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### DOCUMENT REALATED CLEAN & GREEN CAMPUS INITIATIVES

#### **Energy Conservation Measures:**

#### 1. Solar Energy

It's great to hear that Viswanadha Institute of Pharmaceutical Sciences is utilizing solar energy to reduce electricity bills and contribute to renewable energy generation. Here's a summary of the information.

**Solar Energy Facilities:** The institution has implemented facilities for alternative energy sources, specifically solar energy. They utilize solar photovoltaic (PV) and concentrating solar power technologies to generate electricity on a large scale for campus power supply and energy needs.

**Installation:** The institution has installed a solar PV power plant with a capacity of 100 KWp on the roofs of two blocks. This installation has resulted in an annual savings of approximately 2,40,000 rupees.

**Grid Connection:** There is a proposed grid-connected solar photovoltaic power plant at Viswanadha Education Societies, which will make use of a vacant area of about 1000 sq meters. This solar power plant will have a capacity of 100 KWp and will be connected to the grid. There is no battery storage provided, and surplus power generated during non-consumption times will be fed back into the grid.

**Energy Production:** The 100 KWp solar PV power plant is estimated to produce an annual energy yield of 162,000 KWh. The efficiency of the solar modules is mentioned as 17%, while the inverter/power conducting unit (PCU) efficiency is stated as 98%. The energy production varies throughout the year, with a minimum of 4 KWh in January and a maximum of 5 KWh in March.

**Renewable Energy:** The grid-connected solar power plant contributes to clean and renewable energy generation, reducing the institution's carbon footprint and reliance on conventional energy sources.

**Data Analysis:** Data generated by the solar power plant's operation is utilized for analysis, likely to monitor the availability of power and assess the system's performance.

Overall, the implementation of solar energy systems at Viswanadha Institute of Pharmaceutical Sciences demonstrates a commitment to sustainability and cost-saving through the use of renewable energy sources.

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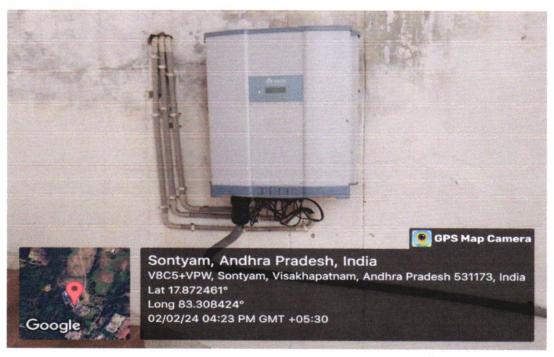


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Solar Panels Installed on the Roof



Solar Back feed Box

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#### 2. LED Bulbs

It's great to hear that Viswanadha Institute of Pharmaceutical Sciences is taking measures to conserve energy by adopting LED lighting technology. LED lights indeed offer several advantages when compared to traditional lighting sources like incandescent bulbs.

Here are some key benefits of LED lights:

**Energy Efficiency:** LED lights are highly energy-efficient and consume significantly less electricity than incandescent bulbs, as you mentioned. This leads to reduced energy bills and a smaller carbon footprint.

**Environmental Friendliness:** LED lights are environmentally friendly because they do not contain hazardous materials like mercury, which can be found in fluorescent bulbs. Additionally, their energy efficiency helps reduce greenhouse gas emissions.

**Longevity:** LED bulbs have a much longer lifespan compared to incandescent bulbs. They can last tens of thousands of hours, reducing the frequency of replacements and waste.

**Durability:** LEDs are more durable and robust than traditional bulbs. They are resistant to vibrations, shocks, and temperature fluctuations, making them suitable for various applications.

Better Light Quality: LED lights often provide better quality and more consistent lighting than other types of bulbs. They offer a range of color temperatures and are available in various shades of white light.

Low Heat Emission: LED lights emit very little heat in comparison to incandescent bulbs. This can help in maintaining a cooler indoor environment and reducing the risk of fire hazards.

**Easy Maintenance:** LED lights require minimal maintenance due to their long lifespan. This reduces the time and effort needed for replacing bulbs.

By replacing traditional bulbs with LED lighting throughout the campus, Viswanadha Institute of Pharmaceutical Sciences is not only saving energy but also contributing to a more sustainable and environmentally responsible campus environment. Additionally, the use of LED monitors can further enhance energy efficiency and reduce overall power consumption.

