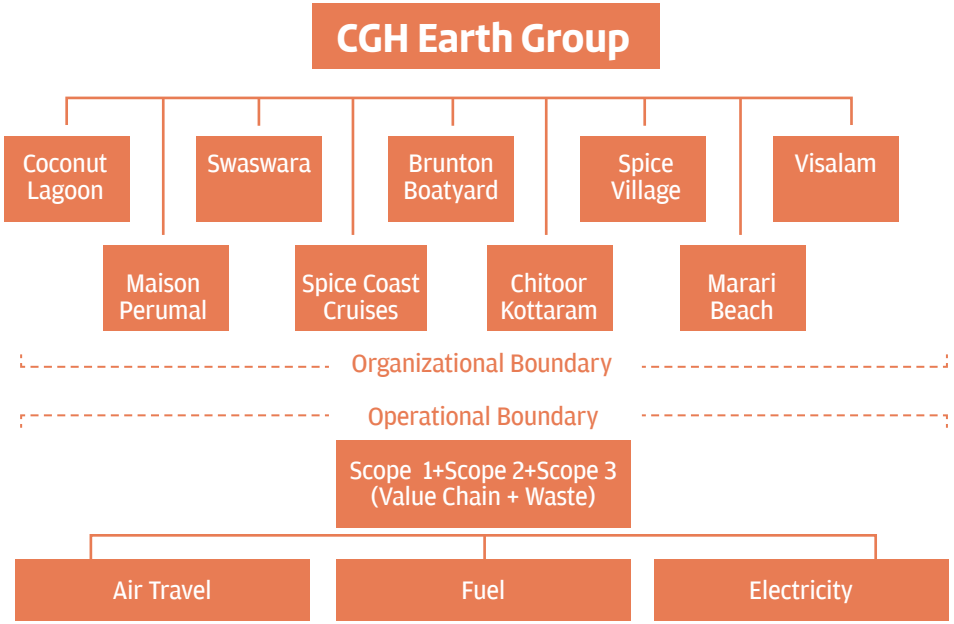
This process involves defining the parts of an organization whose emissions are to be included.

The Organizational Boundaries approach adopted for this particular project is

Control Approach: wherein the emissions from other entities with which the reporting entity is engaged (based on financial or operational linkages), accrue to the GHG inventory of the reporting entity in direct proportion to the magnitude of the financial or operational control exercised by the reporting entity. Hence this involves 2 possible sub-approaches:

- Financial Control
- Operational Control

Organizational And Operational Boundaries



In this case, the organizational boundary is defined by the relevant ecolabelling methodology defined by the ecolabelling authority. For the purposes of this project, the Organizational Boundary includes the following 2 entities:

1. Marari Beach – Property Management
2. CGH Earth – Corporate Management

Corporate Travel, Electricity, and Fuel emissions from the overall Corporate Entity (CGH Earth) accrue to this GHG Inventory in proportion to the annual turnover of the Marari Beach property to the overall corporate annual turnover in INR.

Consolidated Activity Data and GHG Inventory — FY 2011–2012

Carbon Footprint: The total amount of greenhouse gases that are emitted into the atmosphere each year by a person, family, building, organization, or company. A person's carbon footprint includes greenhouse gas emissions from fuel that an individual burns directly, such as by heating a home or riding in a car. It also includes greenhouse gases that come from producing the goods or services that the individual uses, including emissions from power plants that make electricity, factories that make products, and landfills where trash gets accumulated. **The unit for Carbon Footprint is CO2e**

Scope 1 Emissions

- LPG: 59.1 MT CO2e/year
- Diesel: 210.9 MT CO2e/year
- Petrol: 0.86 MT CO2e/year
- Charcoal: 6.03 MT CO2e/year
- Kerosene: 0.28 MT CO2e/year
- Incineration: 1.71 MT CO2e/year
- Refrigerent use: 10.1 MT CO2e/year

Scope 2 Emissions

- Purchased Electricity: 1215.29 MT CO2e/year
- Potable Water (Public & Private Water Supply): 4.32 MT CO2e/year

Scope 3 Emissions

- Corporate Electricity: 19.36 MT CO2e/year
- Dairy: Milk & Milk Products: 62.65 MT CO2e/year
- Meat(Red Meat & Pork): 28.53 MT CO2e/year
- Air Travel: 11.41 MT CO2e/year
- Packaged Water: 5.3 MT CO2e/year
- Road Travel: 19.92 MT CO2e/year
- Solid Waste Management: 2.59 MT CO2e/year

