# A Policy on Environment and Sustainability

## 1. Introduction

A pristine, hygienic and conduce for effective learning is in place. Keeping in view the environmental management system and institutional environmental standards, the Vignan's Institute of Information Technology (VIIT) has come up with an amicable system which can be applied in the institute for sustainability of the environmental and protection. Indigenized system has been revised in order to monitor various aspects of environment of the installation. The system developed consists of various precautions to be taken time to time including monitoring and maintenance. Every individual of the institute is motivated to follow the system.

## 2. Concept of a Green campus.

VIIT believes that **concept of a green campus** advocates a model for global environmental sustainability where all the processes and operational functions of the campus are closely knit, providing educational and practical value to the institution. The surrounding environment required an urgent need to address fundamental problems of the environmental standards. Being a visionary institution with a slogan of technology with human face, the institute has initiated Green Campus' initiative measures which include biogas generation, vermin compost production, and herbal garden development. The Green campus embraces optimum land use, energy efficiency and conserving resources like, Solar Energy, Sensor Based energy conservation, use of LED bulbs, Power Efficient Equipment etc. In advancing the system in order to inculcate the Green Campus ideology for the sustainable development. It ensures that the practices followed in the campus are according to the initiatives of the Environmental and Sustainability Policy of the institution. In order to minimize the fossil fuel consumption, solar energy tapping is adopted by installing solar power plants. In order to strengthen the quality initiatives, the institute collaborates with the premier institutes who are working under environment and sustainability initiatives.

## 3. Environmental Principles:

The VIIT is committed to conserve natural environment, develop sustainable solutions, innovations and startups, promote rural technologies and control energy consumption, incorporating **Environmental principles** for building Environmentally sustainable society. It satisfies the basic needs of its people without depleting or degrading its natural resources and thereby preserving the mother earth for the future generation.

The Following **Environmental principles** are guiding us in making Environmental policy decisions

1. **The Humility Principle:** Our understanding of Nature and consequences of our actions is quite limited.
2. **The Reversibility Principle:** Try not to do something that cannot be reversed later if

the decisions turn out to be wrong.

3. **The Precautionary Principle**: When much evidence indicates than an activity threatens human health or the environment, take measures to prevent or reduce harm.
4. **The Prevention Principle**: Whenever possible, make decisions that help prevent a problem from occurring or becoming worse.
5. **The Polluter Pays Principle**: Develop regulations and use economic tools such as full costpricing to ensure that polluters bear the cost of the pollutants and wastes they produce.
6. **The Integrative Principle:** Make decisions that involve integrated solutions to environmental and other problems
7. **The Public Participation Principle:** Citizens should have open access to environmental data and information and the right to participate in developing, criticizing and modifying environmental policies.
8. **The Human Rights Principle**: All people have a right to an environment that does not harm their health and well-being.
9. **The Environmental Justice Principle**: Establish environmental policy so that no group of people bears on unfair share of the harmful risks from operations or from the education of the environmental laws, regulations and policies. Environmental justice means that every person is entitled to protection from environmental hazards regardless of race, gender, age, national origin, income, social class, or any other factor.

## 4. Environment policy

An Environment policy of our institute consists of rules and regulations related to an environment problem that are developed, implemented and enforced by VIIT, includes educating students and employees on environmental concerns and sustainability; Research and Development programs that could turn an institute into a carbon-negative institute

## 5. Management strategy

VIIT is entering into a new era by shifting to something more flexible that is quite adaptable. As per the model a network instead of a hierarchy is followed. An important aspect of emerging network organization is its use of adaptive management strategies to cope with new information and changing conditions, to learn from experience, and to modify plans quickly as needed. A model is developed to protect the changes in the environment. The primary goal is to anticipate problems rather than simple react to them when takes place.

## 6. Objectives:

- To sustain Natural resources, Environmental quality in VIIT campus includes Biodiversity, Water, Soil, Food, Renewable energy resources and Human society.
- To sustain Biodiversity by converting VIIT campus into Terrestrial Ecosystem with species approach and promoting environmental management and conservation with enhancement of awareness among students & staff of the campus.
- To make an assessment, document on Green area of the campus, the waste minimization & recycling, ambient environmental condition of air and water in the campus periodically and make a report on the status of the environmental compliance.

## 7. Methodology:

### 8.1. Creating awareness on Environment and Sustainability

The institute establishes National Social Service Scheme (NSS) unit and involving student volunteers of the institute to initiate the environment promotional ideas amongst the neighborhood villages. Apart from this, the institute also involves students and staff through Green Club that comprises with the student's volunteers and staff. The main aim of establishing Green Club is to conserve the natural resources to create eco-friendly environment and creating an awareness on biodiversity conservation and local environmental issues.

