KUMARAGURU

KNOWLEDGE | CHARACTER | TRANSFORMATION

CII NATIONAL AWARD FOR ENVIRONMENTAL BEST PRACTICES – 2026



KUMARAGURU Institutions

Microcosm
The Co-existing Architecture

Microcosm: Campus as a **coexisting** ecosystem

Microcosm is an ongoing eco-sensitive initiative of Kumaraguru Institutions to create a coexisting, inclusive and sustainable environment for humans and all other living partners, with a vision to build a balanced and influential campus ecosystem.

Kumaraguru Institutions

Multidisciplinary, NAAC A++ graded educational ecosystem with a **40-year legacy across engineering, agriculture, management, liberal arts and innovation**.

Microcosm connects the environmental footprint of 150-acre campus with sustainable operations, ecology, finance, education and data.







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Microcosm
The Co-existing Architecture

Total GHG Emissions

1,425.70 tCO_2e

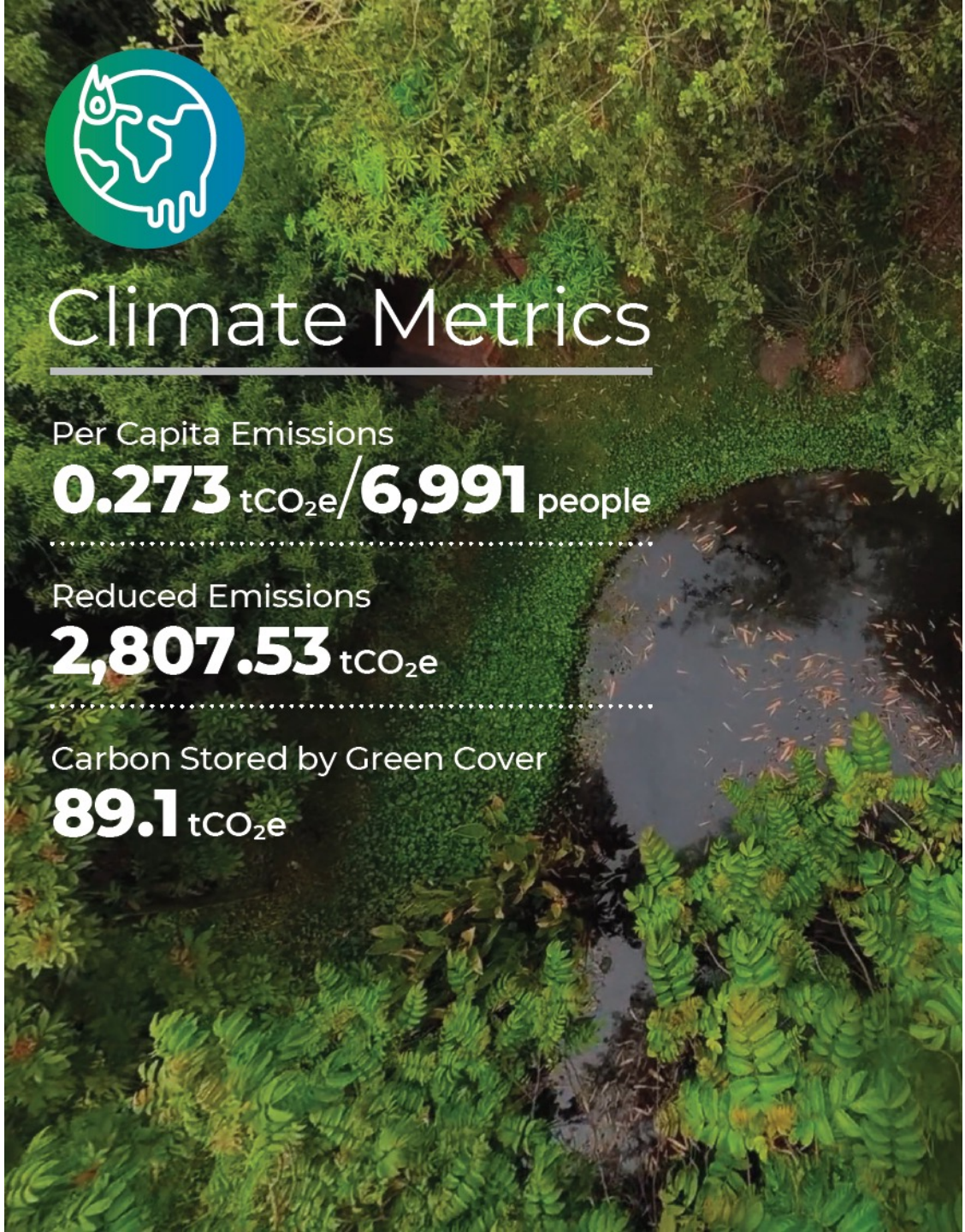