Total Annual GHG Emissions: 1658.35 MT CO2e/year

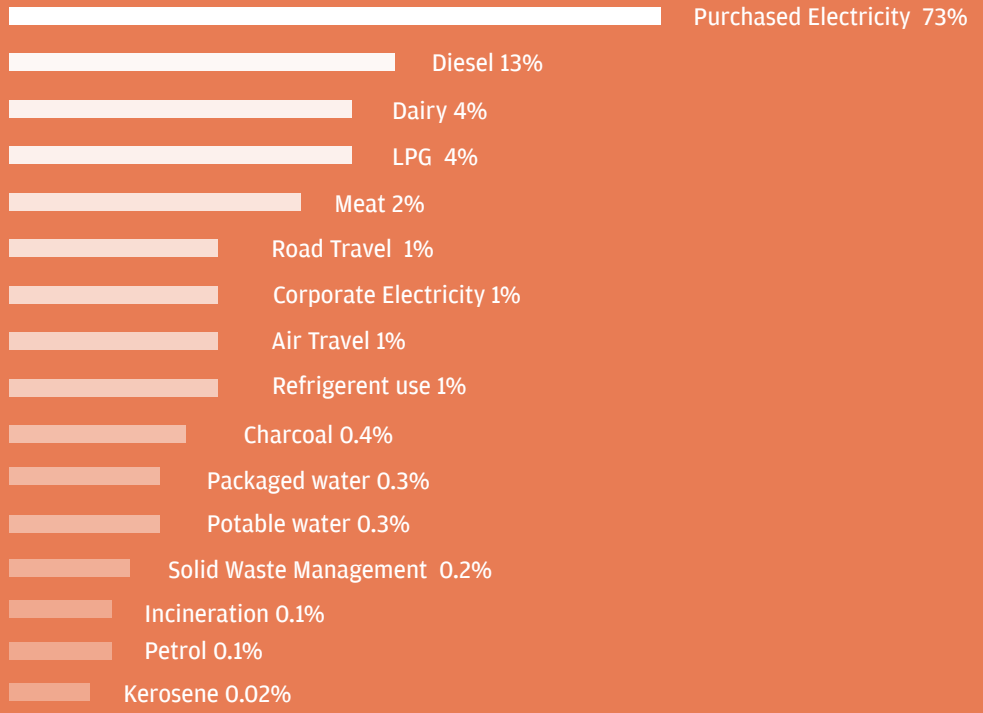
How does your per overnight stay carbon footprint compare?

Indian average 3 star hotel in Warm and Humid climatic zone=

62 kgCO2e/overnight stay

Total annual overnight stays for FY 2011-2012 is **12,698.** Hence the GHG Emissions per overnight stay (all Emission Scopes) is **132.60 kgCO2e:**

Marari Beach GHG Emissions Percentage Distribution



For the purposes of comparison amongst peers in the hospitality sector, the results of the GHG inventory can be compared with preliminary results of a Nationwide Energy Benchmarking Study conducted as part of the ECO3 Project as a collaborative effort between USAID and Bureau of Energy Efficiency (BEE).

In order to ensure comparability, Scope 1 and Scope 2 Emissions Inventory of the property (**1442.2** tonnes CO2e/year) are compared with inventories of other hotels within the same service class and Agro-Climatic Zone on a emissions per overnight-stay basis (tonnes CO2e/overnight stay). This number is normalized based on the average price of the room which gives us a better indication of its relative performance with respect to its peers.

kgCO2e/overnight stay of 3 star hotels in the Warm and Humid Climatic zone

Emissions per overnight stay (kgCO2e/overnight stay) – considering only Scope 1 and Scope 2 emissions, for the property are

114 kg CO2e/overnight stay.

This number when normalized for the average price of a room per night leads to Marari Beach being ranked in the

Top 11%

percentile of **3 star** hotels in the **Warm & Humid** Agro-Climatic zones per **overnight stay** (kgCO2e/overnightstay/Rs.)

Positive Environmental Impacts

Measured, Verified, Reported

1. **Materiality & Waste Reduction/ Management**
2. **Solid Waste Management Practices**
3. **Water Related Practices**
4. **Energy Related Practices**

1 Waste Reduction & Management

Waste Reduction

Marari Beach lays great emphasis on material reduction in the following ways:

Paper:
Use of LAN for official communications has obviated the need for the use of paper.

No newspapers are delivered to the guest rooms individually. Newspapers and reading materials are available in common areas.

Common toilets have reusable cloth napkins instead of paper napkins.

Plastic
A Supplier policy exercised by Marari Beach contains the amount of plastic packaging from the suppliers. Metal containers are preferred over plastic ones especially in case of liquid items like oil and ghee.

Sanitary bags are made of old newspapers instead of plastic.

China bottles are used for guest amenities instead of plastic.

Metal bins used in guest rooms reduce the need for plastic bin liners.

Beverages in restaurants are procured in glass bottles or tin cans.

Metal:
Avoided use of aluminium foil for wrapping food items during room service by using cane lids

Construction Materials
Coconut and bamboo leaves thatching and casherina roof frame avoids the use of concrete

Latterite stone and porous paved blocks for pathways reduces the use of materials.

Furnishings and Décor
Avoided cushions on sofas in guest rooms and common areas.

Minimal carpeting in guest rooms

Cane wadrobe minimises use of wooden wadrobe doors

Food and Beverage
No tablecloths used on tables in restaurants

No tissue papers placed on each table. Tissues made available only on request.

In addition, it also avoides E-waste of CDs and DVDs

Low-Embodied Carbon/Recycled Materials

Marari Beach makes use of biodegradable and low embodied carbon materials as follows:

- **Paper**
  Guest stationary, business envelops, business cards, menu cards, guest communication collaterals made of recycled paper.
- Sanitary disposal bags made of old newspapers.
- **Plastic**
  Bamboo and banana leaf stirrers used for serving drinks
- **Construction Materials**
  Local latterite stone used in building walls
- Coconut and bamboo leaves thatching used to make roof tops
- **Furnishings and Décor**
  Furniture in guest rooms made from cane.
- Ashtrays, flower vases made from terracotta
- Artwork in guest rooms made by local artists.
- Flowers used for guest room decorations and in vases, sourced from plants in the property.
- **Cleaning supplies**
  Lemongrass used as pesticide, germicide and room fresheners
- Inja bark used as body loofah

