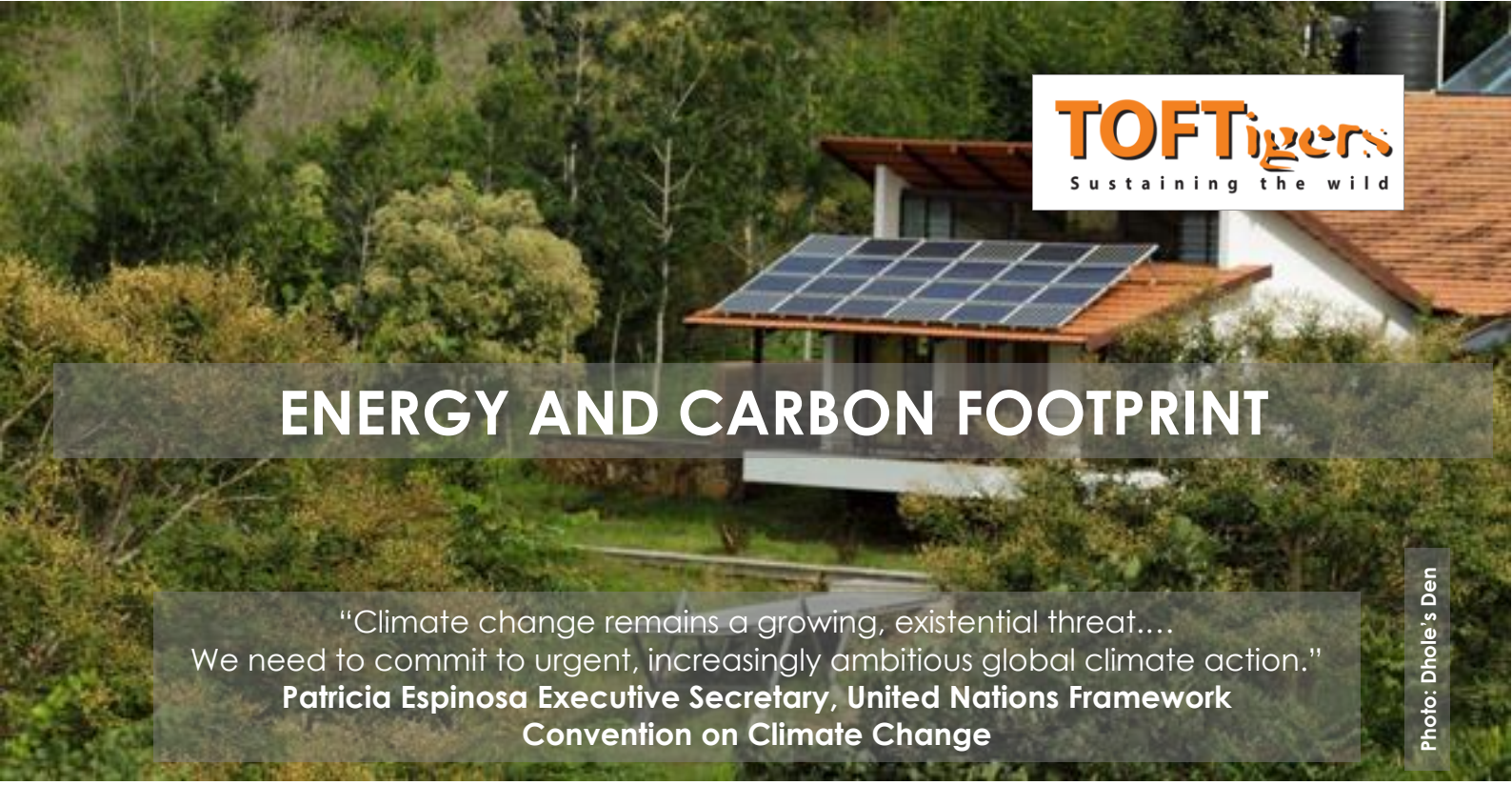


ENERGY AND CARBON FOOTPRINT

"Climate change remains a growing, existential threat....
We need to commit to urgent, increasingly ambitious global climate action."
Patricia Espinosa Executive Secretary, United Nations Framework Convention on Climate Change

Photo: Dhole's Den

WHY IT'S IMPORTANT

Stark warnings were given by scientists in 2018 that we have only ten years to keep temperatures within a 1.5°C increase and avoid runaway climate change. Nature has delivered her own warnings with record-breaking temperatures, extreme weather events and devasting forest fires across the globe. India is ranked 5th of the countries most affected by extreme weather conditions in 2018 by the Global Climate Risk Index 2020;[1] Nepal ranked 9th over the period 1999-2018.

Nearly 8% of global greenhouse gas emissions come from the tourism industry factoring in not only travel but also the energy needed to support tourism such as food, infrastructure and retail services.[2]

India is the second largest global consumer of coal behind China,[3] the fossil fuel with the highest levels of greenhouse gas emissions and polluting particulates. On the positive side, it has emerged as a global leader in renewable energy.[4] Targets have been set for 175 gw from renewable energy (excluding large scale hydro) by 2022 of which 100 gw is from solar (40 gw for rooftops) and 60 gw from wind. Nepal's population still relies heavily on wood for cooking; almost all the electricity generated in Nepal comes from hydropower.[5] Nepal is encouraging the growth of a range of renewable energy systems including micro hydropower, solar, wind and bio-energy. Over 90% of the population in India and Nepal now has access to electricity but over six million people in India, were still without it in 2019.[6] Progress on providing access to clean and safe fuel for cooking has been considerably less (29.6% in Nepal and 49% in India in 2018) with continuing negative impacts both for health and emissions.[7]

Join the green energy revolution and help to achieve a low carbon future. Reducing your energy consumption and carbon footprint makes good business sense. Saving energy saves money. Travellers are increasingly looking for sustainable holiday options. Renewable energy costs are coming down with potential to earn from the grid. The best practitioners are generating more energy through renewable sources than they consume. Low carbon options such as local produce and bicycles to explore the area can enhance guest experience. Protecting and restoring wilderness areas stores carbon, enables biodiversity to flourish and safeguards all our futures.

SUSTAINABLE DEVELOPMENT GOALS

77% of India's electricity in 2019 was generated by coal

Source: Reuters from govt. sources

Photo: Shutterstock

Help to stop global warming – switch to renewables

Photo: Dhole's Den

WHAT YOU CAN DO

Easy Wins

- Measure your electricity consumption on a regular basis; compare year on year.
- Encourage staff to conserve energy through notices, checklists, stickers/notes on appliances and awareness training (eg turning off lights and turning down heating/air conditioning in unoccupied rooms or staff only areas).
- Encourage guests to conserve energy through notices and briefings.
- Use LED bulbs.
- Use energy saving appliances – five star BEE in India.

Photo: Golden Tusk Resort

Going for Gold

- Nominate Green champions and reward performance.
- Draw up an inventory of main energy-consuming devices and areas, review insulation and identify options to improve your energy efficiency.
- Establish benchmarks and set targets for reduction.
- Introduce sub metering.
- Increase the number of LEDs in use; the best lodgings have 100%.
- Install renewable energy such as solar water heating and solar lights for pathways as appropriate for your location.
- Set targets for increasing your renewable energy use each year.
- Set annual targets for reducing your energy consumption and enjoy seeing your bills drop.
- Measure your carbon footprint annually and set annual targets to move towards being carbon neutral over five years.
- Support wilderness protection and restoration projects or organise your own.


Photo: Spice Village

See further tips in Resources.

Extensive tree planting in and around Khem Villas - carbon capture and water retention - beneficial for wildlife, people and planet.

EXAMPLES OF GOOD PRACTICE

REDUCING ENERGY CONSUMPTION

Encouraging your guests and staff to save energy is good practice. Pictured here, energy conservation notice at Aahana The Corbett Wilderness.

