

Climate Change Impact Mitigation & Adaptation

Our Approach

Lakshmi Narayanan S

Vice President – Engineering & Maintenance
Bangalore International Airport Limited



Climate Change Impact Mitigation & Adaptation

Our Approach

Our objective is to contribute towards Climate Change impacts mitigation **aligned with the objectives of the Paris Agreement** to limit the increase of global average temperature to 2°C above pre-industrial levels with an additional desire of **not to exceed 1.5°C**.

Our strategic multipronged approach

Achieve **100% renewable** electricity by 2020.
(70 mn units)

Zero scope 2 carbon emission by 2020.
(Reduction potential – 50000 MT)

Green Development **across Airport** to support **Climate Change** Mitigation actions

To be a benchmark in the industry and support UNSDG

Paved Roads from **Waste Plastics**

Responsible consumption of resources





PROJECT TRIGGER

Management Vision for the Sustainable Future had propelled us to conceptualize this project

UNIQUENESS

Application of the project and the integrated multipronged approach makes it a unique project



MILESTONE ACHIEVEMENTS

- ✓ Management Vision for 2020
- ✓ Onsite Solar initiative 503 KWp

2016

- ✓ Onsite Solar initiative
 - 440 KWp
 - 2.5 MWp
 - 3.5 MWp
- ✓ 40 Mu offsite solar

2017

- ✓ Offsite wind 20 Mu
- ✓ Plastic Roads – 50 kms (Single Lane)
- ✓ Key Landscaping Projects

2019

- ✓ 100% Renewable Electricity
- ✓ Landscaping key Projects

2020

Note: No deviations in timelines

CHALLENGES FACED

Statutory Approvals

Available offsite projects

Availability of Plastic Waste

Daily work approval in
our Airport environment

Roof top Onsite work without
operation interruptions

Vendor Mindset &
Alignment

Glare Analysis to evaluate aircraft
as well ATC safety requirements.

Matured trees 7m - 8m tall
relocation.

Cost of transportation and survival
of trees .



TANGIBLE BENEFITS

The annual renewable energy footprint at BLR Airport is 70 million KWH. This is equivalent to the annual consumption of approx. 20,000 homes (considered at 300 units per month)

100% RENEWABLE ELECTRICITY

(70 Million Units) – Rs 2 – 3 savings per unit
Overall, In house nursery, reuse, storage of plants etc.
savings : Rs 30 Lakhs



RESPONSIBLE CONSUMPTION

Responsible Consumption across our operations lead to optimal & appropriate use of resources
Dust control at Airport due to Landscaping



CO2 & BITUMEN REDUCTION

Scope 2 Emissions Zero – 50000 MT Co2 emissions reduction
6% of Bitumen reduced in our 50 km roads



INTANGIBLE BENEFITS

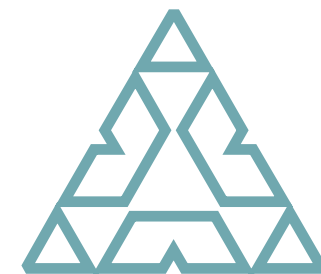
Support Government mission to provide Clean and Affordable Energy

Contribution to the Government of India GHG emissions reduction as per Paris Agreement

Large Green Space to create nature's paradise for our stakeholders especially passengers

Pollution Control





LANDSCAPING

As of now we have 19500 trees & palms.

Considering the ongoing development, we will
have additional 28115 no of trees & palms



REPLICATION POTENTIAL WITHIN THE SECTOR

We are single location company and focusing our drive across KIAB. Our initiatives can be replicated in any sector through Initial Layout plan

External Connect / Knowledge sharing:

- ✓ Airport Council International (ACI) Seminars / Working Committee meetings
- ✓ Schneider Resilient Airports of Tomorrow
- ✓ GRI forums
- ✓ CII seminars
- ✓ Ministry of Civil Aviation meetings
- ✓ Sustainability Reports





Paved Roads from Plastic Waste

A sustainable approach of building roads using waste plastic was conceptualized, experimented with multiple rounds of trials, and a project roll-out decision was finalised.

BIAL aims at building 50 kms of road made from waste plastic within the BLR Airport campus contributing to Climate Change impact mitigation



VID-20210309-WA0
073- Nitin Gadkari.mp



ACHIEVING NATIONAL BENCHMARK / STANDARD

Renewable Power Target

The renewable power target of 175 GW by 2022 – Government of India

GHS Emission Reduction

GHG Emissions reduction target (Paris Pledge) by 33% to 35% by 2030 from 2005 levels

ACI Accreditation

Airport Council International (ACI) Accreditation : Net Zero Carbon Emissions by 2050, approach as per Paris Agreement

Rules/ Regulations

Plastics / Solid Waste Management Rules

We are the pioneers in the airport sector driving the climate change impact mitigation agenda, **achieving 100% renewable electricity consumption & Zero Scope 2 emissions**

In India in or sector, Cochin airport generates >100% of their consumption and export to the grid

PRIORITY PROJECTS ON FAST TRACK

1

Identified land / roof top

2

Statutory approvals

3

Shortlisted reliable PPA vendors

4

Explored Offsite Solar /
Wind projects
availability in Karnataka
for our requirement

5

For Landscaping / trees,
Coordinated with
Landscape Architect for
design and setting out plan.

6

For Plastic waste Roads,
identified the
technology/aligned vendor/
plastic waste source

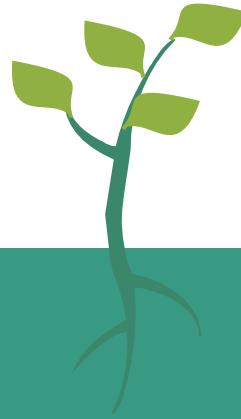


MAJOR LEARNINGS

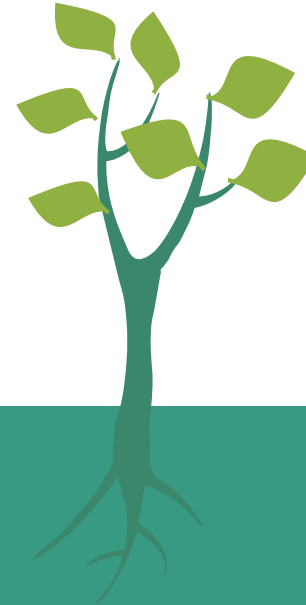
Power of inclusive stakeholder engagement involving community in our Sustainability initiatives



Integration of solar power
with DG, grid power



Open Access opportunities
mitigating onsite
installations challenges



Re-utilization of Transplanted
trees by applying Innovative
Practices and Strategy



Soil Stabilization and slope
beautification using Geo-green
Erosion Control Blanket with
compartments

Successful and cost-effective Tree relocations / storage etc.

ENVIRONMENT PERFORMANCE EVALUATION

Management Performance Indicator(MPI)

1. 100% Renewable Electricity
2. Environment Protection through Landscaping, etc.,
3. Community Building
4. Water Positivity

Environmental Condition Indicator(ECI)

1. Scope 2 Emissions Zero – Around 50000 Tones of CO2 reduction, ACI – Airport Council International carbon Neutral Accreditation, Level 3+
2. Green Environment across Airport

Operational Performance Indicator (OPI)

| Year | Onsite + Offsite renewable Generations (KWh) | Tons of co2 savings |
|---------|--|---------------------|
| FY18-19 | 37611284.6 | 30841.25 |
| FY19-20 | 51914279.3 | 42569.70 |
| FY20-21 | 61180766.8 | 50168.22 |

Rs 2-3 per unit savings, 100% Renewable Electricity



THANK YOU

