



# Office of The Principal Shri Pandit Prem Nath Dogra Government Degree College Samba

J&K (UT) - 184121  
NAAC Accredited Grade-B



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Principal

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## Long-Term Energy Efficiency Goals and Roadmap (5 Years)

SPPND Government Degree College Samba is committed to achieving long-term energy efficiency goals as part of its environmental sustainability strategy. Over the next five years, the college aims to significantly reduce its carbon footprint, lower energy costs and create a more sustainable campus environment. Below are the proposed long-term energy efficiency goals and the roadmap for achieving them.

### Long-Term Energy Efficiency Goals (5 Years)

#### 1. Reduce Total Energy Consumption by 30%

- Achieve a comprehensive reduction in the college's total energy consumption by optimizing energy use across all campus facilities, including classrooms, hostels, offices, and common areas.

#### 2. Achieve 50% Renewable Energy Use

- Transition at least 50% of the college's energy consumption to renewable sources, such as solar or wind power, to reduce dependency on non-renewable energy.

#### 3. Full Campus Lighting Retrofit to LED

- Complete the installation of energy-efficient LED lighting across all campus areas, including outdoor spaces, parking lots and less frequently used areas.

#### 4. Install Smart Building Technologies

- Implement smart building technologies to automatically adjust lighting, temperature and energy consumption, creating a more energy-efficient, adaptive environment.

#### 5. Zero Carbon Emission Campus

- Work toward achieving carbon neutrality by reducing greenhouse gas emissions from energy consumption and offsetting emissions through various environmental initiatives.

#### 6. Upgrade to Energy-Efficient Infrastructure

- Retrofit older campus buildings with energy-efficient insulation, windows, and heating/cooling systems to minimize energy waste.

#### 7. Establish an On-Campus Energy Generation System

- Develop infrastructure for on-campus renewable energy generation, including more solar panels on roofs and other available spaces to meet part of the energy demand.

#### 8. Create a Campus-wide Energy Awareness Program

- Foster a culture of energy conservation through continuous engagement, workshops and community-driven energy-saving initiatives.



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### Roadmap for Achieving Long-Term Energy Efficiency Goals (5 Years)

#### Phase 1: Foundation and Initial Upgrades (Year 1)

- **Conduct Comprehensive Energy Audit:**
  - Conduct an in-depth energy audit across all campus facilities, identifying energy-intensive areas and major inefficiencies.
  - Set benchmarks and baseline data for energy use across the entire campus.
- **Begin Renewable Energy Feasibility Study:**
  - Hire experts to assess the feasibility of installing solar panels or other renewable energy systems, considering space availability, local climate and energy needs.
- **Pilot LED Lighting Project:**
  - Replace lighting in one or two buildings (e.g., administration blocks or classrooms) with energy-efficient LEDs to gauge impact and fine-tune installation practices.
- **Energy Management System (EMS):**
  - Install an advanced energy management system to monitor energy consumption in real-time, identifying patterns and enabling optimization.

#### Phase 2: Expanded Infrastructure and Renewable Energy Integration (Year 2-3)

- **Expand LED Lighting Retrofit:**
  - Roll out LED lighting upgrades campus-wide, focusing on all classrooms, faculty rooms, hallways, parking lots, and open spaces.
- **Install Solar Panels:**
  - Begin the installation of solar panels on suitable rooftops (e.g., library, administrative building) and other campus spaces to generate renewable energy and reduce reliance on grid electricity.
  - Explore other renewable options such as biogas plants or geothermal systems, depending on the feasibility study results.
- **Energy-Efficient Building Retrofits:**
  - Retrofit older buildings with energy-efficient insulation, windows and cooling/heating systems.
- **Smart Building Technology Installation:**
  - Install smart sensors for lighting, heating and cooling systems in key campus areas, making adjustments based on occupancy and time of day to optimize energy use.





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- **Develop a Green Campus Task Force:**

- Form a dedicated team to oversee sustainability initiatives, track energy-saving progress, and organize community engagement campaigns.

### Phase 3: Integration, Optimization, and Full Implementation (Year 4)

- **Optimize Renewable Energy Integration:**

- Expand the solar panel installation to cover more buildings, targeting a 50% renewable energy contribution by the end of Year 4.
- If applicable, integrate small-scale other alternative energy systems into the college's energy mix.

- **Complete Smart Campus Transformation:**

- Ensure that all buildings on campus are equipped with smart technology systems (e.g., motion-sensor lighting, automated heating/cooling systems) to reduce manual interventions and enhance energy efficiency.

- **Institutionalize Energy-Saving Policies:**

- Create formal policies for energy conservation, including temperature regulations for air-conditioning, energy usage guidelines for students and staff and practices for energy-efficient procurement.

- **Continuous Staff and Student Engagement:**

- Implement periodic workshops and training programs to increase awareness about energy conservation and sustainable practices.
- Foster a culture of environmental stewardship by encouraging students to actively participate in energy-saving initiatives, such as energy audits, waste reduction, and carbon footprint analysis.

### Phase 4: Monitoring, Maintenance, and Reporting (Year 5)

- **Complete Full Campus Lighting Retrofit:**

- By Year 5, ensure that all lighting on campus, including in all classrooms and open spaces has been fully upgraded to LED lighting.

- **Achieve 50% Renewable Energy Usage:**

- Monitor and track renewable energy generation and consumption to ensure that 50% of the college's energy needs are met through renewable sources (primarily solar power).

- **Carbon Neutrality Initiatives:**

- Evaluate the college's carbon emissions and implement strategies for offsetting the remaining emissions through green projects such as tree planting, energy-efficient transport systems and carbon credits (If possible).



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• **Annual Energy Efficiency Report:**

- Publish an annual report on energy consumption, savings and the environmental impact of energy efficiency initiatives, ensuring transparency and accountability.

**Expected Outcomes by the End of Year 5**

- **Energy Consumption Reduction:** Achieve a 30% reduction in total energy consumption across campus through the implementation of energy-efficient technologies and renewable energy systems.
- **Sustainable Campus:** The college will have significantly reduced its carbon footprint, with 50% of energy coming from renewable sources, and will be well on its way to achieving carbon neutrality.
- **Cost Savings:** Substantial reduction in energy bills due to energy-efficient upgrades and the use of renewable energy.
- **Smart Campus:** Fully integrated smart building systems for energy management, with adaptive technologies that optimize energy use throughout the campus.
- **Enhanced Reputation:** SPPND GDC Samba will be recognized as a leader in sustainability and energy efficiency in educational institutions, fostering a sense of pride among students, staff and the broader community.

By following this roadmap, SPPND GDC Samba will not only meet its long-term energy efficiency goals but also contribute to environmental preservation, cost savings, and an improved quality of life for its campus community.

  
Principal  
Shri Pandit Prem Nath Dogra  
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