Signage is placed on bedside tables at Jaagir Lodge to encourage energy conservation.

Energy saving notices are displayed in the office at Pashan Garh - Taj Safaris, part of their broader energy efficiency measures.

Oberoi Vanyavilas displays daily electricity and water consumption in back of house areas to encourage staff to conserve resources. Read case study.

Kanha Earth Lodge displays a notice to encourage energy conservation in guest rooms and uses a one switch system to turn off electricity.

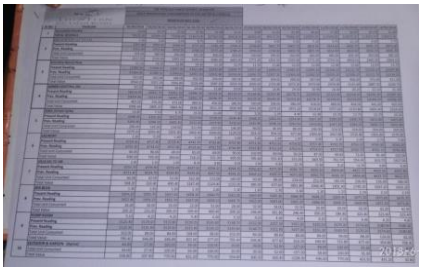
A range of lodges have a key, one switch system to conserve energy when guests leave the room which can reduce energy consumption by 15-30%, pictured here at Golden Tusk Corbett.

Kanha Earth Lodge saves energy by turning off lights when the restaurant is not in use.

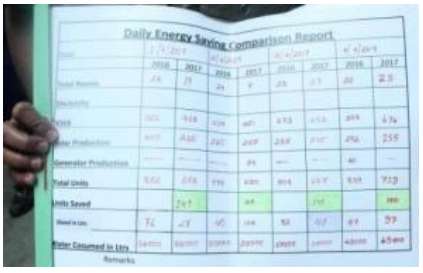
The best practitioners use LED lights throughout the property such as Dhole's Den pictured here, the most energy efficient option, followed by CFLs.

Mahua Kothi – Taj Safaris operates its laundry between 10.30pm-5.30am, a low usage time, which saves 20% of the cost of energy consumed, a tariff incentive offered by some power distributors.

Evolve Back Kabini uses cluster-based energy monitoring and monitors electricity use on a daily basis to increase its energy efficiency alongside the use of renewable energy. Read case study.



Daily energy monitoring using separately installed sub-meters is the building block for energy conservation initiatives at Fern Gir Forest Resort.



A daily energy saving comparison report at Spice Village Thekkady forms part of its integrated approach to energy conservation complemented by the use of renewable energy. Read case study.

High ceilings, wide eaves and tree planting at Dhole's Den have been used effectively to keep rooms cool and airy instead of using fans or air conditioning.

Kanha Earth Lodge uses BEE stared energy efficient air conditioning and water geysers in all its guest rooms.

Chitvan Jungle Lodge uses Zeer Pots to store vegetables, a traditional technique, reducing the burden on electricity through refrigeration. The lodge has two solar heaters for cooking rice and vegetables.

RENEWABLE ENERGY

A Supernova Technologies micro wind and solar power hybrid generator at Dhole's Den meets all the lodge's energy requirements apart from its water pump. Read case study.

Two off-site wind farms at Gajendragad in Karnataka and Thenkasi in Tamil Nadu, owned by Orange County Resorts & Hotels, parent company of Evolve Back Kabini and Coorg, generate more green and clean power than their resorts consume. The initiative saves 90% of the resorts' energy costs.

A 33.6 kw solar plant at Svasara Jungle Lodge meets 50% of the lodge's energy requirements. A subsidy is received for electricity supplied to the grid. Read case study.

Oberoi Vanyavilas has a 90 kw roof top solar plant and solar water heating.

Spice Village Thekkady has a 65 kw solar power plant meeting a substantial proportion of the resort's energy needs. Water is heated using solar power.

Singinawa Jungle Lodge's Kanha Museum of Life and Art and staff housing are powered by a 10 kva solar plant. Pathways are lit by solar powered lights.

Solar thermal panels at Barahi Jungle Lodge are used to heat water. Read case study.

Water at Khem Villas is heated through solar thermal boosted by heat pumps, an energy efficient technique when it is cloudy. Read case study.

A centralised solar water heater at Evolve Back Kabini supplies all its hot water needs complementing its off-site wind power (see above). Read case study.

Pench Jungle Camp has a separate solar water heating unit for each of its guest rooms, tents and cottages.

Jim's Jungle Lodge uses solar power to heat its hot water. It also uses solar power for fencing.

Limban Resort uses solar power for extracting water from its borewell and for its outdoor lights. It has also started to introduce roof top solar panels to reduce its carbon footprint whilst attracting a subsidy.

King's Lodge, Bandhavgarh uses a solar water pumping plant for ground water.

Solar cookers at Kanha Earth Lodge are used alongside cooking with LPG.

Tigergarh Wildlife Resort's solar sensor lights turn off automatically during daytime and at night light up only when there is someone within a radius of twelve feet.

Kipling Camp use solar lights with sensors to save energy and minimise light pollution.

Mahua Kothi – Taj Safaris uses portable solar lighting, one of several lodges harnessing renewable energy to light pathways.

Pashan Garh – Taj Safaris uses solar powered lighting for pathways and practices Earth Hour twice a week when all lights are turned off and visitors are given a unique dining experience.

Photo: Shutterstock

Portable solar lighting in guest rooms at Mela Kothi – the Chambal Safari Lodge.

Solar lighting at Aahana The Corbett Wilderness. The resort also uses solar power for heating its water.

Solar fencing is used for the elephant enclosure at Tiger Tops Tharu Lodge in addition to solar thermal for hot water. The domestic elephants, no longer used, roam freely within its large boundary.

A biogas unit at Evolve Back Kabini utilises methane produced from kitchen waste for cooking.

Khem Villas has its own professionally maintained diary to meet the dairy needs of the lodge. Organic waste and cow dung are used for the lodge's biogas unit to produce biofuel for cooking.

The biogas plant at Spice Village Thekkady.

LOW CARBON INITIATIVES

LOCAL TRANSPORT

Numerous lodges provide bicycles for guests, a low carbon option to explore the area and enhance guest experience. Pictured here nature bike rides with the naturalist at Kanha Earth Lodge.

Mela Kothi – the Chambal Safari Lodge – is part of an innovative 207 km bicycle highway connecting 92 remote villages. Special two-day and gentler half day biking excursions are offered by the lodge for cycling clubs of all ages.

Bullock cart rides and bicycles at Evolve Back Kabini provide a low carbon opportunity to explore the local area.

Exploring the area by canoe at Barahi Lodge, a low carbon option.

Guests at Reni Pani Jungle Lodge exploring the Forsyth Trail on foot in Satpura.

Guests at Evolve Back Coorg experiencing traditional coracles.

Forsyth Lodge guests enjoying a canoe safari on Lake Tewa in Satpura.

E-rickshaws and e-buggies are used at a number of lodges including Aahana The Corbett Wilderness and pictured here, Oberoi Vanyavilas.

E-rickshaw at Singinawa Jungle Lodge.

Electric buggy at Barahi Jungle Lodge, Nepal, one of a range of low carbon options to explore the area.

KITCHEN GARDENS AND LOCAL PROCUREMENT

Local procurement is standard good practice with the best lodges sourcing most of their produce locally. Svasara Jungle Lodge aims for its cuisine to be 100% locally sourced serving home-made regional dishes.

Aahana The Corbett Wilderness pursues a proactive grown-right-here organic approach, producing their own vegetables, herbs and spices. Medicinal plants grown at the lodge are used in the in-house naturopathy centre. An on-site dairy farm takes care of all milk needs.

Spice Village Thekkady's kitchen needs are supplied through local procurement and its organic garden which is certified by Lacon GmBH, based on European Union standards 2092/91. The ingredients for its restaurants are sourced within a 50-mile radius.

Forsyth Lodge buys its fruit, vegetables and meat 15 kms away and has a model organic vegetable plot in its grounds to show locals closer to home that produce can be grown more locally with existing water resources, a previous barrier in perception.

