



SRI SHANMUGHA COLLEGE OF ENGINEERING AND TECHNOLOGY

[Approved by AICTE, Affiliated to Anna University and Accredited by NAAC & NBA (CSE, ECE & MECH)]

Pullipalayam, Morur (Post), Sankari (Tk), Salem (Dt) – 637 304

Website: www.shanmugha.edu.in **Contact Number: 04283-262901**

**POLICY ON GREEN CAMPUS
SRI SHANMUGHA COLLEGE OF ENGINEERING AND TECHNOLOGY
SANKARI, SALEM**



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At present the large area development i.e., for townships, neighborhoods, educational and institutional campuses, medical colleges, hospitals, group housing, commercial complexes etc. is taking place in a fast track mode in the country through private and public sectors and even by the Government. In order to ensure energy efficiency and environmental sustainability, these developments need to be on “Green Campus” concepts.

A green campus is a higher education community with optimum land use, environmental planning and resource management i.e., improving energy efficiency, conserving resources, enhancing environmental quality including habitat preservation, healthy living environment, use of renewable energy and management of wastes, water recycling etc.. The buildings within the campus should be based on green building concepts to the extent possible.

The Ministry of New and Renewable Energy has taken initiatives to develop green campuses/ townships under “Development of Solar Cities Programme”. A financial CFA for preparation of a Master Plan and DPRs including the action plan for small townships/campuses being developed by the promoters/builders, SEZs/ industrial towns, Institutional campus etc. Upto Rs. 5.00 lakh for preparation of a Master Plan and DPR including the action plan for renewable energy installations, green campus development, awareness generation and trainings etc. will be provided for each new and existing small townships/campuses duly notified/permited by the States/Local Authorities. This will also be applicable for the existing townships/campuses. The existing campuses will be encouraged to have suitable retrofitting’s of renewable energy and energy efficiency equipment’s/measures to the extent possible to make them green campus. The installation of renewable energy projects/systems in these entities will be done as per provisions of various schemes of MNRE.

While developing the green campus, following guidelines may be taken in to Consideration:

A. FOR DEVELOPMENT OF EXISTING CAMPUS AS GREEN CAMPUS

- i. The energy audit and water audit of the entire campus should be carried out through registered certified professionals and the base line for the energy and water consumption should be defined.
- ii. Energy efficient measures including energy efficient street lighting system with proper control, low energy fixtures, energy efficient pumping system, energy efficient motors and other equipment’s, sensors for lighting, use of energy star rating equipment’s, improvement of power factor, use of variable frequency drive and other energy efficient technologies should be adopted and reflected in the proposed master plan.
- iii. Utilization of renewable energy system such as solar water heater, solar air conditioning, solar dryers, solar cookers, solar lantern, solar pumps, solar traffic signals, battery operated vehicle, hybrid systems etc. should be explored.



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- v. The buildings in the campus should have rooftop SPV systems preferably grid connected systems.
- vi. A master plan for the entire campus should be prepared keeping in view the overall reduction in fossil fuel based energy by 25% within next 5 years by utilizing renewable energy applications, and taking suitable measures for energy conservation and energy efficiency.
- vii. The master plan should be site specific and should have minimum 5 numbers of implementable a detailed project reports as per guidelines of MNRE and BEE under various schemes. An audit report should be prepared and submitted along with the master plan.
- viii. An awareness/training workshop should be organized in the campus regarding renewable energy applications, and taking suitable measures for energy conservation and energy efficiency.
- ix. Suitable architectural retrofit options for building envelop (floor, roof, walls etc.) and energy efficient glasses for windows should be explored and included in the report.
- x. The possibility of redesigning of exterior surfaces of the buildings with energy efficient material may be explored.
- xi. Any other innovative actions/ points to be taken for making existing green campus.