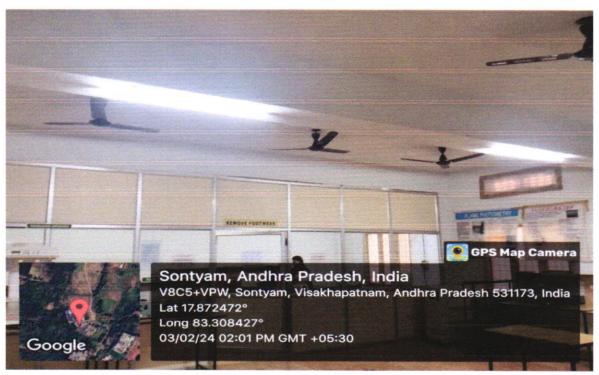
It's essential for institutions to continue implementing such energy-saving measures to reduce their carbon footprint and set an example for sustainable practices

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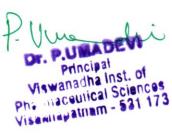


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LED Bulbs installed in the campus





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#### 3. Waste management

VNIPS College implements effective management strategies for various types of waste to promote environmental sustainability:

#### **Dry Waste**

**Segregation:** Dedicated bins are provided across the campus for the collection of dry waste such as paper, plastic, metal, and glass.

**Recycling:** Dry waste is collected and sent to authorized recycling facilities for processing, reducing the amount of waste sent to landfills.

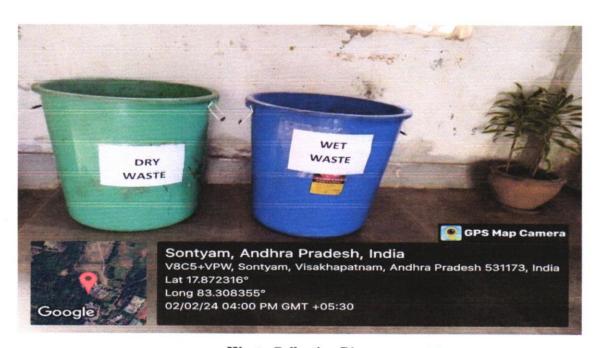
**Awareness:** Students and staff are educated on the importance of segregating dry waste and utilizing recycling facilities.

#### Wet Waste

**Segregation:** Separate bins are designated for organic waste such as food scraps and garden waste.

**Composting:** Wet waste is composted within the campus premises, producing nutrient-rich compost for landscaping and gardening purposes.

**Education:** Awareness campaigns emphasize the benefits of composting and proper disposal of wet waste to reduce environmental impact.



**Waste Collecting Bins** 

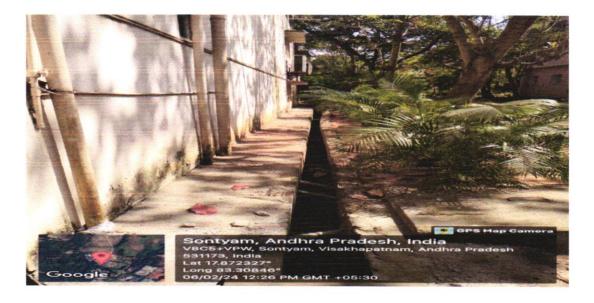
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#### Liquid Waste Management

VNIPS employs an effective liquid waste management system to prevent pollutants from entering water sources. Generated from science laboratories and the canteen, liquid waste is channeled into underground channels for disposal. Specifically, wastewater from laboratories is directed through underground channels to ensure proper disposal. This method safeguards against environmental contamination, maintaining the campus's commitment to sustainability and regulatory compliance.





Liquid waste management

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#### E-Waste Management

**Collection Centers:** A dedicated e-waste collection center is established on campus for the collection of electronic waste.

**Vendor Selection:** Authorized vendors are selected to handle e-waste disposal in compliance with government regulations.

**Awareness:** Educational programs raise awareness among students and staff about the proper disposal and recycling of electronic devices to prevent environmental pollution.

Overall, VNIPS College adopts a comprehensive approach to waste management, encompassing segregation, recycling, treatment, and awareness initiatives to minimize environmental impact and promote sustainability.



E-Waste Management

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#### Water conservation

The institute is located at Sontyam, Simhachalam an area in the region of South-East India. The institute has a natural forest cover and water table is good. Being located in the rural area, there is no municipal water supply. The institute depends on ground water for all its water needs. Hence, efficient usage of available water and water conservation measures are adopted. The daily requirement of water in the campus is around 10,000 liters.

#### **Facilities**

- Rain Water Harvesting
- Borewell Recharge
- · Availability of Storage Tanks
- Water Distribution System

The following measures are taken for the conservation of water:

#### **Rain Water Harvesting:**

The institute has prioritized sustainable water management by implementing 20 rainwater harvesting pits strategically placed across the campus. Through these measures and bore well recharge initiatives, the institution effectively reduces road floods and prevents water stagnation within the campus. This proactive approach not only addresses immediate concerns but also significantly contributes to elevating the groundwater level. By actively engaging in these water conservation efforts, the institute showcases its commitment to environmental responsibility and community well-being.