BUILDING AND LANDSCAPES

(see also Nature Education and Conservation profile for landscapes)

Designing buildings to maximise natural light and air whilst reducing the need for cooling is a positive step for energy conservation. Large windows and sliding doors under projecting eaves at Dhole's Den are designed to maximise natural circulation of air and light whilst providing shade from the sun. (See case study in Sustainable Building profile.)

Guest rooms at Pench Tree Lodge benefit from natural shading from trees during the day. Indigenous tree planting around the property provides additional natural cooling. Rooms have no TVs giving guests instead an experience of the wilderness and saving energy. Read case study.

The site at Evolve Back Kabini has been restored from denuded farmland with numerous trees planted providing natural cooling and shade for guest accommodation. Local materials have been used in the construction to reduce the building's footprint. (See case study in Sustainable Building profile.)

Buildings at Spice Village Thekkady use local thatch and wide eaves to provide natural cooling. Rooms have no air conditioning. (See case study in Sustainable Building profile.)

Red Earth Kabini has used a traditional rammed earth technique for its construction with the earth sourced on site minimising the use of concrete and steel, carbon intensive materials. (See case study in Sustainable Building profile.)

A wide range of lodges leave their paths natural or use natural materials such as pebbles or sand avoiding concrete, reducing their carbon footprint and enabling water to percolate back into the ground. Pictured here a pathway at Taj Safaris – Banjaar Tola.

COMMUNITY INITIATIVES

The Prakratik Society, set up by the owner of Khem Villas, has provided more than 600 biogas digesters to local villages around Ranthambhore replacing cooking using wood with a cleaner fuel.

A range of lodges are supporting local villagers through providing solar lamps and power. Pashan Garh – Taj Safaris, pictured here, has distributed 200 solar lamps to approximately 60 homes without electricity.

Singinawa Conservation Foundation, set up by Singinawa Jungle Lodge, has provided solar units to two anti-poaching camps and donates 50 solar lamps annually to local village residents to help improve local lives.

Banjaar Tola - Taj Safaris - one of many lodges selling locally produced, traditional arts and handicrafts, a positive low carbon option supporting local livelihoods - see Cultural Heritage and Local Economy.

Photo: Pugdundee Safaris

RESOURCES

Case Studies

Evolve Back Kabini, Nagarhole

Putting Back More Green Energy Than the Resort Consumes

Two off-site wind farms owned by Orange County Resorts & Hotels at Gajendragad in Karnataka and Thenkasi in Tamil Nadu generate more green and clean power than their resorts consume.

Solar thermal supplies all the resort's hot water.

Evolve Back Kabini, part of family run Orange County Resorts, has an impressive approach to energy use setting out to minimise consumption alongside its use of renewable energy. The jewels in the crown are two off-site wind farms owned by Orange County at Gajendragad in Karnataka and Thenkasi in Tami Nadu. These two sites combined generate more green and clean power than Orange County's two resorts consume and save 90% of their energy costs in grid payback after administrative costs have been covered.

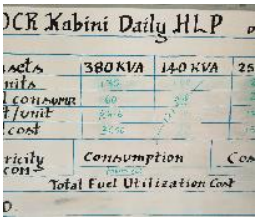
Hot water at Evolve Back Kabini is heated by a centralised solar water heating system meeting all the resort's requirements.

A biogas plant using food and organic waste provides gas for cooking supplemented by LPG, a cleaner alternative to wood.

Biogas unit using food waste to power cooking.

The resort has an active Green Team and monitors energy use on a daily basis with a cluster-based power consumption monitoring system in place to help identify opportunities for energy saving. Targets are set annually. Rooms have a one key system turning off all electricity as guests exit the room.

Cluster based monitoring.



Daily energy monitoring.

A combination of CFL and LED bulbs are used throughout the property and most appliances in use are star rated to maximise energy efficiency. Guest rooms have no TV; cultural performances are provided as an alternative entertainment.

Bullock cart rides - low carbon combined with cultural insight.

Cultural performances are offered instead of TV.

The resort offers a range of low carbon options to explore the area including bicycles, bullock cart rides and coracles.

Local farmers are encouraged to supply organic food for the resort's kitchen. Local cuisine is served in the restaurant and cookery classes give guests an inspiring insight into local culture.

Local cuisine.

Evolve Back Kabini has carried out extensive replanting on-site making a positive contribution to carbon sequestration. The resort has also provided LED lights in the village with electricity from their solar photovoltaic panels which also power the Resort's staff quarters.

Extensive tree planting provides natural shade and cooling for guest accommodation.

Dhole's Den, Bandipur

Leading the Way in Energy Conservation and Renewable Energy

Combined wind and solar generation at Dhole's Den.

Tree planting and wide eaves provide natural shade and cooling.

Trees planted around guest accommodation provide natural cooling. Natural light has been exploited to the maximum extent with large windows and doors. High ceilings, proper insulation in the rooms and wide eaves help maintain ambient temperature.

Dhole's Den has led from the front in energy conservation around Bandipur National Park. A micro wind and solar power hybrid generator from Supernova Technologies, Gujarat, producing about 10 kwh of power, is enough to take care of almost all the lodge's energy needs. Power from the grid is used only for pumping water. Separate decentralised solar energy units from the same company have been installed for use in the kitchen, bungalow and other areas. Fencing is solar powered.

Decentralised solar energy units.

Room interiors exploit natural light and air with energy saving measures in place to minimise energy consumption.

Encouraging guests to save power and water.

The rooms do not have coffee-makers, air-conditioners, jacuzzies and televisions to minimise electricity consumption. LED lighting is used throughout the property, reducing the energy consumption of a guest bungalow (1,200 sq ft) to 60 w when all lights are used and under 25 w when only dedicated green energy is used. All appliances used on the lodge premises are BEE star-rated. Lights have been fixed only where required to reduce light pollution and disturbance to wildlife.

Biogas is produced from kitchen waste producing fuel for cooking. The lodge has its own sizeable organic garden growing produce for the kitchen and maximises local procurement to reduce its carbon footprint. Guests are informed through verbal briefings and signage to conserve energy and water.

Biogas unit.

Solar powered fencing.

Kitchen garden and local procurement to reduce carbon footprint.

Spice Village, Thekkady, Periyar

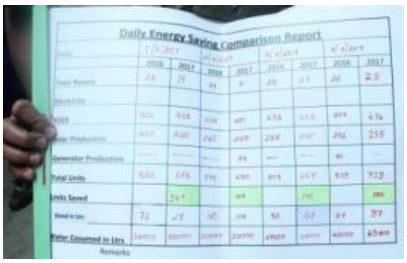
Harnessing Renewable Energy and Minimising its Carbon Footprint

65 kw solar power plant.

Spice Village meets a substantial proportion of its energy needs from solar energy as part of the resort's low carbon approach. A 65 kw solar plant generates approximately 400 units of electricity on a bright day with the aid of panels, inverters and batteries and has produced nearly 1,36,000 units of clean energy since the system was installed in 2012. Water is heated through solar power. The use of biogas produced from biodegradable waste supplemented with LPG (liquid petroleum gas) for cooking is a further positive step.

Biogas plant.

Rooms at the resort have been designed to maximise use of natural light with adjacent trees providing natural cooling. Guest rooms have no air conditioning or TVs. Mini bars are CFC free to minimise carbon footprint. A key one switch system is used to save energy turning off electricity when guests leave their rooms. BEE star rated appliances and LED bulbs are used throughout the property, a further positive step in energy conservation. Energy is monitored on a daily basis to encourage energy reduction.



Daily energy saving comparison

Sizeable organic garden to reduce carbon footprint.

A sizeable organic garden tended by locals employing traditional crop raising methods and certified by Lacon GmBH to European Union standards (2092/91) reduces carbon emissions. The resort has a 50-mile radius policy for local procurement for its cuisine. Electric rickshaws combined with the resort's renewable energy generation provide a clean mode of transport. The resort has an Urjam (Green) Team in place to ensure energy conservation is a priority item on the agenda.