Scope 1 Emissions
689.13
tCO_2e

Emissions (DG + Transport)
389.1
tCO_2e

Emissions (LPG - Canteen)
300.03
tCO_2e

Scope 2 Emissions
736.55
tCO_2e

Emissions (Electricity)
736.55
tCO_2e



Climate Metrics

Per Capita Emissions
0.273 tCO_2e/**6,991** people

Reduced Emissions
2,807.53 tCO_2e

Carbon Stored by Green Cover
89.1 tCO_2e



Key Focus Areas

Energy and Emissions | Water Security | Biodiversity | Waste Management | Awareness

IN-HOUSE

Build campus resilience

Campus Biodiversity; Resource Recovery Park; 250 kW Solar; 1 MLD STP

Sustainability Education and Student Stewardship.

BEYOND CAMPUS

Extend the work outward

Samathur Wetland Conservation, Resilient Dairy Enterprises, Rural Mart, Rural Livelihood Development, Sugarcane Fertilizer Optimisation and Pariyur Farmers Producer Company.

KUMARAGURU Institutions

Microcosm
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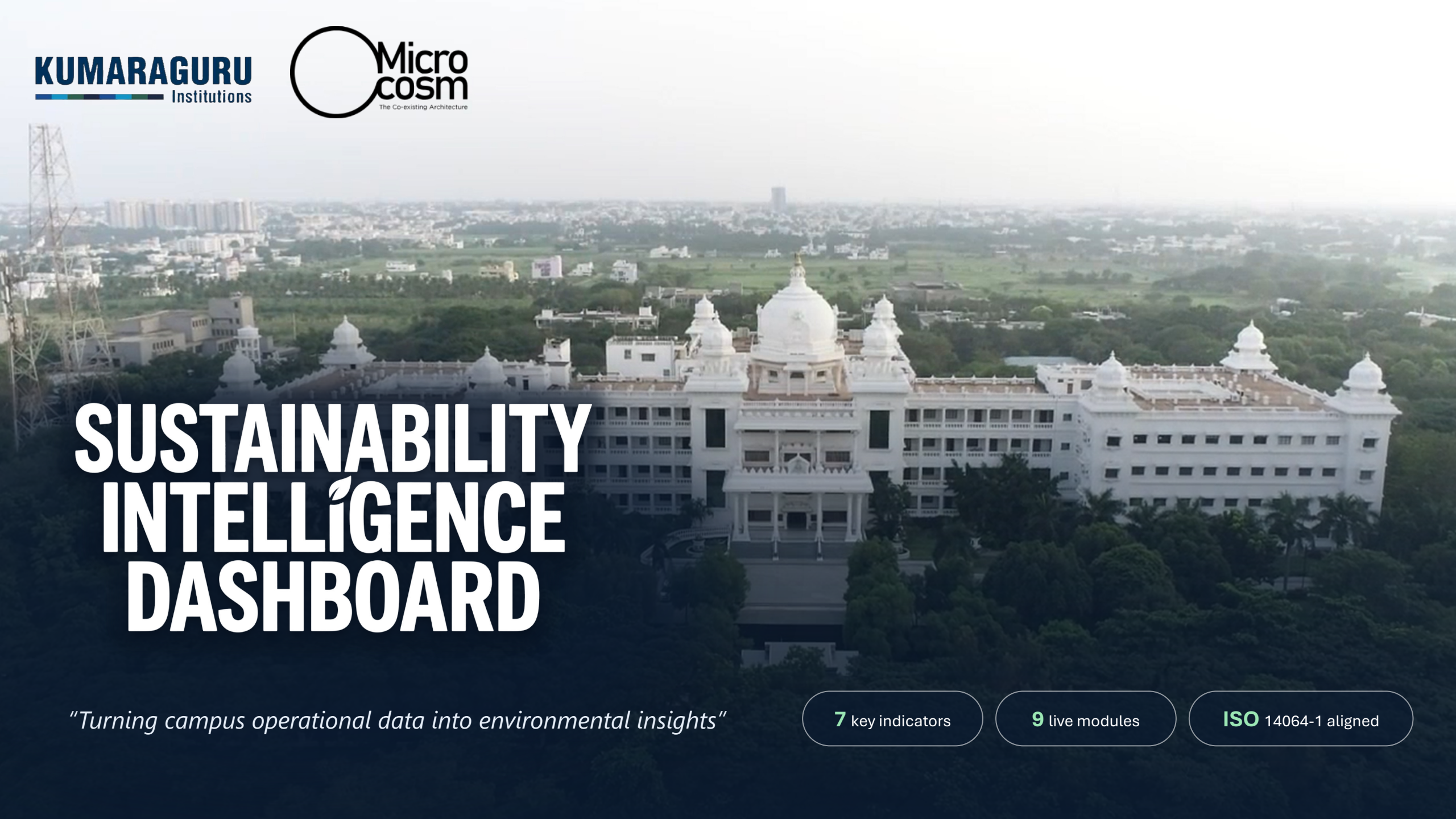