		Rain	water Harvesting		
S. No	Location	Quantity	Size of each pit	Capacity of Pit	Total(20Pits)
1	Beside main electricity station	20	1.5 m <sup>3</sup>	1,500 liters	30,000 liters

#### **Borewell Recharge:**

Borewell water is efficiently utilized to fulfill the water requirements of stakeholders and

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employees within the institute. This sustainable practice is supported by rainwater recharge, ensuring a consistent and ample supply. By integrating bore well recharge with rainwater harvesting, the institute not only meets its water needs but also promotes eco-friendly water management.

			Borewell Re	charge	
S. No	Type of Well	Depth(feet)	Water Level (feet)	Motor and Pump Capacity)	Water Delivered by the Pump
1	Bore	300	30	2.5 hp &15 stage	5,000Liters/Hour

#### **Availability of Storage Tanks:**

The institute optimizes water storage with dual underground and overhead tanks, affording a versatile 3,000-liter capacity. Augmenting this, a central contour bund strategically manages rainwater, connecting seamlessly with overhead tanks atop the building. Serving as a boundary for rainwater harvesting pits, the contour bund ensures unhindered passage and percolation of rainwater. This integrated approach reflects the institution's foresight, combining storage flexibility with an effective central system, promoting efficient rainwater management across the campus

		Water Tank Details		
S. No	Type of Tank	Tank capacity(Liters)	Quantity	Function
1	Underground Tank	1,000	2	Borewell water stored
2	Over Head Tank	500	1	Borewell water distributed
3	Over Head Tank	1,000	1	RO water distributed
4	Water underground tank	500	1	Water Distribution for garden

#### **Waste Water Management:**

VNIPS proactive approach to addressing the substantial 10,000-liter water demand for the college's operations is commendable. Beyond meeting this demand, the institution is actively involved in sustainable wastewater management through recycling. Collecting wastewater in pits to enhance ground-

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-level water is an environmentally conscious practice contributing to conservation efforts.

The safe guarding of wastewater on-campus is a clever strategy, promoting a circular water usage system. This not only supports the college's operational efficiency but also lessens the strain on groundwater resources, aligning with both environmental sustainability and responsible water management practices. VNIPS commitment to holistic water solutions is indeed noteworthy.

#### Water Distribution System:

The water management system at VNIPS showcases a comprehensive and sustainable approach. Bore well water undergoes a meticulous process: pumped into two ground storage tanks (each with a 1000-liter capacity) before being directed to overhead tanks (1500-liter capacity). This water is efficiently distributed to washrooms, construction sites, the canteen, workshops, and for floor cleaning through a well-laid pipe network, ensuring a systematic supply across the campus.

VNIPS commitment to water quality is evident with its own mineral water (RO) plant, producing 600 liters per hour. Water coolers installed throughout the campus guarantee clean drinking water for both staff and students.

To minimize waste water, low-pressure flushes are employed, and a separate set of distribution pipes handles waste water supply. The entire distribution system is vigilantly overseen by the Civil Works Committee to prevent leaks and conserve water. Stakeholders are educated on water-efficient practices, and the institute's plumbers promptly address plumbing issues, preventing unnecessary water wastage. This holistic and well-maintained water management strategy reflects VNIPS dedication to sustainability and responsible resource utilization.

<b>Utilization of Water</b>				
S. No	Type of use	Water Used(Liters/Day)		
1	Washrooms	2,400		
3	Drinking Water	750		
4	Canteen	200		
5	Laboratories	600		
6	Floor cleaning	1500		
7	Watering for Plants	3000		
Total		8,450		

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#### RAINWATER HARVESTING

Rainwater harvesting is a sustainable and environmentally friendly practice that your institution seems to have embraced effectively. Here are some key points about rainwater harvesting based on the information.

**Collection of Rainwater:** Our institution collects rainwater by utilizing harvesting pits. These pits are designed to capture rainwater and prevent it from running off, allowing it to accumulate within the pits.

**Groundwater Recharge:** The collected rainwater is not just stored on the surface but is also absorbed into the ground. This helps recharge the groundwater table, which is vital for maintaining a sustainable water supply.

**Increasing Groundwater Levels:** The creation of numerous small-sized pits around the college for rainwater collection can significantly contribute to increasing the groundwater levels in your area. This is especially important in regions facing water scarcity.