Barahi Jungle Lodge, Chitwan, Nepal

Building Renewable Energy into Operations from The Outset

Solar thermal.

Barahi Jungle Lodge, built in 2013, has harnessed renewable energy from the outset. A 10 kwp off grid solar system is used for hot water. Biodegradable waste is used to generate biogas for cooking complemented by the use of LPG (liquid petroleum gas), a cleaner fuel than wood, the most widely used material in Nepal.

Cottages are well insulated with local materials such as mud, thatch, stones and tiles. Natural light and air is maximised in the design through the use of big windows to reduce energy use. LED bulbs are used throughout the property, a further positive step for energy conservation. Guest rooms use a one key card system to avoid wasting energy after guests leave the room.

Biogas unit converting biodegradable waste into fuel for cooking.

Large windows maximise natural light with shading provided by thatched balconies.

Extensive use of local produce minimises carbon footprint in packaging and transporting goods. The shop likewise stocks local goods, a further positive step for minimising its impact whilst contributing to the local economy.

The lodge has battery operated carts**.** Bicycles, walking and traditional paddle boats are offered to explore the area, low carbon options, in addition to jeep safaris.

Electric buggy.

Low carbon options for exploring the area.

Khem Villas, Ranthambhore

Harnessing Renewable Energy for its Operations and the Local Community

Solar water heater combined with water treatment to save energy and water.

The Prakratik Society, founded by Khem Villas' owner, Dr Rathore, has been internationally recognised for providing clean energy to local communities surrounding Ranthambhore. The foundation won an Ashden Award in 2004 for its pioneering efforts in installing 250 biogas digesters in villages on the fringes of Ranthambore providing cleaner and safer fuel for cooking for poor local communities and compost from the digester output.

Traditional method of cooking (left) replaced by biogas made from cow dung (right) through support by the Prakratik Society.

Khem Villas heats all its water using solar energy backed up by heat pumps, an energy efficient source of energy, when it is cloudy. A biogas unit turns waste from its dairy and kitchen into fuel for cooking alongside LPG, a cleaner cooking fuel than wood. Hot water is fixed from 6am-1pm and 6pm-9pm to conserve energy. A substantial amount of produce is sourced from the lodge's kitchen garden, dairy and local procurement, beneficial for reducing carbon emissions and supporting the local economy.

All power at the lodge other than air conditioning is operated with a battery back up to minimise fossil fuel use if power goes down. Air-conditioning uses VRV technology with the highest energy rating made by Daikin. LED lighting is used throughout to minimise energy consumption further.

Lodge biogas unit.

Khem Villas and the Society combined have planted more than 700,000 trees, capturing carbon and transforming denuded dry landscape into an oasis for wildlife.

Land restored at Khem Villas and the surrounding area.

Oberoi Vanyavilas, Ranthambhore – Energy Conservation and Renewable Energy

90 kw rooftop solar plant.

Oberoi Vanyavilas' energy conservation team meets regularly to review weekly energy audits and ways in which energy can be saved. Daily electricity is displayed in back of house areas to encourage staff to save energy. LED lights are used across the property. Guests are encouraged to save energy through notices.

A rooftop Azure 90 kw solar plant has been installed to reduce the resort's carbon footprint. A solar water heating system meets all the resort's needs and saves approximately 6,000 litres of high street diesel per annum. Waste heat from three noise free low polluting diesel generators is used to heat the swimming pool in winter to save energy.

Electric buggy.

A large area has been allocated for growing organic vegetables and crops. The use of local produce is maximised to reduce carbon emissions. The lodge has installed battery operated golf carts for room service and other internal services and has electric buggies for guests.

Svasara Jungle Lodge, Tadoba – Solar Power and Local Procurement

Solar photovoltaic panels.

Installation of energy efficient equipment including 100% use of LED bulbs throughout Svasara Jungle Lodge has helped to reduce the consumption of electricity. The need for artificial lighting has been reduced by enhancing natural light sources. A single-switch system operates to ensure guest room lights, TV, fans and other appliances are not left on when guests are not in their room. Employee training and guest briefing through leaflets in rooms encourages energy conservation.

A 33.6 kw solar grid enables the property to meet 50% of its energy through renewable sources with plans to expand the solar plant's capacity further. A subsidy is received for electricity they supply to the grid.

Locally sourced cuisine.

The lodge sets out for its cuisine to be 100% locally sourced serving home-made regional dishes with produce from its organic farm and local communities. The lodge offers shared safaris to guests to reduce greenhouse gas emissions further.

Pench Tree Lodge, Pench – Sustainable Building and Natural Landscape

Exploiting natural shade.

All treehouses are situated next to trees which provide shade during the day and indigenous tree planting around the property provides natural cooling. The lodge uses a combination of LPG for cooking, a cleaner energy than wood combined with solar cookers.

Rooms have no televisions. Energy efficient BEE star rated electric appliances and LED bulbs are used throughout the property. A one switch system is used in guest room to switch off electricity.

Protecting natural landscape and planting trees.

A Farm to Table concept allows the lodge to source over 30% of their fresh produce from their in-house farm. Produce is otherwise sourced mainly from local farmers; menus are designed to avoid the use of canned and tinned goods.

TIPS FOR GOOD PRACTICE

Management and monitoring

- Establish benchmarks for your energy use: calculate average energy consumption per guest (eg 50 kwh per bed per night and/or kwh per m² of serviced area).
- Introduce sub metering.
- Nominate Green champions and reward performance.
- Draw up an inventory of main energy-consuming devices, processes and areas and identify options to save energy.
- Set targets to reduce your annual energy consumption and review annually. Aim for a minimum of 5% reduction each year.
- Measure your electricity and on-site fuel consumption on a regular basis to monitor progress.
- Set and monitor targets for increasing your renewable energy use. Aim for 20% or more in five years.
- Measure your carbon footprint and aim to be carbon neutral in five years.

Energy efficiency measures can reduce the energy costs of lighting by more than 50% while still maintaining the atmosphere crucial to business.

Raising awareness

Green Team at Evolve Back Coorg

- Brief staff to conserve energy through notices, checklists, stickers/notes on appliances and awareness training (eg turning off lights and turning down heating/air conditioning in unoccupied rooms or staff only areas).
- Encourage guests to conserve energy through notices and briefings.

GO GREEN
SAVE ENERGY, SAVE MONEY

APPLIANCES	Average kWh p/a	Average cost p/a INR
Swimming pool pump	2,000	14,000
Air conditioner room	1,070	7,490
Colour television on	197	1,379
Computer	130	910
Coffee maker	100	700
Stereo / Radio	75	525
Hair dryer	50	350
Ceiling fan	50	350
Iron	50	350
Telephone	36	252
Colour television (on standby)	33	231
Vacuum cleaner	25	175

(Average Cost of Power in India is INR 7 per kWh)

Equipment and maintenance

- Choose energy efficient labelled appliances and equipment and ensure they are regularly maintained. For India see BEE star - five star is best.
- Repair or replace faulty equipment.
- Turn off lights, computers and other equipment at night or when not in use.
- Regularly check and power down unused equipment (eg kitchen exhaust fans).
- Regularly inspect equipment and repair or replace damaged equipment. Energy consumption can increase by up to 30% if regular maintenance is not undertaken.[8]
- Service all major energy using equipment regularly in accordance with supplier recommendations.
- Clean or replace air conditioner filters regularly. Dirty filters restrict airflow and can cause the system to run longer increasing energy use.
- Clean light fittings on a regular basis.
- Include filter changes, coil cleaning, thermostat calibration and damper adjustments in your ongoing maintenance plan.

Guest rooms

Photo: Singinawa Jungle Lodge.

