Report on JSS AHER's Support for Start-ups Promoting a Low-Carbon Economy and Sustainable Technologies

Academic Year: 2024–2025
Institution: JSS Academy of Higher Education & Research (JSS AHER), Mysuru, India

Introduction

In the academic year 2024–25, JSS Academy of Higher Education & Research (JSS AHER) significantly strengthened its support mechanisms for start-ups and innovators working in the low-carbon and sustainability sectors. By leveraging its **large renewable energy base, biogas infrastructure, ISO-certified energy management systems, circular economy models, interdisciplinary research platforms and community engagement initiatives**, JSS AHER provided a **high-impact ecosystem** for nurturing and accelerating ideas that reduce carbon emissions and promote sustainable development.

The institution's support aligns closely with:

- National Action Plan on Climate Change (NAPCC)
- India's Net Zero 2070 vision
- Startup India Mission
- National Solar Mission
- Circular Economy Action Plan
- SDGs 7, 9, 11, 12 & 13

1. Live Infrastructure Support for Low-Carbon Prototyping and Pilots

JSS AHER functions as a **real-world testing environment (living lab)** for clean-tech and sustainability-based start-ups by opening its renewable and energy-efficient assets for research, validation and performance assessment.

Key Campus Assets Supporting Start-ups

Infrastructure	Capacity / Impact	Support to Start-ups
Rooftop Solar Plants	973,708 kWh/year generation	Testbed for solar efficiency modelling
Biogas Plants	300 kg/day capacity	Pilot for waste-to-energy start-ups
LED & Smart Lighting System	>85% campus coverage	Energy analytics & automation testing
Solar Street Lights & Motion Sensors	Installed campus-wide	IoT + energy efficiency innovations
Rainwater harvesting & STP reuse	>40% water recycled	Integration with energy–water nexus

Impact:
Start-ups working in:

- Solar efficiency enhancement
- Biogas technology improvement
- Smart grid systems
- Energy monitoring software
- Green campus solutions

have been given direct **access to infrastructure data, performance records and operational environment** to validate and improve their solutions.

2. Interdisciplinary Research Support for Green Start-Ups

JSS AHER's multidisciplinary departments – Pharmacy, Engineering applications, Environmental Science, Medical & Public Health, Life Sciences – together supported **applied, problem-driven innovation** for low-carbon entrepreneurship.
Focus Areas of Collaborative Research (2024–25):

- Solar energy optimization in institutional buildings
- Bio-methanation from food and biomedical waste
- Energy efficiency in hospital infrastructure
- Low-power IoT devices for energy monitoring
- Sustainable building material research
- Carbon-neutral campus modelling
- Green architecture & passive cooling systems

Support Provided to Innovators and Start-ups:
Access to laboratories
Faculty mentorship
Pilot-scale testing support
Data analytics assistance
Technical validation of prototypes

These research inputs strengthened start-up proposals for:

- Government grants
- CSR funding
- Incubation proposals
- Community implementation

3. Skill Development & Capacity Building for Green Entrepreneurs

In 2024–25, JSS AHER expanded its training activities beyond awareness and moved into **practical skill-building** for students, innovators and aspiring entrepreneurs.
Program Themes:

- Sustainable product design
- Energy-efficient building planning (aligned to **ECBC & EDGE** standards)

- Renewable energy business models
- Carbon footprint assessment methods
- Circular economy & zero-waste enterprise models
- Social entrepreneurship in clean energy

Participants included:

- Final-year students
- Research scholars
- MSME representatives
- Rural entrepreneurs
- Women SHG members
- Youth entrepreneurs

These sessions enabled:

- Development of green business plans
- Registration of ideas for incubation
- Testing business feasibility models
- Application to funding agencies

Outcome:

This has led to the creation of a **pipeline of sustainability-focused enterprises** inspired by JSS AHER's operational model.

4. Biogas and Waste-to-Energy as a Start-up Demonstration Platform

JSS AHER's biogas plants (300 kg/day) are used as:

- **Training grounds for entrepreneurs**
- Live demonstration of circular economy
- Proof of carbon-reduction processes
- Alternative clean cooking fuel model

Quantitative Contribution (2024–25):

Parameter	**Value**
Organic waste treated	~90,000 kg/year
Renewable energy generated	~8,200 kWh/year
LPG saved	~51,000 kg/year
CO_2 emissions reduced	~120+ tonnes/year
Beneficiaries trained	300+ (students & community members)

This has inspired:

- Local green start-up ideas
- Sustainable hostel & hospital waste models
- NGO & panchayat interest
- Community biogas replication discussions

These outputs **support entrepreneurs in pitching viable low-carbon solutions** to both the government and private sectors.

5. Linkage with Government and Community-Based Entrepreneurial Ecosystems

JSS AHER strengthened ties with:

- **Urban Local Bodies**
- **Waste Management Authorities**
- **Educational institutions**
- **Self-Help Groups**
- **Young entrepreneurs**
- **MSME units**
- **KREDL & other sustainability agencies (indirect association)**

Through field-based programs such as:

- Visit to Sewage Treatment Plant (67.65 MLD capacity)
- Visit to Vani Vilas Water Treatment Plant
- Community immersion at SVYM (Climate Smart Health Unit)
- CHC & PHC system exposure
- Sustainability radio programmes
- SEVA SANKRAMANA 2025 platform

Start-ups and students were introduced to:
Real infrastructure challenges
Energy + health + environment linkage
Carbon reduction opportunities in public systems
Government frameworks supporting green businesses

This exposure **directly strengthens start-up readiness for government-supported low-carbon innovation schemes**.

6. Institutional Policies Enabling a Start-up Friendly Environment

JSS AHER has integrated sustainability with innovation by:

- Implementing **ISO 14001 & ISO 50001 Systems**
- Aligning new buildings with **EDGE / IGBC / ECBC**
- Prioritising **green procurement**
- Reducing energy intensity per capita
- Maintaining transparent energy data logs
- Encouraging interdepartmental innovation projects

This policy-backed ecosystem assures:

- Reliable research data
- Long-term sustainability focus
- Alignment with national climate and entrepreneurship goals

- Support for grant applications and scaling models

Thus, start-ups emerging from JSS AHER's ecosystem are **future-ready, sustainable and policy-compliant**.

Conclusion

During the academic year **2024–25**, JSS Academy of Higher Education & Research has strengthened its role as a **sustainability innovation hub** by offering a robust, data-backed, infrastructure-rich support system for low-carbon and clean-technology start-ups.

Through:

- Active renewable energy production
- Waste-to-energy demonstration
- Living-lab pilot environment
- Academic–industry integration
- Skill-oriented entrepreneurship training
- Policy-aligned ecosystem
- Circular economy implementation

JSS AHER has enabled and empowered current and future entrepreneurs to develop solutions that **reduce carbon emissions, improve resource efficiency and support India's transition to a green economy**.

The institution thus continues to contribute not only to academia, but to **national climate resilience, environmental innovation and sustainable entrepreneurship.**