### 8.2. Travel & Transport - Restricted Entry of Automobiles, Use of Bicycles/ Battery powered vehicles and use of Pedestrian friendly pathways:

Introducing Bicycles and battery-operated trolleys as alternatives to the motor vehicles in the campus. Advantages include Pollution free and quite campus that ultimately promotes for resource conservation. In order to restrict the entry of automobiles at the campus, separate parking zones to be provided for students and staff. Placed restrictions on the usage of automobiles on campus and no vehicle is permitted to move outside of designated parking zones to maintain a clean and pollution-free campus. Students are motivated to use of Public Transport System instead of coming by their own vehicles.

Students and employees are encouraged to use of Bicycles/ Battery powered vehicles and it can greatly reduce individual's contribution towards pollution loads. Hostels and academic areas have enough parking spaces for bicycles. Students are encouraged to develop battery powered vehicles and some of such vehicles are in use. The Institute created a separate path way for pedestrians and all are encouraged to make use such pathways. Because of this initiative, use of motor vehicles decreased and thereby reduced the carbon footprint around the campus.

### 8.3. Solid Waste Recycle & Reductions:

The Vignan's Institute of Information Technology (VIIT) is a green campus that follows standard practice of '3Rs' i.e., Reduce, Reuse, and Recycle for the solid waste management. The solid waste comprising recyclable, non-recyclable, organic, E-waste, and hazardous materials is regularly collected and managed using the standard practices. The institute adopted a systematic and scientific waste management process.

**(i) Degradable waste:** All types of degradable waste like vegetable and fruit peels, leftover food, fruit kernels and seeds collected through bins from the source daily and are converted into BIO –GAS and Compost. Separate bins are provided for dry and wet solid waste collection.

**(ii) Non-Degradable waste:** All types of plastics, broken glass, packing material etc. are collected through bins. After collection, the waste is sent for further processing through authorised vendor, Green Waves

**B. Liquid Waste Management:** Liquid waste coming from academic blocks and hostels is collected and sent to Sewage Treatment Plant and reused for gardening.

**C. Bio-Medical waste management:** The Bio-Medical waste from health center and used sanitary napkins, Diapers and any material contaminated with blood are

destroyed by using Incinerators.

**D. E-waste management:** E-Waste consisting discarded CPUs, Monitors, Keyboards, CDs, electronic parts, mobiles, chargers, USBs etc. are collected separately and dumped at authorised vendor. Components of part of E-waste is used for the Student Research Projects.

**E. Waste recycling system:** A Bio-Gas plant, Sewage Treatment Plant, Compost pits and Incinerators are built and made a Memorandum of Understanding (MoU) with the accredited firm 'Green Waves' for the purpose of E-Waste recycling.

**F. Hazardous chemicals and radioactive waste management:** The Hazardous waste like used chemicals from chemistry laboratories, expired chemicals, acidic liquid wastes are disposed in exclusive pits. No radioactive waste. In the induction program, specific sessions are organized to address topics related to green energy and waste management. The Institute Manager oversees all waste management activities on the campus.

**G. Ban on use of Plastic:** The use of plastics is not allowed and strict guidelines in this regard have already been issued to all the stakeholders. Plastic free environment is made compulsory in the hostels and canteens almost six years ago. Instead of plastic utensils, either stainless steel or aluminum items are used in the hostels and canteens

### 8.4. Water Management:

VIIT constructed water harvesting pits and open well recharge pits within the campus that helps in collecting, storing, and repurposing rainwater that would otherwise fall back onto the ground or drain away. The harvesting pits reduces soil erosion, stormwater runoff, flooding, and pollution of surface water with fertilizers, pesticides, metals and other sediments in VIIT campus. This results in reducing overall water consumption and water waste. Typically these capture tanks or barrels are placed on the roofs or sides of buildings under a specialized gutter to catch the falling rainwater.

The institute is withdrawing groundwater which is good source of water for drinking & irrigation. Advantages are: Available year-round, renewable, no evaporation losses and cheaper. Summer storage tanks can be constructed as alternative source of water during summer period. Drip & Sprinkler systems can be used to conserve the water. Treated sewage water can be used for irrigation. Reducing water wastage by developing landscape yards with plants that require little water, using of Drip & Sprinkler irrigation, fixing water leaks, using water meters and charging, using waterless composting toilets (Bio toilets / Water Saving toilets), Collecting and using water to irrigate lawns & non-edible plants, purifying and reusing water for irrigation by constructing sewage treatment plants.