- Display notices or provide briefings which encourage energy saving.
- Use a one switch system for turning off electricity in guest accommodation; a key operated system is best.
- Ensure staff turn off electricity and air conditioning as soon as the guest leaves if you do not have a one switch system.
- Close blinds or curtains in unoccupied rooms.
- Keep equipment such as lamps, televisions and hair dryers away from air conditioning thermostats. Heat from these appliances can affect the thermostat reading and increase energy consumption.
- Allow your guests to immerse themselves in the wilderness; cut out televisions and save energy.

A one-switch system for guest rooms can reduce energy consumption by 15-30%.

Lighting

- Change lighting to LEDs. CLF bulbs also offer energy saving benefits but use more energy than LEDs and contain mercury which requires careful disposal.
- Switch off or dim lights in areas that receive natural daylight during the day.
- Use solar power for pathways.
- Reduce unnecessary light pollution in exterior spaces and turn off decorative exterior lights when guests are asleep.
- Install occupancy or movement sensors for lighting walkways, corridors or rooms not regularly used.
- Replace battery torches with solar torches.

LEDs use 25%-75% less energy than CFL bulbs

Laundry

- Operate washing machines only with full loads.
- Reduce the temperature of water used for laundry. Wash in cold water where possible using cold water detergents; this will greatly reduce energy consumption.
- Use machines with high speed spinning to reduce drying times.
- Clean the lint filter in driers before use. Lint build up blocks airflow, extends drying time and can be a fire hazard.
- Turn off lights, ventilation and air conditioning when the area is not in use.
- Schedule laundry for night-time to reduce environmental impact and cost.


Portable solar lighting at Mahua Kothi - Taj Safaris

Kitchen

Photo: Pugdundee Safaris.

- Gas for cooking is a lower carbon option than electricity in India which still relies heavily on coal. A number of lodges use a combination of liquid petroleum gas (LPG) and solar energy (see below) or biogas from biodegradable waste. LPG is a cleaner fuel than traditional biomass in Nepal such as wood. Electricity (from hydropower) is a lower carbon option than LPG.
- Minimise the opening of oven, fridge and freezer doors. Every time you open the oven door, approximately 25% of the heat escapes.
- Do not preheat ovens, fryers, grills etc for longer than necessary.
- Turn off extraction fans and lights when the kitchen is not in use.
- Ensure food has cooled before placing it in the refrigerator.
- Keep refrigerators or freezers as full as possible whilst still allowing air to circulate. A full refrigerator or freezer uses less energy.
- Clean the fridge condenser coils every three months. 25% more energy is consumed maintaining the right temperature if dust and dirt accumulates on the coils.
- Don't block air circulation around refrigerant coils or fans by putting items right in front of them.
- Check and clean kitchen equipment daily.

Back of house

- Turn off all equipment, lights and air conditioning in offices and back of house areas when not in use.
- Post notices and stickers in office and back of house areas reminding staff to turn off electricity.

Air conditioning

- Monitor and regulate temperature – every degree in reduced heating or cooling can significantly reduce energy.
- For cooling, set thermostats between 22°C-26°C; by increasing the indoor design temperature from 20°-22°C, the annual energy saving is 12.8%. Increasing the temperature to 24°C or 26°C, increases the saving to 20% and 28.44% respectively.[9]
- Maximise natural air and shading from trees to minimise air conditioning.
- Choose five star BEE (India) energy efficient ceiling fans or room air conditioners.
- Select approved low or zero-GWP (global warming potential) refrigerants. Avoid commonly used refrigerants which are particularly harmful.[10]

Insulation

- Ensure all water heaters and pipes are adequately insulated to minimise energy loss, inspect them regularly and repair as required.
- Assess whether roof and wall insulation can be improved using local or sustainable materials where possible.

Building and construction

Ceilings at Kanha Earth Lodge are tripled lined for natural cooling. Interiors have large windows to maximise natural light and air. See case study in Sustainable Building profile.

- Plan building orientation and design to take advantage of natural light and ventilation balancing the use of natural light against the potential for cooling demand.
- Design building envelope to minimise energy use/loss through adequate insulation.
- Position buildings to use the natural shade from trees to reduce the need for air conditioning.
- Reducing heat gain by shading, installing double / triple glazed units and/ or having low-E coating can reduce daily cooling demand by 30%.[11]
- Use local, sustainable materials and labour where possible to minimise carbon footprint.
- Minimise the use of concrete, an energy intensive material to produce, particularly in areas such as pathways and source it from companies certified by GreenPro (in India).
- Position water tanks close to the point of use and install gravity-fed water systems where possible.
- Plan and install renewable energy from the outset.

Exterior spaces

- Reduce unnecessary light pollution in exterior spaces and turn off decorative exterior lights when guests are asleep.
- Consider solar water heating systems for hotel pools where heating is needed. Use a pool cover when the area is not in use.

Use of wood and fossil fuels

- Prioritise energy efficient and less polluting fuels such as liquid petroleum gas (LPG) in India for cooking instead of wood; renewable energy is best. LPG is a cleaner fuel than traditional biomass in Nepal such as wood. Electricity (from hydropower) is a lower carbon option than LPG.
- Ensure sustainable use of wood; all firewood should come from legal sources.

Renewable Energy

- Review renewable energy options appropriate to your area (see briefing).
- Integrate renewable energy such as solar water heating and solar lighting for pathways into your energy use as appropriate.
- Monitor the share of renewable energy in relation to your total energy use; aim for 20% or more in five years. The best examples are self-sufficient with star performers contributing more energy to the grid than they consume.
- Consider developing off-site renewable energy to become carbon neutral or carbon positive.

Photo: Jim's Jungle Lodge.

Carbon Footprint

- Calculate your carbon footprint annually (see further guidance in this Resources section).
- Plan to become carbon neutral over five years.

Local Procurement and Local Transport

- Set a minimum target for procurement from local sources; the best examples achieve the majority within 50 miles or less.
- Monitor your local procurement and increase over time.
- Prioritise local, fair-trade and organic goods.
- Use local, sustainable building materials and labour.
- Grow your own organic fruit and vegetables; your guests may also enjoy visiting your growing facilities. Star performers are certified organic.
- Provide bicycles and other eco-friendly modes of transport for staff and clients eg electric buggies and e-rickshaws.
- Offer shared safaris to reduce your carbon footprint.

Photo: Kanha Earth Lodge, Pugdundee Safaris.

Community Support

- Support local community clean energy, tree planting initiatives, soil fertility and sustainable agriculture – you will be bringing benefits to your local area, reducing carbon and supporting Sustainable Development Goals.

Note on Carbon Offsetting

If you decide to offset your carbon emissions, choose a programme using independent verifiers such as Gold Standard set up by WWF. Offsetting should not be a substitute for reducing your carbon emissions.

Information included may not be appropriate to every situation, destination and country and is intended for general guidance only and may be subject to change.

RENEWABLE ENERGY

With approximately two-thirds of global greenhouses gas (GHG) emissions originating from energy production and use,[12] renewable energy alongside energy efficiency has a crucial role to play in helping to keep global average temperature well below 2°C and provide clean energy for all.

Using renewable energy can enhance your green credentials and offer financial benefits too – through cost savings, the availability of grants or incentives to offset capital costs, and the potential to earn from the grid.

Renewable energy technologies can reduce GHG emissions by between 76% (solar pv) and 97% (wind turbines) compared with conventional heating and electricity options.