Activity Descriptions	Key Performance Indicators
Paper	0.38% of total material use (weight basis)
Plastic	9.20% of total material use (weight basis)
Construction Materials	14.50% of total material use (weight basis)
Chemicals	77.03% of total material use (weight basis)
Wood and Wood Substitutes	92% of total material use (weight basis)

Sanitary disposal bag made from newspapers

Cloth napkins in common restrooms

Local latterite stone for walls

Coconut husks reused in organic farm

Local latterite stone for pathways

Guest cottages made from Coconut leaves, bamboo and casherina thatching

Cane furnishing, no cushions and minimal coir carpeting in guest rooms

Cane furnishing

Terracotta lamps and ashtray in guestrooms

Terracotta vase with a coir mat, furnished with fresh flowers from the gardens

2 Solid Waste Management Practices

Biodegradable Waste

- All across the pathways in the property and outside each guest cottage are terracotta dustbins. Most of these are dual bin systems with 'Biodegradable' and 'Non-Biodegradable' cleared marked on them, encouraging even the guests to separate their waste. Out of a total 224 locations, 63 are dual bin locations.
- In addition, food waste from restaurants and restaurants are put in the on-site biogas plant.
- Yard waste and coconut husks are composted by EM, Vermicompost and in the biomass digestors. The compost thus generated is then used as manure in the organic garden and trees in the property.

Activity Descriptions	Key Performance Indicators
Segregation at Source	28 % Locations Dual-Bin System (minimum)
Organic Waste Composting / Digesting	100% composted/digested
Paper Reuse/Recycling	100% Recycled
Plastic Reuse/Recycling	100% Recycled
Glass Reuse/Recycling	100% Recycled
Metals Reuse/Recycling	100% Recycled
Cloth Reuse/Recycling	100% Recycled

Leaf litter segregated for biomass digestor

Coconut husks segregated to reuse in organic farms

Wood segregated

Old thatching segregated for mulch creation

On-site vermi-composting unit

Vermi-Compost pits

Non-biodegradable

Solid waste is segregated daily into various categories and sent out for recycling.

- All paper is recycled, except for incinerated quantity.
- Old staff uniforms are given to orphanages
- Old towels are used as cleaning rags
- Construction debris used for making pathways

Plastic bottles segregated

Waste segregation bins

Construction debris used for pathway creation

3 Water Related Practices

Wastewater Management

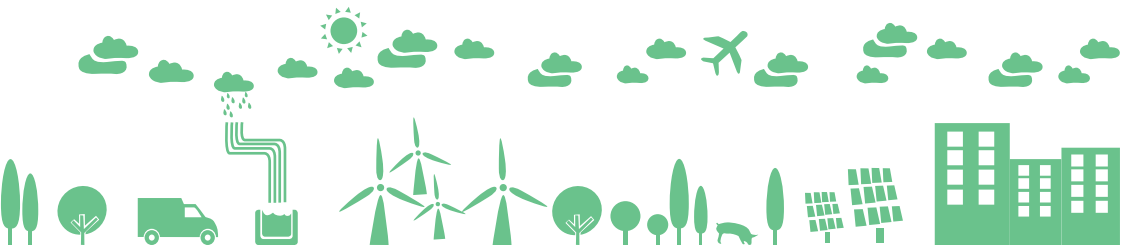
All the wastewater generated in the property is treated in the on-site sewage treatment plant. All the treated water is used for gardening. The wastewater is pumped through a hydro-pneumatic irrigation system. The STP uses a 2-stage aerobic process for sewage treatment.

Stage 1 The sewage is screened for oil and non-biodegradable matter.

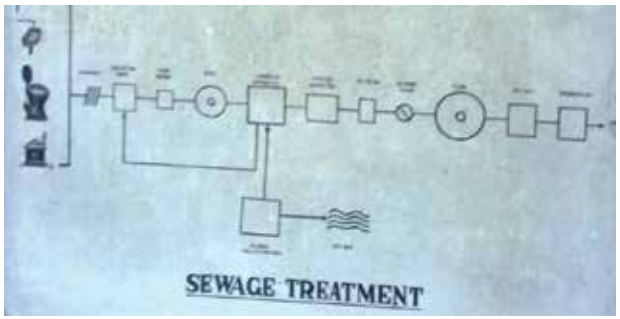
Stage 2 The screened water is sent to the bio wheels known as the Rotary Biological Contactors (RBC). The wheels are partially submerged in wastewater and rotate at a very slow rate. This allows the bacteria to grow rapidly on the contactor. These bacteria then digest the sewage and thereby treat it. The sludge is separated from the water at the lamella separator from where the sludge is sent to the drying beds.