SUSTAINABILITY INTELLIGENCE DASHBOARD

"Turning campus operational data into environmental insights"

7 key indicators

9 live modules

ISO 14064-1 aligned

Why the Sustainability Intelligence Dashboard?

The Sustainability Intelligence Dashboard is needed to bring all campus climate & environmental sustainability data into one simple platform, so our institution can measure its impact, understand progress, and take better climate action.

01 Scattered records

Environment & climate data spread across departments, in different formats, on different schedules.

02 No shared view

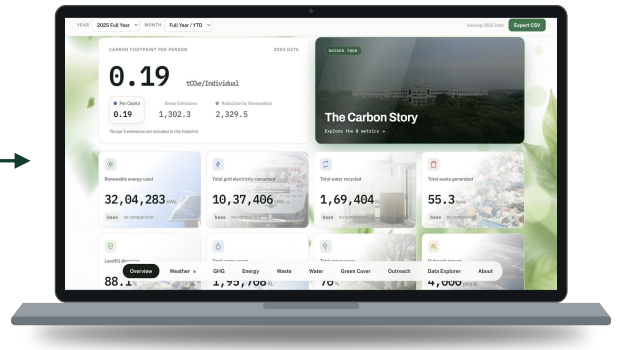
No single place to see energy, emissions, water and green cover together.

03 Manual reporting

Reports rebuilt by hand each time, with no consistent audit trail.

- Energy
- Water
- Waste
- Emissions
- Green cover
- Weather
- Outreach

Sustainability Intelligence Dashboard





The Sustainability Intelligence Dashboard connects all campus climate & environmental sustainability data of Kumaraguru Institutions into one dashboard.

What is the Sustainability Intelligence Dashboard?

The Sustainability Intelligence Dashboard is Kumaraguru Institutions' digital platform that shows the campus's environmental performance in one place.



01

Collect

The Sustainability Intelligence Dashboard automates the collection of campus data on emissions, energy, water, waste, green cover and community outreach from different departmental managers and measures the campus's environmental performance.

02

Convert

After collection of the data, the Sustainability Intelligence Dashboard converts it into uniform, standard units for easier interpretation.

Scope 1 and 2 emissions, calculated from approved records and standard emission factors, according to ISO 14064-1:2018 & GHG Protocol.

