



AMITY UNIVERSITY HARYANA

GREEN/ENVIRONMENT/ENERGY

AUDIT REPORT

2020-21

A handwritten signature in black ink, appearing to be 'Ashish Jain', located in the bottom right corner of the page.

1. SUSTAINABLE TRANSPORTATION:

With onsite hostel and housing facilities and providing Campus bus facilities, Amity University Haryana achieves significant reduction in commuter trips and thereby environmental pollution caused by vehicles and overall carbon footprint. All vehicles entering University have "Pollution Under Control" certificate. The project has achieved significant reduction in conventional commuting trips. Since March 2020, University is under strict compliance of COVID protocol, brought significant drop in transportation.

2. PRESERVATION & RESTORATION OF NATURAL HABITAT:

Amity University Haryana has maintained an optimum balance between environmental and functional requirements. Plantation and greening initiative are regularly followed to include plants of this region (native varieties) along with fruit bearing trees. These activities critically improve environmental performance of Amity University Haryana campus, which has been transformed into a green oasis in harsh semi-arid Aravalli region. It takes special care for environment and preserves most of the trees present at the site including a grand old Banyan Tree, which is slowly transforming into functional space amidst nature. Almost half of the site is provided with vegetation and trees with native and adapted species reducing water demand and maintenance. In very short span of time, campus has been turned into an ecologically sound campus, which is reflected in the large varieties of birds and butterfly found in the campus. Periodical survey of AUH campus has revealed more than 120 species of birds and more than 40 varieties of butterfly which has been documented and is indicative of very sound ecological space. Tree plantations are carried out on frequent basis.

3. HEAT ISLAND REDUCTION:

Hardscape areas available on-site are provided with light-colored reflective surfaces, shaded with trees and grass pavers contributing to reduced heat island impact. The provision of large sunken space between building complexes (sunken courts along and between academic blocks) moderate heat regime further. All these provisions are passive approaches to moderate heat impact in semi-arid areas, where campus is located, where summer and winter are extreme.

4. WATER CONSERVATION:

With provision of onsite Sewage Treatment Plant (STP; capacity- 900KLD) and Effluent Treatment Plant (ETP; capacity- 50KLD) to treat entire wastewater along with network of rainwater harvesting infrastructure and reuse to ensure efficient and optimal water consumption generated from domestic consumption and toilet, Amity University stives towards a ZERO Discharge campus. University has elaborate arrangement for treating wastewater generated from

different university units including administrative, hostels, residential buildings including laundry units. The performance and efficiency of STPs, ETPs is regularly monitored to ensure efficient utilization. Immediate remedial action is taken to rectify any problem to ensure water conservation and safety. The treated water is linked to different sector for reuse including horticulture, farm irrigation and toilet flush. It also helps to enhance water recharge and decrease in groundwater level.

The University promotes conscious water usage through its Environment and Sustainability Policy, displaying signages/pamphlets across the university on each academic and hostel blocks in all toilets and drinking water coolers area for effective water usage.

By proper landscaping and natural vegetation plantation, university minimizes water consumption even in operation and maintenance of university landscape.

5. RAINWATER HARVESTING

Amity University Haryana building plan integrate Rainwater harvesting and stormwater management provisions (reservoir and structures) to meet sustainable water availability as university is located in semi-arid region and devoid of any ephemeral source of water, so rainwater is only source available in this area for groundwater recharge that is ultimate source of water for University. 100% rainwater runoff from building terraces and ground surfaces is recharged to ground aquifer. Rainwater harvesting infrastructure includes 43 recharge well and 112 bores, which are connected through a large stormwater network laid throughout the campus. The location and size of such water harvesting infrastructure is selected based upon watershed contour of this area which ensures maximum harvest of rainwater. Periodical cleaning and maintenance of Rainwater harvesting infrastructure is carried out to ensure their efficiency for groundwater recharge to maintain the quantity and quality of rainwater being discharged to ground aquifer.

6. ENERGY CONSERVATION:

Amity University Haryana is dedicated to make a sustainable green campus by adopting green building energy conservation measures in design along with rooftop solar PV system. The academic buildings have incorporated below energy conservation measures in design:

- Double wall for exterior walls
- Optimized WWR (window to wall Ratio)
- High efficiency chillers for air-conditioning
- High efficiency pumps & motors
- Efficient lighting fixtures (more than 50% are LED)
- Ample scope of passive lightening

- Minimal use of artificial lights during non-operating hours
- Use of Energy Star rated equipment

The project has a robust system of monitoring its energy consumption that leads to efficient operation and maintenance of energy systems and equipment.

University is mandated to achieve zero carbon emission by 2028 with phase wise transformation to low carbon energy sources including Solar and other alternate energy sources. At present more than 10% of energy demand is met by solar PV plant installed at building rooftop and on ground plant.

7. WASTE MANAGEMENT:

Amity University Haryana puts all its efforts and initiates towards clean and healthy surroundings within and outside the campus. Within Amity University Haryana, sustainable waste management plan has been implemented incorporating following strategies:

- a. Compost Pits for Organic Waste (Farming waste)
- b. Biogas plant for generating gas out of biomass generated from Dairy Farm
- c. Centralized Waste Segregation and Collection areas
- d. Provision of separate waste bins for Recyclable and Non-recyclable waste types
- e. Professional agency for waste segregation, collection, and diversion from landfill.

With above strategies, minimal waste is diverted to landfill either by reuse of materials or by safe disposal.

To enable neighborhood community to also practice waste management for hygienic and healthy conditions in the vicinity, Amity has constructed various waste collection sheds outside the campus. These waste sheds are effectively utilized helping to create clean and healthy surroundings.

8. COMMUNITY/ SOCIAL INITIATIVES

In addition to the construction of waste collection sheds in site vicinity, Amity University Faculties, Students and Administration teams have been regularly organizing medical camps and educational camps for neighborhood community. Some of the additional initiatives under progress include:

- Tree plantation drive of native vegetation in campus on regular basis to promote green cover.
- Pond restoration under Gurujal initiative of Government of Haryana
- Gifting tree sapling to dignitaries as souvenirs.
- Declaration of Amity University Haryana as 'No-Polythene Zone'

- Animals and birds have been preserved; Annual 'Campus Bird Count' and similar campus-based activities be organized.
- Apart from structured initiatives several academic activities including teaching learning and research infrastructure have also been developed over last few years.
- LEED Lab, an education module, is established as teaching learning exercise for students based upon green building designs and certificates

9. AMBIENT AIR QUALITY:

Infrastructure for Air Quality and weather monitoring station has been established, in collaboration with national and international agencies. SAFAR Air Quality Monitoring station, Air Pollution Decision Theatre have been installed in collaboration with Indian Institute of Tropical Meteorology (IITM), Pune and Indian Institute of Technology, Delhi respectively. AUH is also under the network of field station of NASA for optical depth monitoring of several atmospheric parameters including Ozone. Project is dedicated in making sustainable green campus by adopting green building IAQ Measures like:

- Efficient Exterior Cleaning and Maintenance practices
- Blend of Landscaped areas, fully grown trees act like a filter for cleaning the outside air
- Outdoor Pollutants like PM2.5, PM10 are below the maximum allowable limits.

10. Green Building Certification

Amity University Haryana has demonstrated high performance in meeting the green building rating compliances and has achieved highest PLATINUM level of rating under LEED Existing Buildings: Operations and Maintenance (O&M) rating system by United States Green Building Council.