Source: Sycom Projects Consultants

India's National Targets

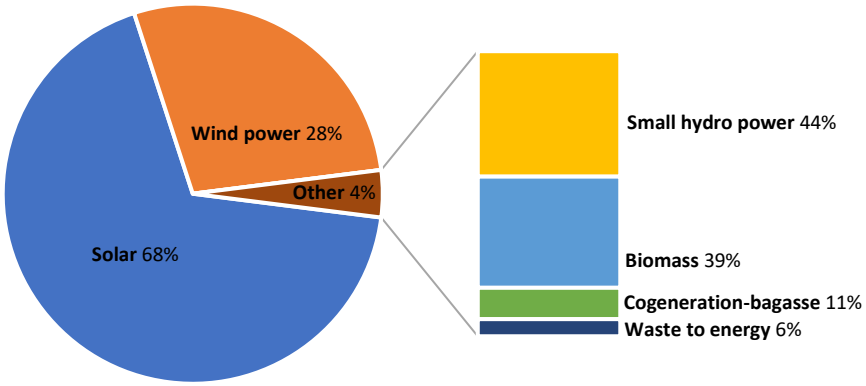
The Government of India's goals for its Nationally Determined Contributions for the Paris Agreement include achieving 40% of electric power installed capacity from non-fossil fuels by 2030.[13] Its targets to increase renewable power capacity to 175 GW by 2022 are projected to come primarily from solar followed by wind with a range of other technologies playing a smaller part (see figures 1 and 2 below).

FIGURE 1
Targets in India for increasing renewable power capacity
175 GW by 2022

Solar	100 GW	
Wind	60 GW	
Bio-power	10 GW	
Small hydro-power	5 GW	(excluding large scale hydro)
TOTAL	175 GW	

Source: Government of India, Ministry of New and Renewable Energy, Dec 2018

FIGURE 2
Estimated Potential of Renewable Power in India



Source: Energy Statistics 2019, Central Statistics Office, Government of India

Nepal's National Targets

Nepal presented its second nationally determined contribution report for the Paris Agreement in 2020 to the UN.[14] Its current total installed capacity for energy generation is approximately 1,400 mw, mainly from hydropower. Its targets for 2030 to reduce emissions and support vulnerable communities include expanding clean energy generation from approximately 1,400 mw to 15,000 mw of which 5-10% will be generated from mini and micro-hydro, solar, wind and bio-energy plants.

Targets by 2030 are to ensure that 25% of households use electric stoves as the primary mode of cooking, and to install 500,000 improved cookstoves by 2025 and an additional 200,000 household biogas plants and 500 large scale biogas plants by 2025.[15]

Solar Power

Solar power can be used for a range of applications from hot water (solar thermal) and electricity (solar photovoltaics – direct and battery storage) to smaller applications such as fencing, solar cookers, torches and lanterns for pathways. See the India Renewable Energy Development Agency (IREDA) for further background on solar power and information on financing schemes in India. For Nepal, see the Alternative Energy Promotion Centre (APEC) (renewables – solar PV technology, solar thermal technology) and other organisations listed in the next section.

Photo: Oberoi Vanyavilas.

HARNESS SUN POWER FOR HEATING WATER SEE YOUR CARBON FOOTPRINT AND BILLS DROP			
Per Capita GHG (Green House Gas) emission from electricity consumption	**Cost of 100 litre solar water heater (INR)**	**Expected yearly electricity saving on full use of solar hot water (units of electricity)**	**Monetary savings INR/year (at INR 7/ kwh)**
0.5 tonne of CO_2e	**15,000**	**1,000**	**7,000**

NOTE: Illustrative example for India.
Source: Sycom Projects Consultants

Wind

Photo: Dhole's Den

Wind, an option dependent on the suitability of wind conditions on the site, can be harnessed through small turbines or combined wind and solar power systems to generate electricity on-site. Businesses such as Orange County Resorts are also using off-site wind farms to generate more energy than their resorts consume and to reduce operational costs through grid payback. See Indian Wind Energy Association for state analysis and maps of wind energy potential across India. See also IREDA for further background on wind power and information on financing schemes in India. For Nepal, see APEC's section on wind energy and wind energy data and the next section.

Biogas

Biogas is produced from organic waste such as animal mature and other biodegradable waste through a process of anaerobic digestion and can be used to produce heat, light or cooking fuel. The residue can be used as a fertiliser. A small number of lodges are using biogas alongside LPG for cooking. At a community level, as a cleaner fuel than burning wood, biogas reduces indoor air pollution and dependency on forests. In India, see the Ministry of New and Renewable Energy and IREDA. For Nepal, see APEC - improved cooking stoves, biomass densification and biomass gasification).

Photo: Aahana The Corbett Wilderness

Small scale hydro power

Small scale hydro power is a highly site-specific technology harnessing the power of rivers and streams. According to APEC, micro-hydro (10-100 kw) has the potential to be a major source of energy in Nepal's rural areas. See their website for information on Micro (10 to 100 kw), Mini (100 kw – 1 mw), Pico and Peltric (up to 10 and 5 kw respectively).

India's Ministry of New and Renewable Energy is responsible for hydro from small 2-25 mw through mico (100 kw or below) to mini (101 kw-2 mw). Information on the state-wise location of identified Small Hydro Power sites is available on their website. The Government aims to reach a cumulative target of 6,000 mw from small hydro by 2022. Financial assistance is available through their online portal (see https://mnre.gov.in/small-hydro/schemes).

Biomass

Biomass is the use of organic material for applications such as heating water, cooking or generating electricity. It relies on large quantities of wood or waste materials such as sugar cane, woodchip and rice husks and is likely to be less relevant to the nature tourism industry. The use of any wood should be strictly from legal, sustainable sources. Briquettes made from lantana, an invasive weed, for use as a fuel have been developed by some rural enterprises but are not currently being produced on a commercial scale.

Mahua Kothi - Taj Safari installing 180 fuel efficient, smokeless chulhas in nearby villages.

A range of lodges are supporting local communities through providing energy efficient chulhas, to reduce indoor air pollution, improve health and reduce dependency on forest resources complementing the Government of India and Nepal's programmes to introduce more efficient cooking stoves. For India, see the Ministry of New and Renewable Energy in India's National Biomass Cookstoves programme, and IREDA's biomass pages. For Nepal, see APEC's Improved Cooking Stoves.

Air and geothermal heat pumps

Ground and air source heat pumps take low-level heat which occurs naturally underground or in the air and converts it to energy for heating or cooling buildings. Both systems require electricity to drive them. Their level of effectiveness in reducing carbon therefore depends on the energy source of the electricity. This technology, which is used in other parts of the world, is not yet used widely in India and Nepal.

NATURAL SOLUTIONS TO CLIMATE CHANGE

Protecting and restoring forests, wetlands and other ecosystems stores carbon and enables biodiversity to flourish. A study led by the Nature Conservancy and fifteen other expert organisations highlighted that natural climate solutions can deliver large-scale emissions reductions cost effectively and achieve a third of what is needed to keep climate change under 2°C. Forests and other habitats are themselves threatened by climate change calling for resilient species and well-informed planning with a continuing urgent need for reducing energy consumption and fossil fuel emissions. Whilst natural climate solutions are not enough on their own, campaigners call for their crucial role in addressing climate change and turning the tide on massive biodiversity loss to be urgently recognised and support for them stepped up.

India's forest and tree cover amounted to 24.56% according to a 2019 report against a target of 33%, with the country needing to double its rate of forest cover expansion to achieve its Paris Agreement target - creating a cumulative carbon sink of 2.5-3 billion tonnes of carbon dioxide (CO_2) equivalent by 2030.[16]

Nepal's 2nd Nationally Determined Contributions for the Paris Agreement targets are to maintain 45% of the total area of the country under forest and wooded cover and to manage 50% of Tarai and Inner Tarai forests and 25% of middle hills and mountain forests sustainably by 2030. According to the Global Forest Resources Assessment in 2020, 44.74% of Nepal is forest and other wooded land.[17] Additional targets for the Paris Agreement include increasing the soil organic matter content of agricultural land to 3.95% by 2030, and creating an inventory of wetlands and sustainably managing vulnerable wetlands.

Photo: Tiger Tails Jungle Lodge


Protecting and restoring forests, wetlands and other ecosystems stores carbon and enables biodiversity to flourish.