Stage 3 Water is treated by filtering through pressure sand filter, chlorinated by chlorine doser, further filtered, de chlorinated and passed through activated carbon filter before released for gardening

Activity Descriptions	Key Performance Indicators
STP Effluent Reuse - Gardening	100% Reused



STP Schematic



Rotary Biological Contactors in STP

Slurry produced as a by-product of STP

Water Conservation Practices

A lot of measures are undertaken at Marari beach to conserve water. These are as follows:

- Push taps in staff cafeteria
- No bathtubs in any guest rooms
- Glasses made available in guest bathrooms for shaving
- Irrigation:
  Sprinkler irrigation, irrigation done only in the nights
- Garden is watered with hose once every 3 days
- Coconut husks and used newspapers are used in organic garden to avoid water runoff from the loose sand.
- Plants are also cultivated into manure bags to prevent moisture loss.
- Local buffalo grass is grown to conserve water
- Communication collaterals placed in guest rooms for managing linens and towels
- Low flow fixtures in all guest bathrooms

Activity Descriptions	Key Performance Indicators
Water use reduction	62.85%
Managed Irrigation/Gardening	240.52 liters water/m2/year
Low-flow fixtures	4.5 cumulative avg. max flowrate (lpm) of guest bathroom fixtures

Buffalo grass and sprinkler irrigation

Coconut husks for water retention in organic farm

Manure bags for water retention in organic farm

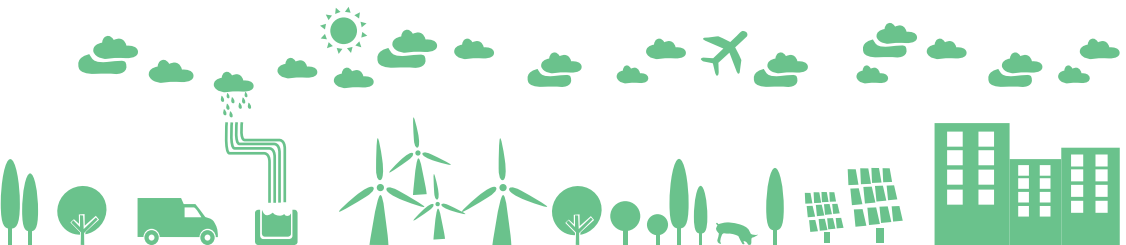
Coconut Husks used for water retention in butterfly garden

Rainwater Harvesting Practices

- The 36 acre property of Marari Beach has 10 naturally occuring ponds that are preserved in their natural state. These ponds double-up as reservoirs for rainwater. The property also has soakways, that allow for greater rainwater recharge. In addition, the ingenious use of porous pathway tiles exposes more ground area for rainwater recharge.
- Rainwater harvested from office rooftops is used for fire-fighting and gardening purposes

Activity Descriptions	Key Performance Indicators
Rainwater Harvesting (Recharge Only)	86 % campus area used for RWH recharge
Rainwater Harvesting (Reuse)	0.7% campus area used for RWH reuse

Administrative office rooftop used as RW collection area



RWH storage tank

Soakaway for Rain water recharge

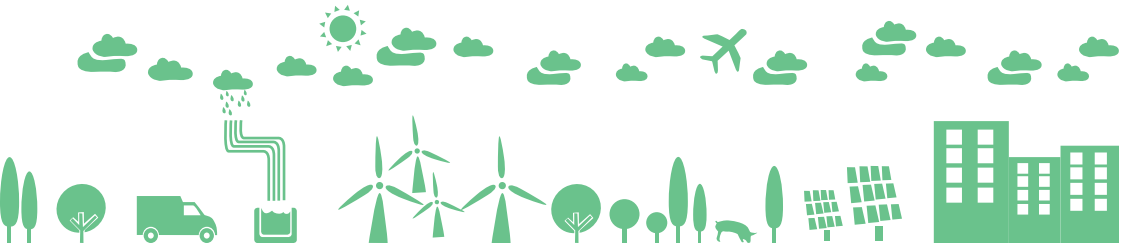
Ponds in the property for rainwater recharge

4 Energy Related Practices

Lighting Energy Efficiency

Marari beach makes use of energy efficient lighting equipment such as CFLs, LEDs and energy saving tube lights.

CFL Lamps



HVAC Energy Efficiency

- The engineering department of Marari Beach has custom assembled all the air conditions present in the property.
- This has resulted in giving a greater power efficiency as compared to the domestic brands of ACs available in the market .All 2 TR ACs with rated power consumption of 2.3 kW - lead to an EER of 3.05 ,which is above 2.82 EER equivalent to 3-Star Rated ACs.
- Marari Beach has a test-cottage that is specifically dedicated to testing the energy efficiency of the assembled AC units.
- The ‘test-cottage’ is actually one of the guest cottages, meaning it has the same dimensions, made from the same materials, as the rest of the guest cottages thereby giving an exact simulation for the tests.
- The communication collaterals placed on the thermostat in each guest-room further encourage reduced consumption.

Solar thermal water storage tank

Solar thermal water boiler contral panel

F&B Service Energy Efficiency

Marari Beach has undertaken fresh food practices to reduce the need for refrigeration. Seasonal fruits and vegetable are used for cooking in the restaurants. Fish used for cooking dinner is procured locally in the evening.

Equipment Energy Efficiency

Marari beach has pumps of a total 142 hp, of which 2x5 hp pumps are VFD pumps.