03

Explore

It lets users explore sustainability data through dashboards, charts, filters, comparisons and detailed indicators.

Filters by year, month and category, side-by-side comparisons, and CSV export.

04

Explain

It turns complex environmental data into clear stories and insights, helping everyone understand the campus's climate impact and where action is needed.

A guided walkthrough that explains each number in plain terms.

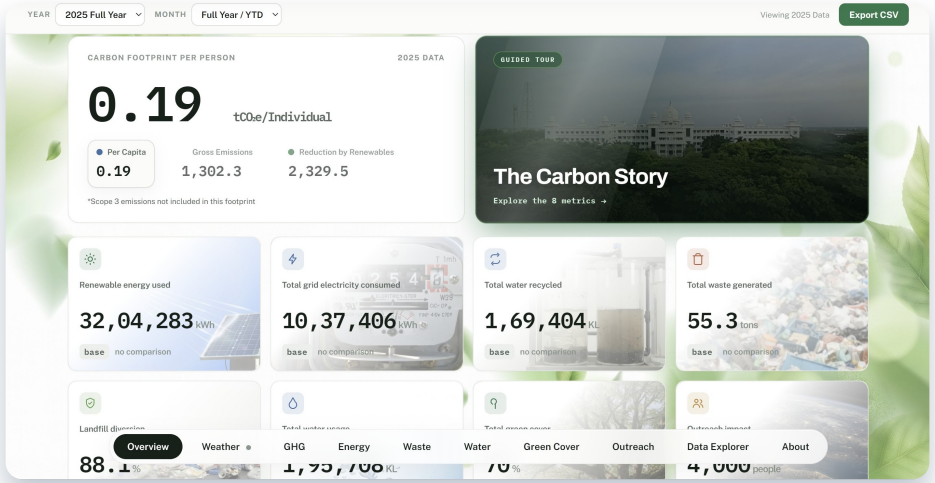
05

Act

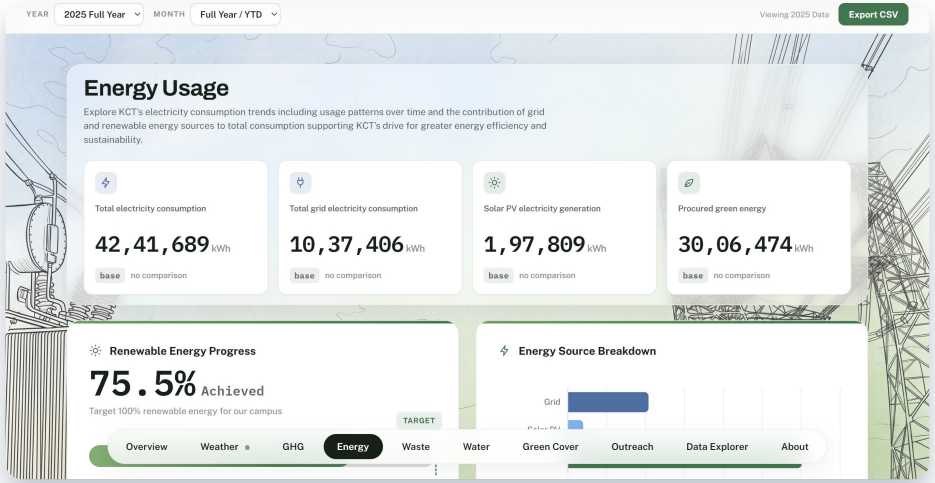
These insights help strategize institutional sustainability initiatives and guide Kumaraguru Institutions toward achieving long-term environmental goals.

