



Waste Management Policy

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IIT Gandhinagar (IITGN) campus has been conceptualized keeping in mind both present needs and long-term objectives. The original master plan of the institute states that for making the campus truly green, the institute would have a Sustainable Development Policy and inculcate sustainable practices in its operations.

IITGN's sustainable maintenance practices include waste segregation at source, conversion of organic waste to manure, recycling paper, and thermocol waste amongst others.

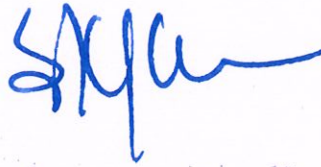
Waste management at the institute is designed with and must conform to the following guidelines:

- Reduction and segregation of waste at the source, as well as the appropriate collection, storage, treatment, and disposal on campus.
- The recyclable waste of materials like glass, plastic, metal, paper, and e-waste is transferred to regional/ commercial recycling centres certified by Gujarat Pollution Control Board/Central Pollution Control Board.
- The fundamental concept of waste management “Reduce, Reuse and Recycle” is implemented.
- The ideal hierarchy of recycling, energy recovery, and disposal as most to least favourable strategies, is being followed for an efficient waste management process.
- Sustainable waste management is practised by optimising the amount of waste recycled or composted so as to minimise waste sent to dumping in landfills. The amount of waste sent to landfills and recycling centres is measured and documented on a monthly basis.
- A centralised facility for sorting, storing, and disposal of waste is available.
- Waste disposal of hazardous materials is carefully handled, including the collection of the chemical waste of the labs by a designated agency.
- Solid waste recycling is done by following norms as set by the Central Pollution Control Board, Government of India.
- Green, blue and red bins have been placed throughout the campus, including the hostels, academic buildings and housing areas. Specific locations have bins of other colours (yellow and black) meant to collect specific kinds of waste.
- Green bins collect organic wet waste, such as vegetable peels and food scraps. Blue bins collect recyclable paper/plastic material and red bins collect materials that need to go to the landfill. Black and yellow bins are for sanitary and biomedical waste that is collected by an authorized

agency for incineration at their facility. The medical centre of the Institute maintains separate bins for collection and proper disposal of used needles, swabs, expired medicines, etc.

- Material from the green bins (biodegradable waste) is treated onsite through biological processes. It goes either to the biogas plant or to one of several composting pits, where it is combined with shredded vegetation from the landscaping and slurry from the biogas unit. Once composted (after about a month) the material is used as manure in the campus landscaping and contributes to the campus's organic farm.
- As part of IITGN's waste management initiatives and to minimise waste going to the landfill, the campus built a biogas plant to process the wet food waste (coming primarily from the hostel mess). This biogas plant, based on technology developed by the Mumbai-based Bhabha Atomic Research Centre (BARC), generates electricity from organic waste and slurry, with no other by-products. However, as the biogas plant has not been running as reliably as hoped, campus planners are now more reliant on the composting pits.
- Material from the blue bins (recyclables) is further segregated on campus and sold at regular intervals to aggregators off-campus. Special drives are conducted for the collection of paper waste and e-waste.
- Material from the red bins is taken directly to the Gandhinagar Municipal Corporation landfill at present. This is primarily low-category waste that cannot be recycled. IITGN is looking at options for the safe disposal of this category of waste as well, in particular low-grade plastics.
- Diverting waste from landfill requires a significant educational shift on the part of the entire campus community. Constant reminders of the need to reduce and segregate waste are made on all possible occasions, such as initiatives to promote reusable materials and discourage single-use materials (especially plastic). For instance, only reusable bottles, glasses, cutlery, and plates are used in the tea stalls and at meetings and conferences, etc.; the use of disposable packaging items is not allowed/discouraged.
- A green bottle initiative has been in place for several years throughout campus, where campus staff, students, faculty, and visitors are all encouraged to use reusable green plastic water bottles rather than single-use plastic water bottles. In meetings, green water bottles, and increasingly glass bottles, are provided and guest apartments are also provided with such bottles. In recent months, reusable green plastic bottles are being replaced with reusable glass bottles.
- Staff who provide services such as cleaning, food preparation, and gardening are all trained in handling all categories of waste. Their role is critical in managing the solid waste on the campus. However, it is the responsibility of every member of the IITGN community to try and reduce waste and appropriately segregate waste at the source.
- The institute promotes zero use of plastic cups or cutlery at meetings, public events, or canteens. There is very restricted use of packaged water bottles.
- Thus, IITGN community members are encouraged through constant appeals to minimise the use of plastic and disposable items. Also, communications are provided to the community members for proper segregation of waste (do's and don'ts), maintaining cleanliness on campus, principles of 'Swachh Bharat Abhiyan', use of eco-bags instead of plastic bags, reducing the gap between what we need and what we buy/ use, collection of e-waste, the environmental impact of food waste, etc.
- Any new resident of the campus is provided with the waste segregation guidelines, which are to be strictly adhered to.

- A major meeting with house helps was organised two years ago to sensitise them about waste segregation, resulting in a visible improvement. The exercise was repeated in September 2021.
- The Institute's Green Office is actively involved in waste reduction initiatives and generates awareness among the IITGN members and nearby village communities. An external waste management consultant assists the campus in managing the entire solid waste management programme, through regular training of staff, monitoring the implementation of various initiatives, and providing general education to the campus community on the need for and benefits of waste reduction.
- The mess committee regularly conducts awareness programmes to reduce food wastage. A notice board outside both the dining halls displays the amount of daily food wastage to create a sense of responsibility among the community. In order to curb food wastage, competitions are held regularly among the two messes of the institute. The students dining in the mess with minimum food wastage are rewarded with additional sweets/ desserts.
- Mess and canteen contractors and outsourced suppliers have also been instructed not to use plastic or other disposable items.
- Dedicated areas are provided to store construction materials on site. Construction waste is segregated and also stored at different locations.
- Separate storage facilities for inert and hazardous construction wastes are allocated and measures are employed for its safe disposal/recycling. Scrap materials are sent to a waste recycling facility.
- The construction waste generated during the construction phase is used on-site for filling up designated isolated pockets of land within the site.



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