Activity Descriptions	Key Performance Indicators
CFL Lighting	72% of total fixtures
Energy Saving TFL Lighting	3% of total fixtures
Energy Efficient Air Conditioning	100% tonnage from EER equivalent to 3 Star+ Rated ACs
Reduced Refrigeration	0.03 liters of refrigeration volume/ meal served
VFD Pumps	7% pump power (hp) of total pumping hp

Architectural / Constructional Efficiency

- The architecture of the guest cottages in Marari reflect the aesthetics of the fishing village in which it is based. The architecture cleverly leverages the natural lighting and natural ventilation available in this spacious 36-acre property.
- Natural Lighting: Almost all building in the property are constructed so as to achieve 92.15% of total BUA as naturally lit during daytime. This includes the reception area, the guest cottages, the ayurveda centre, the engineer's office, the staff mess and the restaurants.
- Natural Ventilation: Although all guest cottages are air-conditioned, they are also designed to provide natural ventilation.
- Envelope Insulation: The thatched roof provides an air-envelope insulation for all the guest cottages. This helps prevent heat transfer

Activity Descriptions	Key Performance Indicators
Natural Lighting	92.15% BUA naturally lit (daytime)
Natural Ventilation	69.5 % BUA naturally ventilated
Other - This is % rooftop area that is insulated. No wall insulation. Rooftop area of rooms insulated	93%

Naturally lit and ventilated reception area

Naturally lit and ventilated engineer's office

Naturally lit and ventillated bar

Building envelope insulation by ivy growing on walls

Naturally lit and ventilated guest bathroom_1

Naturally lit and ventilated guest bathroom_2

Other Energy Efficiency

- Capacitor banks are used for power factor improvement.
- The key-tag systems in all 62 guest-cottages, automatically switches the lights off.
- Communication collaterals displayed on the thermostat, encourages guests to switch of air conditioning when stepping out of the room.

Activity Descriptions	Key Performance Indicators
Power Factor Improvement Systems	0.9 Average Annual Power Factor

Capacitor bank_1

Capacitor bank_2

Diesel generator

Renewable Energy Practices

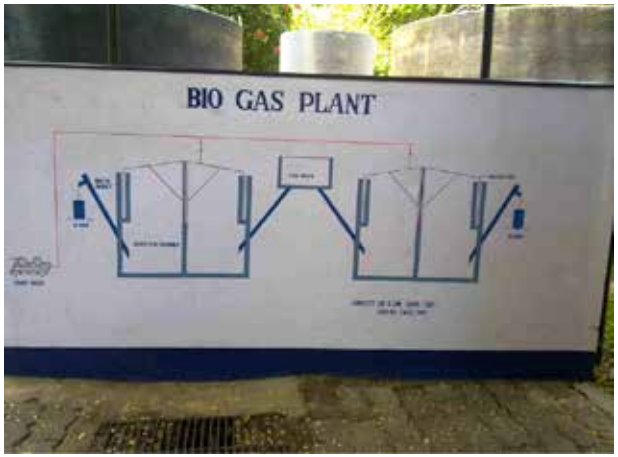
Marari Beach makes use of energy derived from waste, solar thermal and solar PV.

Activity Descriptions	Key Performance Indicators
Waste-to-Energy	10192 kJ Annual Energy Recovery (NCV basis) / overnight stay
Solar Thermal	2.83 Total Collector Area (m2)/guest room

Biogas Plant

A biogas plant of a total capacity of 500 kg is present on-site. Food-waste from the staff mess and the restaurants, is dumped daily into the biogas plant. The methane generated as a result of the anaerobic composting, is harnessed as fuel to cook food in the staff mess.

Schematic- Biogas plant



Biogas plant

Solar Thermal

A total of 85 solar thermal panels installed atop the office building are used for hot water generation of about 8500 lit/day. This hot water is then collected in storage tanks.

Solar Thermal panels

Sustainability Practices

1. Food Procurement
2. Economic Development Practices
3. Social Development practices
4. Environmental Development Practices
5. Measurable, Reportable, Verifiable Environmental Practices
6. Engagement in sustainable tourism initiatives
7. Bio Diversity Preservation Initiatives

1 Food Procurement Practices

Food procurement practices play a very big role in contributing towards the carbon footprint of an organisation. Food that is locally produced reduces the carbon emissions that arise from transportation. On the other hand, food that is organic reduces the carbon emissions that arise from the use of chemical fertilizers, pesticides etc. Consumption of organic food also plays an important role in the ecological perspective. It is therefore that we consider these two food procurement practices.

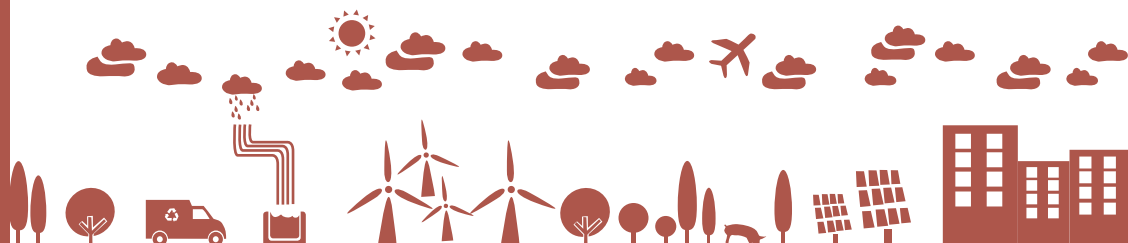
Local food procurement practices

The annual procurement value of locally produced food for FY – 2011-2012 is Rs 7153129/-

Organic food procurement practices

The annual organic food procurement value for FY – 2011-2012 is Rs. 206916/-

Activity Descriptions	Key Performance Indicators
% contribution of local procurement (within state) to annual food procurement (cost basis)	56.48 % of annual food procurement cost
% contribution of organic procurement (within state) to annual food procurement (cost basis)	1.63% of annual food procurement cost of annual revenue spent on activities



2 Economic Development Practices

Marari Beach undertakes various activities for the economic development of the local community. These are as listed below:

- Annually thatching of roof is outsourced to 9 local people for a period of 3 months. The total cost of the activity is calculated as 9people X 600 INR x 90 days = Rs. 486000
- Garden maintenance is outsourced to 9 local people for 200 days annually. The total cost of the activity is calculated as 9people X 260 INR x 200 days = Rs. 486000
- 1300 coconut trees in the property are required to harvest every 45 days. 4 local harvesters are employed charging Rs.15/tree. The total cost of the activity is Rs. 1,58,167

Activity Descriptions	Key Performance Indicators
Activities for economic development of local community	0.68% of annual revenue spent on activities

Locals employed for creating decorations for events

Locals employed for coconut harvesting

3 Social Development Practices

Marari Beach undertakes various activities for the social development of the local community. These are as listed below:

- Construction of school buildings and a toilet block accounted to a donation of 20 + 4 = 24 INR lacs.
- Donated 10 cents of land to local nursery school for building a reading room.
- Rs.10,000 were donated to a local school for science exhibition
- Annually, Rs. 5000 is invested in providing refreshments for SSC students staying till late in school for studying.
- Staff contributed a total of Rs.7000 to donate to a girls orphanage.
- Local artists are employed to create the artwork in the property and also to perform in the property.
- Old uniforms of the staff are donated to orphanages

Activity Descriptions	Key Performance Indicators
Activities for social development of local community	1.47% of annual revenue spent on activities

4 Environmental Development Practices

Marari Beach undertakes the following environmental development practices:

- Tree plantation was undertaken in 100 houses in the local community. A total of 630 hours were spent on this event. With an average of 35 staff, participating for 2 hours for a period of 9 days.
- Terracotta lamps and candles were distributed to local houses during earth hour by the staff. A total of 315 hours were spent on this event. With an average of 35 staff, participating for 9 hours.
- On Gandhi Jayanti, staff participates in school clean-up and talks to students about environmental issues. A total of 315 hours were spent on this event. With an average of 35 staff, participating for 9 hours.
- Beach and local clean-up drive is conducted twice a month and 60 of the staff participate. A total of 1140 hours were spent on this event. With an average of 60 staff participating in this activity twice a month lasting an hour each.
- Students from local schools are invited and given a tour of the property focusing on environmental practices. This is conducted on World Environment Day and is carried for a period of 6 hours.

Activity Descriptions	Key Performance Indicators
Activities for environmental development of local community	2810 organizational man-hours devoted to activities

Tree plantation during world environment day

Tree plantation

Environment rally during World environment day celebration

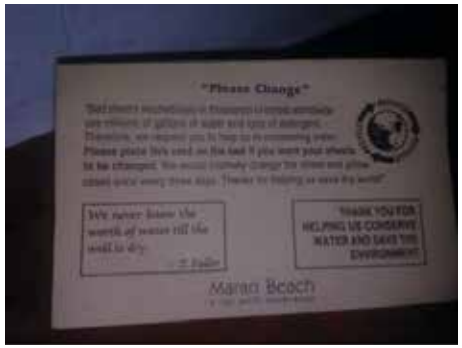
5 Measurable, Reportable, Verifiable Environmental Practices

Laundry Load Reduction

By posting communication collaterals in the guestrooms, Marari has managed to achieve a significant reduction in the laundry generated.

Activity Descriptions	Key Performance Indicators
Laundry Load Reduction	10.9% per overnight guest laundry avoided (bath towels + bed linen piece basis)

Communication collateral for bed linens



Communication collateral for towels

6 Engagement in Sustainable Tourism Initiatives

Marari Beach undertakes various activities for the engagement in sustainable tourism initiatives development of the local community. These are as listed below:

- Guests have an opportunity to go on eco-tours, bird watching trails and trails to the butterfly garden. One tour conducted every day for 3 hours gives 365*3 = 1095 hours
- Guests have an opportunity to visit and cook in the organic garden kitchen. 248 people participated in the activity lasting for 3.5 hours giving a total guest participation of 868 hours.
- Guests also have an opportunity to visit the Ayurveda kitchen and garden. On average 5 guests visit the ayurveda garden tour of 30 mins daily, giving a total guest participation of 912.5 hours.
- Cycle rally is conducted in the village on World Tourism day. The rally lasts 2 hours with participation of 65 staff members and 20 guests giving a total guest participation of 40 hours.
- During earth hour, the dinner is served in the lawn and the buffet is heated by firewood. For an average number of 35 guests, a total guest participation of 105 hours is achieved.

Activity Descriptions	Key Performance Indicators
Year-round Guest Sustainable/Environmental Activities	3021 guest-hours of participation

: Guest communication placard_1

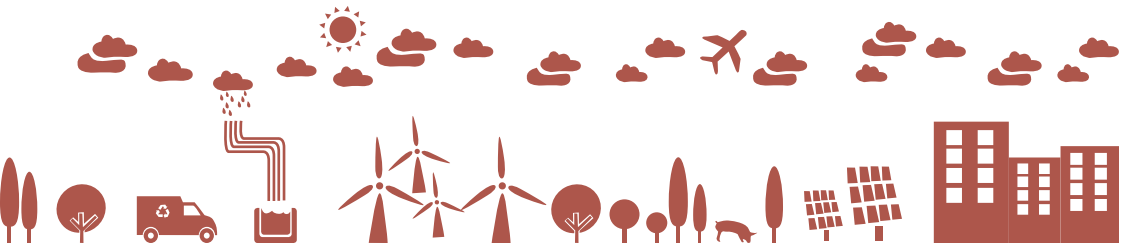
Guest communication placard_2

7 Biodiversity Preservation Initiatives

Wooded Spaces

- Of the total 36 acres of property, 12 acres is lawn area. The property of Marari beach is boasts of a total of 4500 mature trees and 1500 coconut trees. Tree plantation by guests further adds to this number every year.
- The property also boasts of a Jasmine Garden with an area of 10000 sqft. There are 240 bushes of jasmine. Indigenous flowers like Hibiscus, East Indian Rosebay etc are also grown. The flowers from this garden are used for room decorations and also in the organic cuisines in the Chakra restaurant.
- All the 10 ponds in the property are preserved in their natural states thereby maintaining the ecosystem of the ponds.