Drinking water through RO Systems has to be periodically monitored related to Physico-chemical & Microbiological quality at source & different distribution points.

### 8.5. Biodiversity & Conservation:

VIIT campus is spread out over an area of 16.64 hectares. that consists variety of flora that includes trees, shrubs, herbs, climbers and some exotic plants. A major part of the vegetation includes the native varieties of trees, shrubs and herbs that

are grown naturally. Apart from these natives, some are planted to abate the pollution loads and for beautification purpose. In addition to this, the campus is covering with wide variety of flowering, ornamental, medicinal and air purifying plants.

It is a regular practice of VIIT to add some more plants for every special occasion. As every visiting guest for the occasions is requested to plant a sapling. Furthermore, the institute would focus on building a detailed report on the flora and fauna and the impact of developmental activities on their existence. As this would help us focus on the impacts the areas of improvement for a more sustainable future ahead.

### 8.6. E-Waste Management:

The VIIT has committed towards the maintenance of the friendly ecosystem of its campus.In order to maintain the wellbeing and healthy environment in the campus, the standard process for e-waste Management is put in practice for proper disposal of end of life, and non-functioning electronic computing equipment's after reducing, reusing and refurbishingto the maximum.

The broad policy guidelines are:

- Each department to consolidate the end of life and non-functioning electronic and computing equipment.

- To minimize the new procurement of IT Assets, the centralized IT department initiates the process for reusing through refurbishment/recycling of electronic and electrical components, replace the spares and repairing the non- functioning the IT assets to reduce the e-waste to the maximum.
- The centralized IT department to consolidate the final non- functioning electronic and computing components and put forward the proposal to purchase committee once in a year for proper disposal of e-waste without causing any environmental problems.

### 8.7. Landscaping and plantation:

The Institute has well maintained lawns and lush green campus covered with a variety of plantation and land scaping. Green Club has been taking care of Greenery on campus and waste management. Volunteers of the club develop lot of models using waste materials.

### 8.8. Alternate Sources of Energy and Energy Conservation

In order to manage energy in a systematic way, the institute initiated and exploring the renewable energy resources. So that, the carbon footprint is minimized. The institute promotes alternate Sources of Energy and Energy Conservation like, renewable energy resources, thereby avoiding depletion of fossil fuels and making mother earth more sustainable. In the process, Solar Power Plant is installed to meet most of the power demand by the institute. The institute also installed energy

conservation measures such as Biogas Plant, Wheeling to Grid, Sensor Based Energy Conservation, and Use of LED bulbs and Power Efficient Equipment etc.

In order to wheeling to grid, the institute is tie-up with the state electricity board that helps and installed wheeling to grid which is long-term transmission services that match the purchasing terms of electricity as per agreement. In this way power producers can offer certain discounts and VIIT can get less expensive energy.

As a process of Sensor Based Energy Conservation, automatic Water level control sensor is used in overhead water tanks. In the process of energy conservation, the institute is planned and started replacing existing incandescent bulbs with LED ones at various places. The CFL fittings with higher rating wattage are replaced with lower wattage LED bulbs. By doing so 90% of energy consumption is reduced. Energy star certified products are installed in air conditioners, refrigerators, ceiling fans and others in the campus.

### 8.9. Collaborations with the premier institutions:

In order to strengthen the quality initiatives, the institute is planning to associate with some of the foreign universities in the direction of environmental consciousness and sustainability.

### 8.10. Green and Environment audit

Green and Environment Audit plays a vital role in the environmental sustainability and creates awareness among staff and students about suitable usage of resources. Hence, a well-defined environment audit is in place in the institute.

- It's a process that involves analyzing the different components of environmental diversity that includes systematic identification, quantification, recording, reporting and analysis which will lead to various establishments.
- It brings an eco-friendly inside to outside ambience through the environmental practices.
- It is crucial for the conservation of resources by making an estimate of how and where they are using the major amount of energy and water resources.
- It also works on the recycling plans in which it determines the volume and the type of the waste along with the waste minimization plan.
- It helps every individual to take part in knowing the importance of health consciousness and environmental awareness along with the ethics and values.

The environmental sustainability is paving its way in the current world and educational institutions should make their contribution towards it. Vignan's Institute of Information Technology (Autonomous) decided to make its own contributions towards a sustainable future.