‘Not-Zero-Net-Zero’ framework of Netaji Subhas Open University

1. Introduction

Netaji Subhas Open University (NSOU), as West Bengal’s premier institution for open and distance learning, has a significant role to play in leading the transformation toward sustainable development. Recognizing the urgency of climate change and aligning with national and global sustainability goals, this proposal outlines a strategic framework for launching the **Net Zero Campus Initiative (NZCI)** at NSOU.

The initiative aims to reduce and eventually neutralize the University’s carbon footprint, promote renewable energy, improve resource efficiency, and foster a culture of environmental stewardship among students, faculty, and staff.

2. Vision and Objectives

Vision: To transform NSOU into a sustainable, climate-resilient, and carbon-neutral university that serves as a model for green campus initiatives in India’s higher education sector.

Objectives:

- Achieve net zero carbon emissions across all NSOU campuses by 2035.
- Promote sustainable energy practices through solar and other renewable energy integration.
- Reduce energy, water, and resource consumption through conservation and efficiency strategies.
- Engage the university community in sustainability education and action.
- Integrate environmental sustainability into academic, administrative, and infrastructural planning.

3. Scope of the Initiative

The Net Zero Campus Initiative will be implemented across all NSOU campuses, including:

- Headquarters (DD-26, Salt Lake, Kolkata)
- Regional Centres (e.g., Kalyani, Durgapur, Jalpaiguri)
- Selected Study Centres throughout West Bengal

The initiative will cover key operational areas such as energy use, building efficiency, water management, waste reduction, mobility, procurement, and ecological restoration.

4. Strategic Pillars of the Initiative

A. Energy Transition

- **Renewable Energy Adoption:**
  - Install rooftop solar PV systems across campuses.
  - Explore solar microgrids and off-grid solutions for regional and study centres.
  - Implement solar water heaters and lighting systems.
  - Use of bio-energy
  - Sensor-based energy conservation

- **Energy Efficiency:**
  - Conduct energy audits of buildings and facilities.
  - Replace conventional lighting with LED systems.
  - Upgrade to energy-efficient appliances (air conditioners, computers, etc.).
  - Implement smart meters and real-time energy monitoring.
  - Measuring air pollution
  - Water Budgeting

B. Green Buildings and Infrastructure

- Adopt green building norms (e.g., IGBC/GRIHA standards) for all new constructions.
- Retrofit existing buildings with insulation, natural ventilation, and daylighting techniques.
- Implement cool roofs and reflective surfaces to reduce heat island effects.
- Maintaining clean and green campus

C. Sustainable Mobility

- Promote non-motorized transport (cycling, walking) within campus areas.
- Install EV charging stations and incentivize use of electric vehicles.
- Encourage digital meetings and virtual classrooms to reduce travel-related emissions.

D. Water Management

- Install rainwater harvesting systems, like bore hole, open well recharge, percolation recharge in the campus areas.
- Implement greywater/waste water recycling and reuse for irrigation and sanitation.
- Promote water-efficient fixtures and leak detection mechanisms.
- Maintenance of natural water bodies outside the campus.

E. Waste Management

- Promote source segregation of waste.
- Establish composting units for organic waste on all campuses.
- Implement e-waste collection and tie-ups with authorized recyclers.
- Encourage paperless administration and digital recordkeeping.
- Bio-waste management plants
- Bio-Medical waste management
- Paper waste recycling plan
- Geo-tagged photo in the report of the given facilities

F. Green Landscaping and Biodiversity

- Enhance tree cover and green zones within campuses.
- Develop herbal and kitchen gardens using organic practices.
- Adopt native and drought-resistant species for landscaping.
- Create a biodiversity register for each campus.

G. Education, Engagement and Governance

- Integrate climate literacy and sustainability themes in curriculum.
- Initiate energy literacy awareness programmes.
- Organize seminars, green drives, and eco-clubs to engage students and faculty.
- Publish a Sustainability Reports regarding the progress.
- Engaging third-party experts for verification and audits.
- Create a smoke free campus
- Collaborate with Smart Campus Cloud Network-**SCCN**

1. Potential Funding Sources:

- UGC and MHRD grants
- CSR partnerships (e.g., solar companies, energy firms)
- Internal allocations through Green Budgeting

6. Expected Outcomes

- Reduction of operational GHG emissions by 90% by 2035.
- 100% renewable energy supply for campus operations.
- Enhanced environmental literacy and eco-conscious behaviour.
- Model green campus recognized at national and international forums.

7. Conclusion

The Net Zero Campus Initiative represents a transformative step toward embedding sustainability into the core identity of NSOU. As an ODL institution dedicated to lifelong learning and inclusive education, NSOU is uniquely positioned to champion climate responsibility not just in infrastructure, but in minds and communities. By adopting this proposal, NSOU will become a pioneering force in India's green education movement, aligning with both national climate commitments and global sustainability goals.

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