Activity Descriptions	Key Performance Indicators
Tree Census - Qty.	3000 Nos (increment since land procurement date)
Tree Census - No.of Species.	30 Nos. (increment since land procurement date)



Butterfly Garden

- Marari Beach has an inhouse butterfly garden. Special species of plants are grown that help the breeding butterflies to lay their eggs and also provide nourishment to the growing caterpillars.
- 7038 sightings of 62 species of butterflies were recorded during the last three months of 2011 and 8970 sightings of 69 species of butterflies during the first three months of 2012. The total butterfly species sighted from the garden is 97 included 8 species that are endemic to the Western Ghats and 10 species having protected status under the Indian Wildlife Protection Act. Along with the enhancement in the floral diversity and the resultant butterfly diversity, there was increase in the overall diversity of the area, particularly of insects, spiders, reptiles and birds.

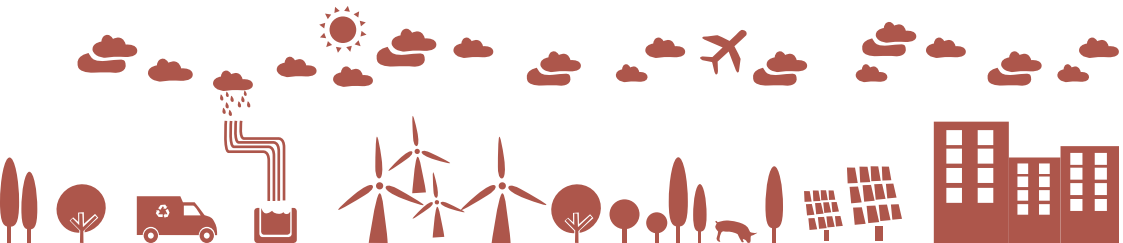
Species found in butterfly garden_1

Species found in butterfly garden_2

The butterfly garden

Organic Farm

- Marari Beach has a 5-acre organic farm. Various varieties of fruits and vegetables are grown here and used in the organic farm kitchen as well as the restaurants.
- Since Marari is along the coastal belt, the sand is loose and does not hold water. To counter this problem, an innovative use of raised beds and mulching is used.
- Raised beds are made and lined with coconut husks. The sand is layered with waste cardboard papers and newspapers. The next layer is of mulch. Mulch is essentially dried leaves, near decomposing state, from the biomass composter. Third layer of manure is added into which the saplings are planted.
- The coconut husks and waste paper helps the water from running off. The dried leaves prevent water evaporation and also nourish the soil. Over a period of time, the loose sand acquires an organic texture that can nurture plants.
- 10 varieties of bananas and vegetables like Bitter gourd, Snake gourd, Ridge gourd, Ivy gourd, Bottle gourd, Long beans, Ladies finger, Tomato, Brinjal / Aubergine, Pumpkin, Salad Cucumber, Yams like Elephant foot yam, Colacassia, Tapioca, Asiatic yam. Fruits like Water melon, Papaya, Passion fruit, leafy vegetables like Spinach, Curry leaves, Pepper mint, Common mint and common fruits like Jackfruit, seven varieties of mango, Rose apple, Sappotta to name a few.
- The entire farm operations are organic. Yard waste and leaf litter form mulch which acts as fertilizers. Organic pesticides made from lemongrass are used. In addition, mechanical barriers like plastic covering on vegetables are used to keep insects at bay.
- During the monsoons, local variety of organic rice is grown in an artificial pond



Passion fruits

Organic red spinach

Artificial pond for organic rice cultivation

Ayurveda Garden and Kitchen

- Marari Beach has 1 acre, organic Ayurveda garden. The farming and pest control practices are similar to the ones used for the organic farm. 83 varieties of medicinal plants are grown in the garden.
- The garden also houses a small ayurveda kitchen where Ayurvedic oils are prepared by traditional means. Firewood for the traditional stove is used from the fallen coconut leaves and waste timber from the property. Heavy mortar and pestel is used for grinding the herbs. The entire operation is non-mechanised.
- Medicines like Dhanvantharam Kuzhampu, and herbal bundles for Pathra Swedam are prepared using the plants from the Ayurveda garden. The Ayurveda kitchen caters to the oil requirements for the Ayurvedic Massage Centre in Marari Beach as well as other sister concerns – The Casino Hotel, Coconut Lagoon and Spice Village.

Ayurveda garden

Ayurveda kitchen

Independent Assurance Statement from Consultant (cBalance Solutions Pvt. Ltd.)

cBalance Solutions Pvt.Ltd. consultant was retained by CGH Earth Pvt. Ltd. to provide an independent assurance on its Ecolabelling Report, limited to the social and environmental information therein. The Company's management is responsible for the content of the report and its presentation. The consultant's responsibility is to provide assurance on the report content, as described in the scope of assurance. Our responsibility in performing our assurance activities is to the management of the company only, and in accordance with the terms of reference agreed with the Company. We do not therefore accept or assume any responsibility for any other purpose or to any other person or organisation.