Dashboard overview

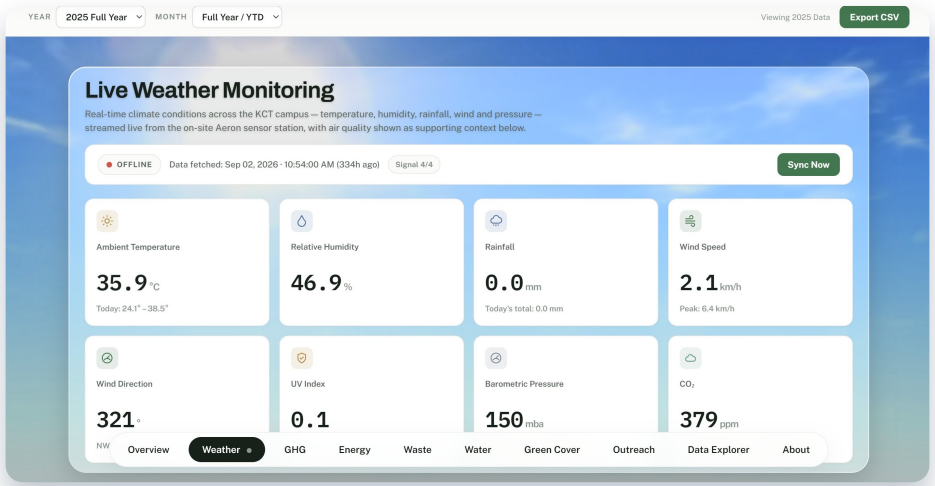
Overview



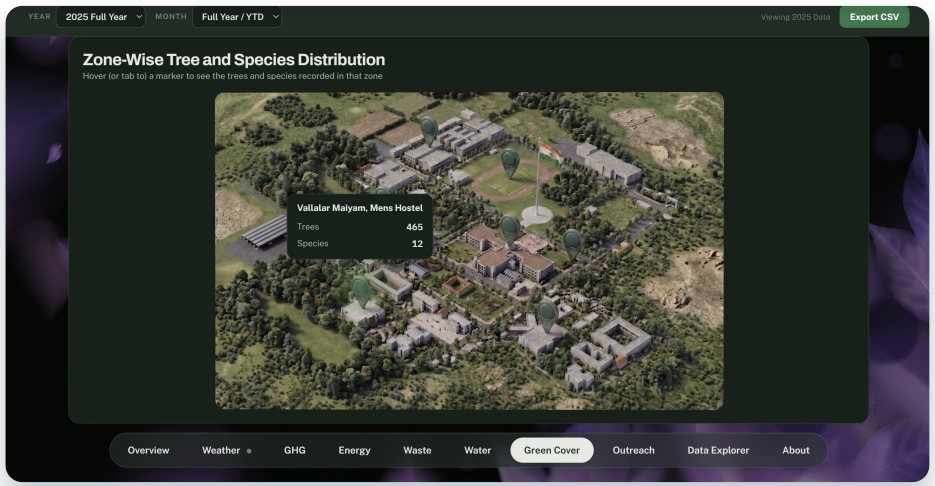
Energy usage



Live weather



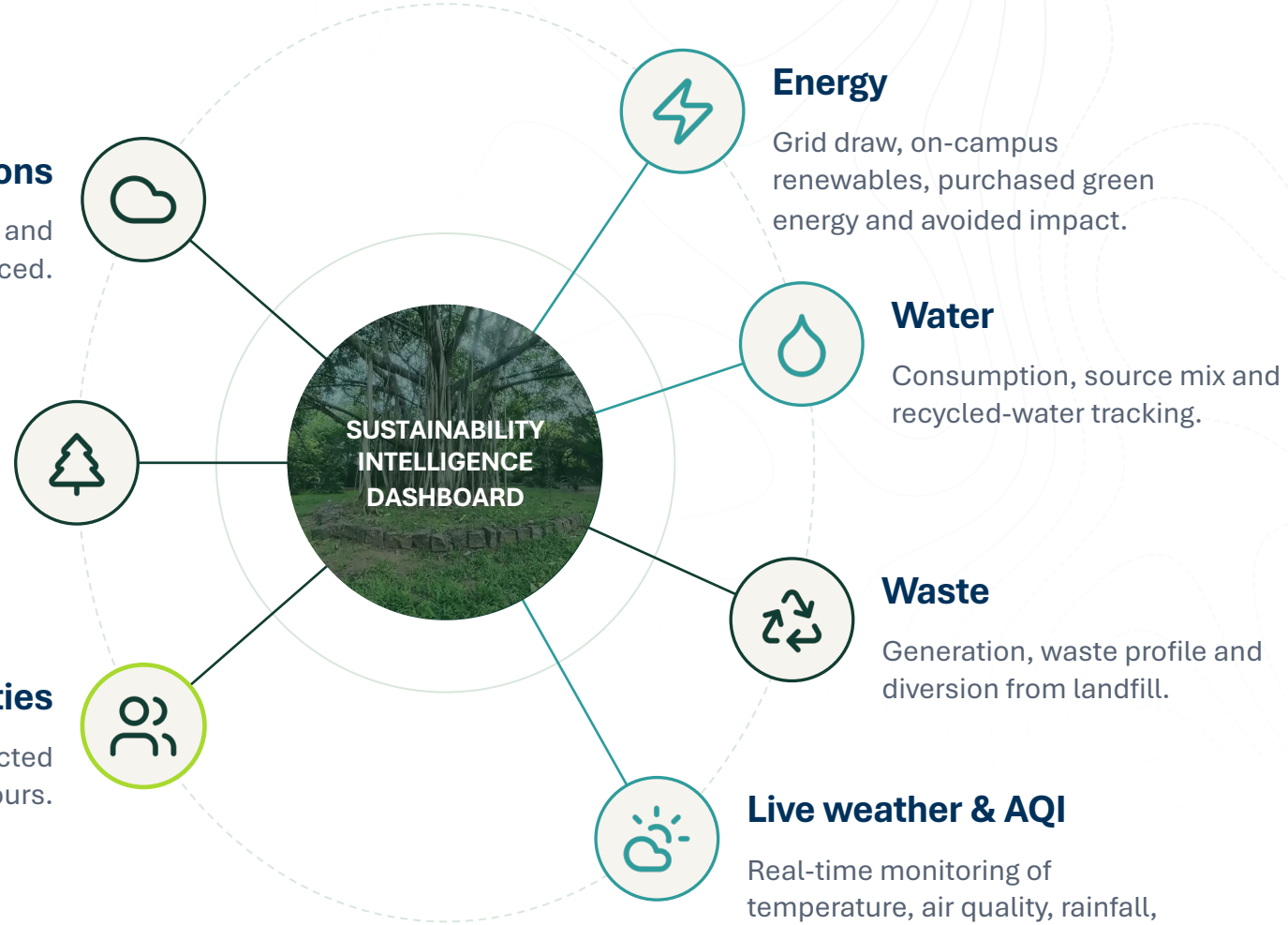
Green cover



7 key data indicators

Easy filters, organized data & clear insights.

Users can quickly filter the data they need, view it in a structured way, and easily understand what it means.



Greenhouse gas emissions

Scope 1 & Scope 2 emissions and emissions reduced.

Green cover

Green cover, tree inventory and species distribution across campus.

Outreach activities

Outreach programmes, people impacted and volunteering hours.

Energy

Grid draw, on-campus renewables, purchased green energy and avoided impact.

Water

Consumption, source mix and recycled-water tracking.

Waste

Generation, waste profile and diversion from landfill.

