

Shiv Nadar Institution of Eminence

Policy of Energy-efficient renovation and building

Objective: Shiv Nadar Institution of Eminence (Shiv Nadar IoE) is committed to creating an energy efficient and sustainable university campus. We ensure all renovations and new buildings are following energy efficiency standards. The buildings and infrastructure are strategically designed, maintained and renovated to promote the optimal utilization of natural and renewable resources as well as to increase energy efficiency.

Scope: The policy document covers all energy-efficient activities on the campus, including building design, construction, ongoing operations, and maintenance activities that encompass academic blocks, recreational areas, cafeterias, and residential blocks. The policy is communicated to all relevant interested parties and is deployed through the engagement of students, teaching and non-teaching staff, vendors, and other relevant interested parties, including community representatives.

Strategic Sustainable Design:

1. Shiv Nadar IoE undertakes to ensure that all new buildings are designed with a focus on the adoption of sustainable practices. Furthermore, all renovations and maintenance efforts for existing buildings are designed and maintained following appropriate energy and water efficiency standards.

2. The university buildings are IGBC LEED Certified, and measures are taken to ensure that the building design is undertaken with a focus on:

2.1 Water conservation, through:

2.1.1 Careful consideration is given to plumbing and piping design, as well as equipment selection, to ensure the use of optimal water-saving equipment on the campus, including taps, showerheads, urinals, shunting systems, etc.

2.2 Energy Conservation:

2.2.1 The electrical fitting and fixtures are designed to ensure optimum utilization of the energy while ensuring conformance with occupational health and safety guidelines, to which the university is certified.

2.3 HVAC design:

2.3.1 The selection of HVAC systems for new buildings is undertaken with due consideration for the selection of more effective and efficient HVAC systems, including environmentally friendly refrigerants with low Global Warming Potential and related emission factors like R290, R600, and R32, to name a few.

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3. The university buildings are IGBC LEED Certified, and measures have been taken to:
 - 3.1 Increase energy efficiency.
 - 3.2 Ensure water-efficient processes.
 - 3.3 Implement natural lighting and ventilation.
 - 3.4 Display of signages to increase awareness about rules regarding energy conservation and promotion of conscious energy usage.
 - 3.5 Installation of solar power plants.
 - 3.6 Installation of rainwater harvesting system.
4. During the development processes, it is ensured that biodiversity (including flora and fauna) and the terrestrial ecosystem are taken into consideration. The university does not remove old or native trees planted previously and steps are taken to ensure its continued survival.
5. The old Date Palm Forest was left intact during the construction phase, and it is a restricted area to protect and conserve the natural habitat of the associated wild species.
6. The Natural Lake area is restored and managed to provide a safe habitat for a wide variety of aquatic animals and plants.
7. Water-conscious plants are planted in all building blocks.
8. To ensure energy efficiency in all the buildings, various energy conservation initiatives are undertaken, including:
 - 8.1 Installation of energy-efficient lighting.
 - 8.2 Installation of occupancy and motion sensors in washrooms and corridors.
 - 8.3 Conversion of conventional CFL/T5 light fixture to LED fixture is completed.
 - 8.4 Conversion of battery-operated urinal sensors into electrical-operated sensors, which saves battery consumption and has a positive environmental impact.
 - 8.5 Installation of Solar water heaters in selective hostels.
 - 8.6 Use of timer/ daylight photo sensor in external lighting operation.
 - 8.7 Replacement of the conventional fans consuming 70 watts with new BLDC (Brass-less Direct Current) ceiling fans, which consume about 30 watts.
 - 8.8 Maintenance of the capacitor bank to ensure a high-power factor.

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8.9 Replacement of street lights with less energy-consuming options while maintaining the same lux level.

9. Water efficiency initiatives in the buildings under construction include:

9.1 Installation of prismatic taps.

9.2 Installation of occupancy and motion sensors in the washrooms of the academic blocks and hostels.

Energy Conservation Initiatives

1. Plans for energy conservation and reduction of greenhouse gas emissions at the university include:

1.1 Provision of PNG connections for all residents, dining halls, clubs, etc.

1.2 Solar Power Enhancement: 1.6 MW solar plant has been installed and commissioned, catering to 26% energy needs of the campus and significant reduction in carbon footprint.

1.3 Review, analysis, and refurbishment of labs for the safety of operations and environmental conservation.

1.4 Revival and enhancement of the organic compost plant capacity from 200 kg to 400 kg.

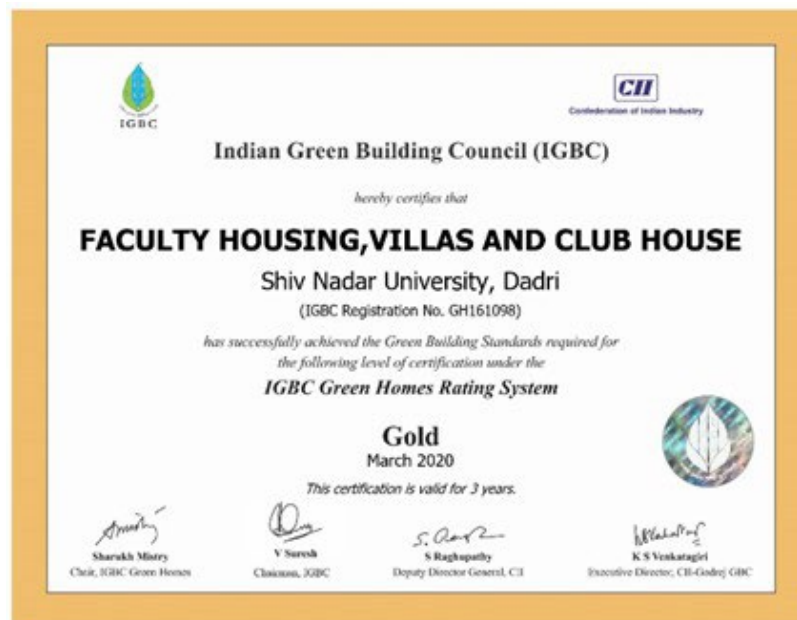
1.5 Wastepaper recycling and product development.

1.6 Tree plantation and sequestration.

1.7 Undertook carbon footprint determination and analysis of changes in trend to identify further opportunities for improvement and roll out projects

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Certifications – Sustainable Building Design



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