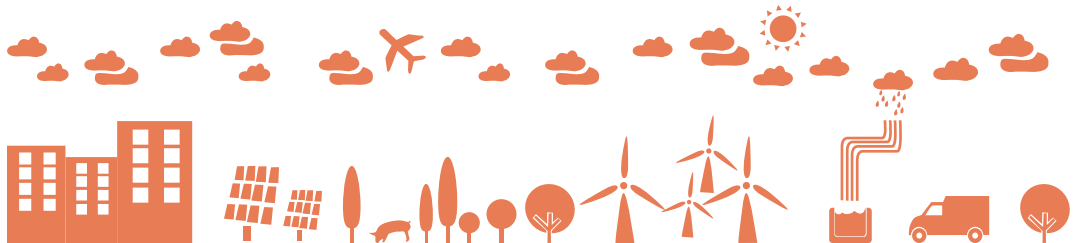
Scope of Assurance and Methodology

The scope of our work for this assurance is limited to review of information pertaining to environment and social performance for the period of 1st April 2011 to 31st March 2012, in cBalance Solutions Pvt. Ltd. selected representative Units from various businesses of the Company and Head office, Cochin, which are material to the Company's Financial Performance, as below:

Marari Beach : Kerala

cBalance's multidisciplinary team of professionals visited the companies above units in order to review and verify the data and information presented in the Report, on core ecolabelling indicators listed below:

Scope 1 emission
Scope 2 emission
Energy (Direct &Indirect) emissions for special activities
Solid waste emissions
Wastewater emissions
Corporate emissions
Other Scope 3 emissions
Materiality Reduction & Waste related practices
Water related practices
Energy related practices
Sustainability related best practices



The nature and scope of our work was based on our professional judgment and we have performed procedures deemed necessary to provide a basis for our conclusions. The approach to the assurance exercise included interaction with key personnel to identify the processes in place to capture sustainability performance data and information as per TGS Ecolabelling guidelines.

The team conducted review and verification of data collection process, measurement methodology and general review of the logic of inclusion/omission of necessary information/data to:

-Review of major anomaly within the Report as well as between the Report and source data/information

-Verification of the transcription of data internally verified by the Company

-Execution of audit trail of selected data streams and information to determine the level of accuracy in collection, transcription and aggregation processes followed

-Review of the Company's plans, policies and practices, pertaining to their social, environmental and sustainable development

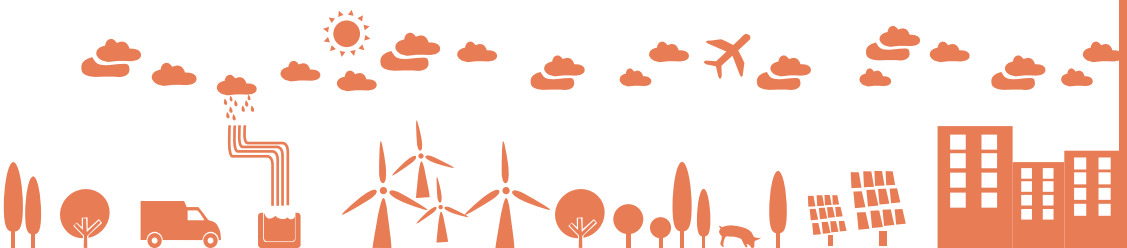
Limitations of our engagement

The assurance scope excludes:

-Aspects of the Report other than those mentioned above

-Data and information outside the defined reporting period (1st April 2011 to 31st March 2012)

-Data and information on economic and financial performance of the Company, which are from the CGH Earth's audited financial records



Reaching Higher

Sustainability at CGH Earth

Ideas we're working on to raise the bar of responsible tourism in India

Energy
- Energy efficient LED lighting
- Motion sensor controlled lights
- 7-stars Energy efficient ACs
- Energy efficient food-refrigeration equipment
- Building insulation: double glazed windows
- Heat-reflective windows films
- Increased fresh foods for reduced food & beverage refrigeration
- Efficient steam generation for laundry systems
- Solar PV and other renewable energy systems
- Fuel efficient road and water-transport vehicle

Water
- Low-flow water fixtures
- Dual-cistem flush systems
- Irrigation management for garden maintenance
- Waterless urinals
- Bucket-bath facilities
- Traditional Indian towels
- Reduced guest laundry load practices

Material Reduction & Waste Management
- Complete waste segregation at source
- Biodegradable plastics
- Safe, reusable, bottled-drinking water options
- Supply chain packaging waste management

Food & Beverage Services
- Higher % of certified organic foods
- Higher % of fresh foods from within 100 miles of hotel
- Carbon footprint & food-miles displayed for conscious food consumption

Carbon Socio-Economic Sustainability Practices
- Higher organisational man-hours for community development activities
- Greater revenue share for social,economic and environmental development projects

Carbon Footprint Reduction
- Low-carbon roadmap to reduce carbon-intensity of revenue by 25% by 2020
- Natural Refrigerant ACs to reduce global warming impact of ACs & refrigerators
- Socially-inclusive Voluntary carbon offset options for guests to enable verifiable,responsible low-carbon vacations
- Carbon neutral conferences, corporate event options for clients