**Sustainability:** Rainwater harvesting is a sustainable approach to water management as it reduces reliance on external water sources and helps conserve precious groundwater reserves.

**Educational Value:** Our institution efforts in rainwater harvesting can serve as an educational example for students and the broader community. It can promote awareness about the importance of water conservation and sustainability.

Overall, our institution commitment to rainwater harvesting is commendable as it not only helps in water conservation but also contributes to a greener and more eco-friendly campus environment.

Rain water harvesting pits which are digged all the surroundings of the institution





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#### Rain water channel for collecting rain water in the pit





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RAIN WATER HARVESTING PIT

Sontyam, Andhra Pradesh, India vacs-vpw, sontyam, Visakhapatnam, Andhra Pradesh Silly3, India

Rain Water Harvesting Pit

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**Borewell** 

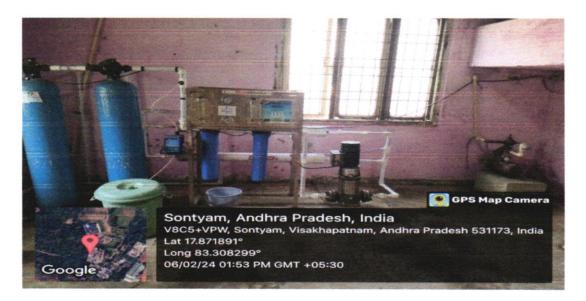
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#### VISWANADHA INSTITUTE OF PHARMACEUTICAL SCIENCES

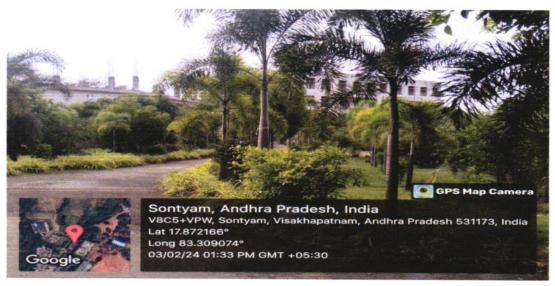
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R O Plant

#### 4. Green Campus Initiatives in the College

- Landscaped Trees and Plants around the College
- Don't use Plastic
- No entry for vehicles in the college



Landscaped Around the College with Trees and Plants

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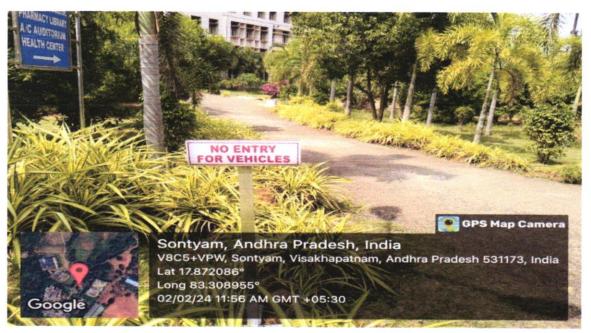
DON'T USE PLASTIC

Sontyam, Andhra Pradesh, India
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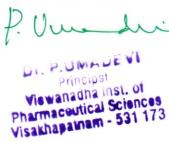
Plastic Use Is Ban in the College

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No Entry for Vehicles in the College





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#### 5. The institution has friendly environment for Physically Challenged persons

Providing facilities like accessible restrooms and wheelchairs for physically handicapped individuals is a commendable initiative taken by Viswanadha Institute of Pharmaceutical Sciences. These facilities contribute significantly to making the campus more inclusive and accommodating for students and staff with physical disabilities. Here's how these facilities can benefit physically handicapped individuals:

Accessible Restroom: Accessible rest room is designed to accommodate individuals with disabilities, particularly those who use wheelchairs. They typically have features such as wider doorways; grab bars, lower sinks, and spacious interiors, making it easier for individuals with mobility impairments to use the restroom independently. These facilities promote dignity and independence for individuals with physical disabilities.

Wheelchair Accessibility: Providing wheelchairs on campus is a valuable resource for individuals who use wheelchairs or have difficulty walking long distances. Access to wheelchairs ensures that these individuals can navigate the campus comfortably and participate fully in academic and social activities.

By offering these facilities, Viswanadha Institute of Pharmaceutical Sciences demonstrates its commitment to inclusivity and accessibility, ensuring that all members of the campus community, regardless of their physical abilities, can enjoy equal access to education and campus facilities. These efforts contribute to creating a more inclusive and supportive environment for everyone.



Ramp for Physically Challenged Students

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Wheel Chair for Physically Challenged Students





Washroom for Physically Challenged Students

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