A NOTE ON TRANSPORT

Global transportation was responsible for 24% of direct CO_2 emissions in 2019 from fuel combustion with road transportation accounting for nearly three quarters of transport CO_2 emissions.[18] Electric car deployment has been growing rapidly over the past ten years.[19] Electric cars produce less carbon dioxide than petrol cars across the majority of the globe except in countries heavily dependent on coal.[20]

INDIA

In India, the transport sector accounts for 18% of total energy consumption contributing around 142 million tonnes of CO_2 annually according to the Bureau of Energy Efficiency. The Government of India has ambitious plans to make India an electric vehicle nation alongside its expansion of renewable energy capacity. A further substantial advantage to the electrification of transport in India is reducing air pollution. Initial targets for 100% electrification of diesel and petrol cars by 2030 have been revised to 30% by 2030. More extensive and earlier adoption of electric three-and two-wheelers is reported in the press.

NEPAL

Nepal's Second Nationally Determined Contribution for the Paris Agreement includes the following targets for electrification of vehicles:

- 25% of sales of all private passenger vehicle sales including two-wheelers and 20% of all four-wheeler public passenger vehicle sales by 2025 to be electric.
- 90% of all private passenger vehicle sales including two-wheelers by 2030 and 60% of all four-wheeler public passenger vehicle sales to be electric (not taking electric-rickshaws and electric-tempos into account).
- By 2030 develop 200 km of the electric rail network.

Electric buggy at Barahi Jungle Lodge.

AVIATION

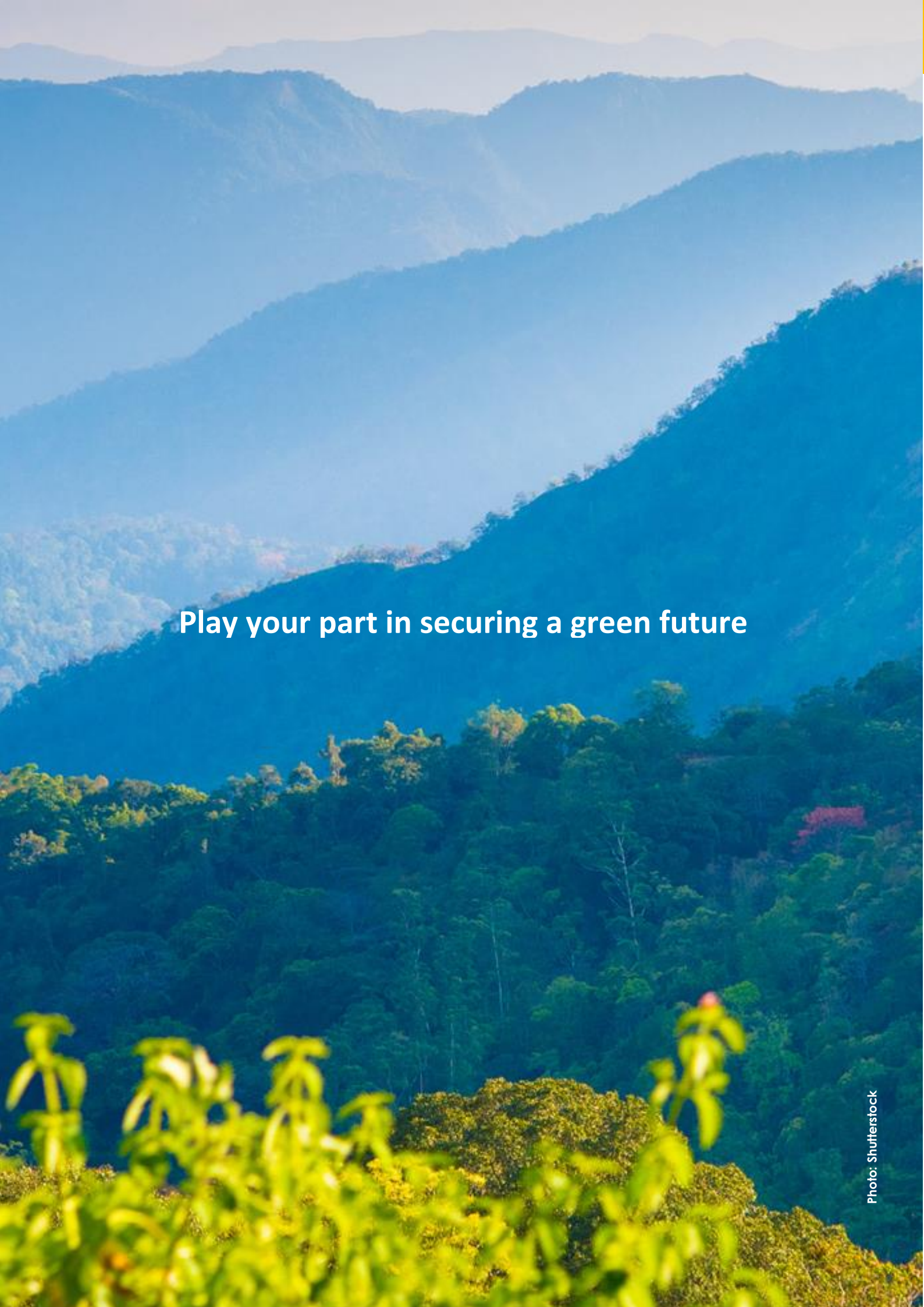
Aviation accounts for approximately 2% of global CO_2 emissions with additional emissions reinforcing the warming impact to 3.5% according to experts.[21] CO_2 emissions have a long lifetime in the atmosphere and are cumulative with the aviation industry estimated to have already generated 32.6 bn tonnes of carbon into the atmosphere, nearly 50% of which was emitted over the past twenty years.

Domestic aviation emissions fall within the responsibility of national governments under the Paris Agreement. International aviation falls outside it and is covered by Corsia (Carbon Offsetting and Reduction Scheme for International Aviation), an initiative agreed by 192 countries through the UN's aviation agency ICAO. The aim of Corsia is to help the industry reach an 'aspirational goal' to make all growth in international flights after 2020 'carbon neutral' through offsetting. In contrast, the UN's shipping agency has agreed a sector-wide goal to reduce absolute emissions by 50% by 2050 compared to 2008.[22] The conservation community are calling for stringent and more ambitious targets to address the climate crisis.[23]

NEPAL'S PARIS AGREEMENT TOURISM TARGETS

Nepal's 2nd Nationally Determined Contributions for the Paris Agreement includes the following tourism targets:

- By 2025, formulate and implement nature-based tourism plans in at least five main tourist destinations.
- By 2030, ensure at least five tourism destinations are carbon neutral.
- By 2030, including measures in policies to offset the carbon footprint of emissions resulting from tourism transport.


Play your part in securing a green future
Photo: Shutterstock

USEFUL ORGANISATIONS AND LINKS

INDIA

Photo: Jaagir Lodge

- **Bureau of Energy Efficiency (BEE)**
  BEE was set up as the statutory body to facilitate the implementation of India's Energy Conservation Act 2001. Its activities include BEE star labelling of equipment and appliances for energy efficiency and Energy Conservation Building Code for commercial and residential buildings.
  https://beeindia.gov.in/

- **Ministry of New & Renewable Energy (MNRE)**
  MNRE provides a portal to related organisations.
  https://www.india.gov.in/website-ministry-new-and-renewable-energy

- **The Indian Renewable Energy Development Agency (IREDA)**
  IREDA is a public limited government company financing and promoting self-sustaining investment in energy generation from renewable sources, energy efficiency and environmental technologies for sustainable development. See https://www.ireda.in/sectors for financing schemes on sectors including solar energy, wind energy, hydro energy, waste to energy, and energy efficiency and conservation.
  https://www.ireda.in/


Photo: Dhole's Den

- **Solar Energy Corporation (SECI)**
  SECI is a CPSU company under the control of MNRE with a mission to build green energy in India through the development of large-scale solar projects, promoting and commercialising the use of solar energy to reach the remotest corners of India, and exploration of new technologies. See briefings for business on solar photovoltaic and solar thermal.
  https://seci.co.in

- **National Solar Energy Federation of India**
  An umbrella organisation of solar energy stakeholders of India.
  http://nsefi.in/

- **Indian Wind Energy Association**
  A not-for-profit organisation set up in 2002 to work as an independent body representing the interests of developers, manufacturers and investors in the Indian wind energy sector.
  http://www.inwea.org/

- **Indian Biogas Association**
  A nationwide biogas association of operators, manufacturers, and planners of biogas plants, representatives from public policy, science and research in India, and all other stakeholders of biogas ecosystem.
  http://biogas-india.com/

NEPAL

- **Nepal Energy Efficiency Programme (NEEP)**
  NEEP is the Ministry of Energy, Water Resource and Irrigation's programme to mainstream energy efficiency in Nepal.
  http://energyefficiency.gov.np/

NEPAL (CONT.)