Live weather & AQI

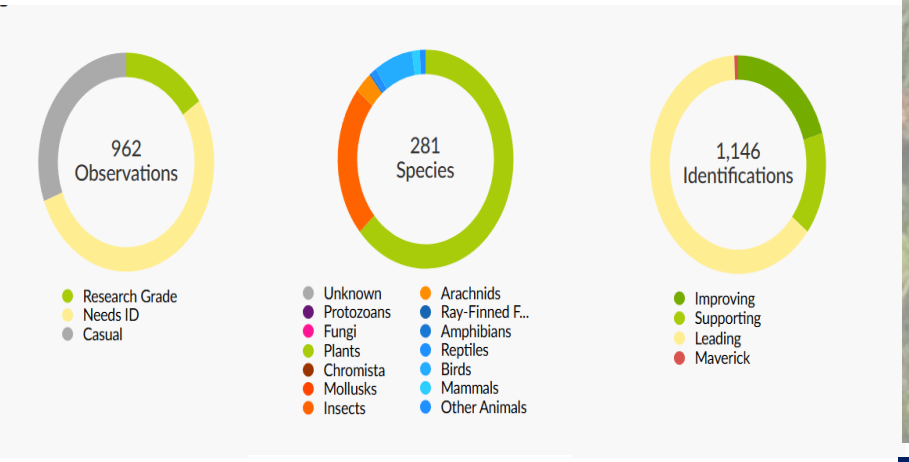
Real-time monitoring of temperature, air quality, rainfall, wind and noise.

CAMPUS BIODIVERSITY



Campus Biodiversity Programme

A year-long Campus Biodiversity Register built through student, faculty and community observations.



A FOREST PATCH WITHIN CAMPUS

AHIMSAVANAM

a tranquil forest patch inside campus, curated as a multifunctional landscape for urban resilience, introspection and inspiration. Its 150 flora species include flowering and fruit trees, shrubs, vines and medicinal herbs that support abundant bird and animal life.



NATIVE TREE NURSERY

More than 60 species of native seedlings raised for planting across the state.

157,004 tree seedlings so far distributed



SUSTAINABLITY LEARNING FRAMEWORK

FCLF electives

Open-elective options in Nature Conservation, Clean Energy Transition, Sustainable Human Settlements and Climate Smart Agriculture, with guest lecturers from clean-tech companies and industry.

Sustainability Immersion

14 students working on 6 projects to understand sustainability concepts and climate resilience.

Project-based learning

Students from business, technology, engineering, arts and science work on Technology for Conservation, AI for Human–Elephant Coexistence, Waste Management and Energy Optimization.

Nature & Environmental Stewardship

1,168+ student volunteers contributing more than 20,000 volunteering hours.



RESOURCE RECOVERY PARK

25+ waste categories

Collection and segregation route paper, plastic, metal, glass and other recyclables to external vendors and authorised recyclers.

A living lab

The facility is a living lab for faculty and students, educating the wider community on solid waste management.

REVENUE

Recycling and manufacturing value chains

250+ tonnes of resources recovered and ₹50+ lakh in revenue generated.

Returns support the work

Recovery revenue supports the institution’s sustainability activities, creating a self-sustaining system.

Next Level

A planned 5 TPD Material Recovery Facility serves bulk waste generators within a 5 km radius.



CLIMATE SMART AGRICULTURE

Methane Reduction through Productivity Enhancement

- Climate Smart Dairy Entrepreneurship
- Digital Innovations for Dairy Productivity Enhancement
- Farmer Producer Organization - Livestock Services as a Business.

Emission Reduction through Fertilizer Optimization

- Nitrogen Optimization in Sugarcane
- Yield Enhancement through Digital Innovations
- Bio-Slurry-Based Soil Enhancement

SUPPORTED BY





Climate Smart Dairy Entrepreneurship Program 2024 to 2026

3-month **Scientific Dairy Farm Management & Entrepreneurship Training** is offered to 100+ dairy farmers and entrepreneurs to build capacity in climate-smart dairy practices and 9 months of mentoring support to help participants establish sustainable dairy enterprises and **strengthen value-chain input and support services.**

20 Months
Duration

10
Taluk Workshops

2
Districts

1,500+
Participants Registered

400
Potential Entrepreneurs Identified

200
Entrepreneurs Profiled

100
Trained in Climate Smart Dairy Practices

Partnered by

StartupTN

aavin

NIANP
ISO 9001-2015 Certified

FORGE
Innovation & Ventures

ABT FOODS

Curriculum Handbook

A structured training curriculum covering **animal health, dairy nutrition, breed improvement, housing management, value addition, and profitable entrepreneurship** management was developed in collaboration with scientific experts from TANUVAS, NIANP, and FORGE.