B. FOR DEVELOPMENT OF NEW CAMPUS AS GREEN CAMPUS

- i. Simply making green buildings would not create a green campus; however, it should be

Sustainable also. A green campus should follow the optimum path for:

- ❖ land use vis-vis population density
- ❖ Vertical or horizontal growth
- ❖ Infrastructure including pitched roads
- ❖ Transport (more walkability & less use of vehicles)
- ❖ Renewable energy use and Energy conservation,
- ❖ Waste management and water conservation
- ❖

- ii. All buildings in the campus may be green buildings preferably rated with rating systems In vogue i.e. GRIHA, LEED India, ECBC compliant buildings etc..

iii. A master plan for the entire campus should be prepared keeping in view the overall reduction in fossil fuel based energy by 25% within in next 5 years by utilizing renewable energy applications, and taking suitable measures for energy conservation and energy efficiency.

- iv. The master plan should be site specific and should have minimum 5 numbers of implementable a detailed project reports as per guidelines of MNRE and BEE under various schemes.



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v. The master plan of the campus should follow optimum floor area ratio, controlling of soil erosion, avoiding contamination of air and natural water bodies. The natural water bodies and trees should be protected accordingly the layout plan should be prepared.

vi. Dense planning may be preferred over dispersed layout to avoid use of excessive motorized transport and land use and unnecessary construction of infrastructure like sewerage/water lines, roads, and electricity cables.

vii. Major portion of land should be planned as green belt as per prevalent bye laws. This should include tree and water bodies' preservation, natural topography conservation and tree plantation, restoring and reuse of contaminated sites, farming of different crops, fruits, vegetables etc. for internal use.

viii. Encourage the use of public transportation with better road planning to reduce fossil fuel consumption, use of alternate fuel vehicles such as CNG, biofuels, electric vehicles, solar vehicles with charging station, bicycles. In fact fossil fuel vehicles should not be allowed in campus and parked at entry gate to the extent possible.

ix. The layout plan should be such that each point should be reached from any other by walking to the extent possible. This would also require shading for footpaths and pathways through tree cover and proper streetlight designing for optimum lux level in the night.

X. Optimize parking with underground parking systems preferably near gate should be considered and the cycle path should be given preference to the extent possible.

xi. Water conservation through rain water harvesting, use of efficient water fixtures, waste water recycling should be an integral part of the building designs and layout.

xii. Energy efficient measures including energy efficient street lighting system with proper control, low energy fixtures, energy efficient pumping system, energy efficient motors and other equipment should be taken.

xiii. Use of renewable energy system such as solar water heater, solar rooftop, solar dryers, solar cookers, solar lantern, solar traffic signals, and battery operated vehicle, solar air conditioning etc. should be made to the extent possible. Solar cooking systems and solar water heaters must be utilized for hostels/hospitals etc. The maximum houses, hostels, kitchen must have solar water heaters (including multi-storied buildings) in the campus. The kitchen waste generated within the campus should be treated with biogas generation technology and the generated biogas may be utilized for cooking or electricity generation purpose.

xiv. The common lights, interior, exterior or street lights should be preferably through Renewable Energy Technologies particularly solar.

xv. Use of solar passive architecture for buildings with minimum air-conditioned load and Optimum ventilations with efficient HVAC systems should be ensured.



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xvi. Waste management with an aim to zero waste institutions should be carried out e.g. all Waste in the campus (hostels, kitchens, households and markets etc.) should be treated for useful applications within the campus itself through waste to energy technologies. This biogas can be used for hostels, kitchen or for powering water system.

xvii. The ecofriendly and recycled material and certified green building materials should be used for construction purpose.

xviii. An awareness/training workshop should be organized in the campus regarding renewable energy applications, and taking suitable measures for energy conservation and energy efficiency.

xix. Any other innovative actions/ points to be taken for making existing green campus.

TIME PERIOD

This policy will be implemented for the entire life of the project and will be reviewed and updated on a half yearly basis.

PRINCIPAL
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