- **Alternative Energy Promotion Centre (AEPC)**
  AEPC was set up by the Government of Nepal's Ministry of Energy, Water Resources and Irrigation to promote renewable energy, raise living standards of rural people and protect the environment of Nepal. Linking public, NGO and private sectors, the agency is implementing programmes and projects in renewable energy sectors spanning mini and micro hydropower, improved water mills, solar photovoltaic and solar thermal, biogas, biomass, bio-fuels, and wind energy. Their website has a range of resources.
  https://www.aepc.gov.np/

- **The Central Renewable Energy Fund (CREF)**
  CREF is responsible for delivery of subsidies and credits to the renewable energy sector in Nepal.
  https://www.cref.gov.np/en

Photo: Barahi Jungle Lodge

- **Nepal Renewable Energy Programme (NREP)**
  NREP, a 4.5 year £18m programme funded by DfID which started in February 2019, is designed to support the Government of Nepal and the private sector plan and invest in renewable, sustainable energy for economic growth, poverty reduction and climate-smart development in communities across Nepal. The programme operates in Provinces 2, 5 and Karnali. Its activities include governance, market assessment and a SE Challenge Fund covering 'middle ground' projects such as solar microgrids for communities and rooftop or canopy solar for commercial businesses, hotels, tourist destinations, hospitals, health centres and schools. Measurable goals include the provision of RE to 95,000 households, 500 small businesses and 200 schools and health centres.

- **Renewable Energy Confederation of Nepal**
  A forum of associations of private sector companies involved in supply and delivery of alternative energy systems and services and NGOs involved in the promotion of alternative energy in Nepal.
  https://recnepal.org/

- **Nepal Biogas Promotion Association**
  The umbrella organisation of biogas construction companies and biogas appliance manufacturing workshops in Nepal.
  https://sites.google.com/site/nepalbiogas/

- **Biogas Sector Partnership-Nepal**
  A non-governmental organisation involved in developing and promoting appropriate rural and renewable energy technologies, particularly biogas, to improve livelihoods in rural areas. It also implements the Rainwater Harvesting Capacity Centre.
  http://bspnepal.org.np/index.html

INTERNATIONAL

- **Carbon Brief**
  A UK-based website covering the latest developments in climate science, climate policy and energy policy across the globe with expert briefings across a wide range of areas including renewable energy and nature.
  https://www.carbonbrief.org/

- **Carbon Trust**
  A company working to accelerate the delivery of a sustainable, low carbon economy by helping businesses, governments and organisations across the globe to reduce carbon emissions and increase resource efficiency. Resources include a hospitality sector energy saving guide and a free carbon calculator.
  https://www.carbontrust.com/

- **International Tourism Partnership**
  A non-competitive platform for hotel leaders to share ideas, build relationships and work collaboratively. See their Resources and their online magazine, Green Hotelier for free content on sustainable tourism and green hotels.
  https://www.tourismpartnership.org/resources/

- **Natural Climate Solutions**
  A global initiative raising awareness of the need to harness the power of nature and ecosystems to avert climate disaster linking the twin crisis of climate and ecological breakdown and calling for more support. Read their call to action for an informed introduction to the current science.
  https://www.naturalclimate.solutions/the-science

One of Kipling Camp's Forest Creation Workshops co-hosted by Afforestt involving local people. Photo: Kipling Camp.

- **The Nature Conservancy**
  The Nature Conservancy is an international not-for-profit conservation organisation focusing on climate change, protecting land and water, providing food and water sustainably and healthy cities. Research led by TNC and fifteen other institutions demonstrated that nature-based solutions can provide up to 37% of the emission reductions needed by 2030 to keep global temperature increases under 2°C. See their resources including a Playbook for Climate Action and website naturalclimatesolutions.org. Their projects in India include a decision-support tool, DARPAN to select degraded lands for setting up renewable energy projects
  https://www.nature.org/

CARBON FOOTPRINT CALCULATORS

- **Green Key**
  A carbon calculator following the Hotel Carbon Measurement Initiative (HMCI) tool developed by the International Tourism Partnership in partnership with the World Travel & Tourism Council. Areas covered: gas and oil consumption; laundry (if outsourced); air conditioning or refrigeration leaks and maintenance, site owned/operated vehicles
  https://www.greenkey.global/online-hcmi

- **Carbon Trust**
  A free UK designed Carbon Footprint Calculator to help small and medium sized enterprises measure their corporate emission footprint following GHG Protocol. The calculator covers fuel consumption, energy use and tops ups made to air conditioning units.
  https://gbfcalc.azurewebsites.net/gbf/calc/

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- Environmental Management for Hotels, The Industry Guide to Sustainable Operation, 2 Energy, International Tourism Partnership, third edition 2008, digital release 2014. A detailed guide on sustainable use of energy for hotels.

- Hotel Carbon Measurement Initiative v.1.1 Methodology, World Travel & Tourism Council and International Tourism Partnership, December 2016. See Appendix 3: Global Warming Potential (GWP) of Refrigerants for GWP listing of different refrigerants.

ORGANIC CERTIFICATION SCHEMES

India

- Bureau Veritas Certification India Pvt Ltd (BVQI), Mumbai
- Vedic Organic Certification Agency, Hyderabad
- Indian Organic Certification Agency, Ernakulam
- Food Cert India Pvt Ltd, Hyderabad
- National Organic Certification Association, Pune
- Eco Cert SA, Aurangabad
- Aditi Organic Certification Pvt. Ltd, Bengaluru

Certified organic kitchen garden at Spice Village Thekkady.

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TOFTigers is a global business-to-business nature travel charity with a mission to improve the ecological and economic sustainability of wildlands and wildlife across Asia. Well-planned and well-managed responsible tourism is a force for good bringing economic benefits to rural areas, restoring habitat, supporting conservation and local communities, changing poachers into protectors and giving visitors inspiring experiences of nature. We work with the travel trade, destinations, accommodation providers, governmental and conservation organisations to make this happen through training, advocacy, certification, promoting best practice and partnership working.

Our **certification programmes** place local communities, nature and environmental sustainability at the heart of business operations. They are a symbol of assurance for travellers and the travel trade that the places they select to stay at have been reviewed by environmental experts and exceed a minimum standard on a journey towards best practice. The PUG certification is recognised by the United Nation's Global Sustainable Tourism Council (GSTC) and is aimed solely at nature focused accommodation. The Footprint certification has a broader client base that is not wholly nature focused and encompasses accommodation providers in rural, natural or more urban landscapes.

Sign up for certification, get involved in our campaign or view sustainable travel options on our website and download the Great Wildlife Travel Guide.

TOFTIGERS BEST PRACTICE SERIES

- Introduction
- Community Liaison and Support
- Energy and Carbon Footprint
- Nature Education and Conservation
- Sustainable Building
- Local Economy – Employment, Skills and Enterprise
- Water Conservation and Treatment
- Waste Management and Recycling
- Cultural Heritage
- Health, Safety and Pollution

Correct at time of press. Information included may not be appropriate to every situation, destination and country and is intended for general guidance only and may be subject to change.

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