ISO 9001-2015 Certified



Dairy Yatra

Dairy Yatra is a 15-day transformative journey from Tamil Nadu to Rajasthan. The Yatra offers immersive exposure to diverse dairy entrepreneurship models and best practices from across India.

5 States | **7100** Kilometres of Journey | **3000** Hours of learning | **35** Entrepreneurs | **15** Days | **10** Model Dairy Farms, Industries & Institutions







IMPACT STORY · TAMIL NADU DAIRY ENTREPRENEURSHIP ECOSYSTEM

88 rural entrepreneurs have impacted and engaged 15,000+ dairy farmers

88

Entrepreneurs trained

Target was 80 · 74 enterprises launched

15,000+

Dairy farmers impacted and engaged engaged

Across Erode & Coimbatore districts

+68%

Milk volume, enterprise cohort

13.0k → 21.8k litres per day

8.3 L

Per animal per day

Up from 7.4 · above 7.61 national average average

12% → 3%

Animal mortality

Conception rate 58% → 78%

₹4.8 → 9.4 Cr

Combined monthly turnover

+97% · commercially self-sustaining

Impact Stories at a Glance

Eleven founders, real transformation through the Climate-Smart Entrepreneurship Programme



KSM Dinesh

4 → 120

cattle · Paal Dappa, Pollachi



CJ Vickram

300 tonnes

of silage with 70+ farmers · The Natural Farm



Indhumathy

15+ years

in nurseries; now Panchakavya diyas from cow dung



Arun Venkatesh

20 → 100+

tonnes of silage per month



Shanthra

1000+

dairy farmers, 20 villages · Pariyur FPC



Kiruphagaran M

800+

dairy farms supported across South India



Devarajan

3,000+

farmers impacted · Aadhithya Dairy Farm



Jayaprakash CR

20+

calves reared and supplied to farmers



Dinesh Babu

150 L/day

fresh milk for 130 families · Ooty Fresh



Prithviraj

750+

farmers in network, up from 20 · Gotham Green



Jayakumar Arunachalam

100+

farmers connected at Rural Mart launch

11 Entrepreneurs

One programme building climate-smart, entrepreneur-led dairy

Integrated Impact of Microcosm

Microcosm connects campus operations, ecological restoration, sustainability learning and research-based projects in one measurable system.

RESOURCE RECOVERY PARK

250+ tones of resources recovered | **₹50+** lakh revenue generated | approximately **3 tonnes** of organic manure produced annually | **300+ kg** of vegetable peels composted each month.

CAMPUS BIODIVERSITY

Nearly **70 tones** of CO_2 sequestered annually | **5,000+** trees | **150+** **150+** native species in Ahimsavanam | **89,406+** saplings shared | **95+** shared | **95+** bird species | **55+** butterfly species.

SUSTAINABLE OPERATIONS

250 kW solar plant generating **1,97,809 kWh/year** | **1 MLD** STP STP recycling **1,58,334 KL/year** | **3,086.8 tCO_2e** emissions reduced in reduced in **2025.**

CLIMATE-SMART LIVELIHOODS

88 entrepreneurs certified | **74** enterprises launched | roughly **19,400** farmers reached.

STANDARDS & GUIDELINES

- National Action Plan for Climate Change (NAPCC)
- Mission LiFE and Circular Economy principles
- AICTE Green Campus Guidelines
- Solid Waste (Management and Handling) Rules, 2016
- Plastic Waste Management Rules 2016
- E - Waste Management Rules, 2022

EXTERNAL VALIDATION

- Tamil Nadu Pollution Control Board - Green Champion Award
- CII–IGBC Platinum Green Campus Certification
- NIDM recognition for campus sustainability practices

CHALLENGE: LINE DEPARTMENT COORDINATION

- Environmental Sustainability cuts across Energy, Water, Waste, Landscaping, Finance, Facilities, Transport and Infrastructure
- **The Challenge:** Building shared understanding of its importance across all these departments was the key challenge
- **How It Solved:** Organised communication, active staff involvement and regular engagement sessions



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