

Sustainable Living Inc



Green Landscape Audit

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Acknowledgment

Sustainable Living Inc

Hiran Prashanth
Environmental Sustainability Auditor

01 August 2022

Green Landscape Audit

The Sustainable Living Inc acknowledges with thanks the cooperation extended to our team for completing the study at GIET Institutions, Rajahmundry (GIET).

The interactions and deliberations with GIET team were exemplary and the whole exercise was thoroughly a rewarding experience for us. We deeply appreciate the interest, enthusiasm, and commitment of GIET team towards environmental sustainability.

We are sure that the recommendations presented in this report will be implemented and the GIET team will further improve their environmental performance.

Kind regards,

Yours sincerely,



Hiran Prashanth
Environmental Sustainability Auditor
Sustainable Living Inc



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About Auditor

Hiran Prashanth is a sustainability consultant based in London. He has over 14 years of experience in climate change and environmental sustainability. He was working with the Confederation of Indian Industry (CII) before moving to London to pursue a master's degree at King's College, London.

Hiran Prashanth has helped more than 150 organizations around the world to achieve carbon neutrality. Apart from carbon neutrality, Hiran Prashanth has also facilitated organizations to achieve net-zero energy, water neutrality, and zero waste to landfill. He has audited more than 500 companies for their sustainability performance.

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Executive Summary

The growth of countries across the world is leading to increased consumption of natural resources. There is an urgent need to establish environmental sustainability in every activity we do. In a modern economy, environmental sustainability will play a critical role in the very existence of an organization.

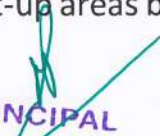
An educational institution is no different. Built environment, especially an educational institution, has a considerable footprint on the environment. Impact on the environment due to energy consumption, water usage and waste generation in an educational institute is prominent. Therefore, there is an imminent need to reduce the overall environmental footprint of the institution.

As an Institution of higher learning, GIET Institutions, Rajahmundry (GIET) firmly believes that there is an urgent need to address the environmental challenges and improve their environmental footprint.

True to its belief, GIET maintains an excellent landscaping in its campus. The whole campus is lush green, and trees are seen everywhere around the campus. Sustainable Living Inc congratulates the GIET team for their wonderful efforts to create a truly green campus.

Based on the data submitted by GIET team, following improvement opportunities have been identified in the campus in terms of landscaping:

- Implement ecosystem restoration by development of theme gardens in unused areas of the campus
- Develop green corridors between existing areas in the campus
- Develop natural areas to encourage bird roosting and nesting in built-up areas
- Increase tree density and canopy cover in the built-up areas by planting more fruit yielding tree


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- Conduct regular flora surveys for improving the existing data
- Develop strategies for regular monitoring & prevention of invasive plant species

By addressing the improvement opportunities, the campus would be able to achieve the following benefits:

- Identifying & implementation of proper measure for conservation of endangered floral species in the campus
- Reduce the microclimate temperature of the campus by 1-2 degrees which is quite significant
- As many of the species have the capability to absorb contaminants in the air and therefore this would lead to better air quality in the campus
- This can evolve as an excellent educational campus for spreading awareness on biodiversity and benefit the nation at large



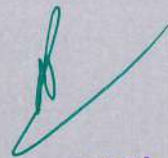
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**Environmental Audit (Water and
Waste Management)**

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Acknowledgment

Sustainable Living Inc

Hiran Prashanth
Environmental Sustainability Auditor

01 August 2022

Environmental Audit (Water and Waste Management)

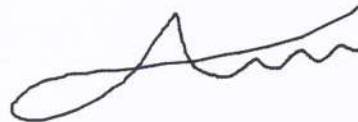
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Executive Summary

The growth of countries across the world is leading to increased consumption of natural resources. There is an urgent need to establish environmental sustainability in every activity we do. In a modern economy, environmental sustainability will play a critical role in the very existence of an organization.

An educational institution is no different. Built environment, especially an educational institution, has a considerable footprint on the environment. Impact on the environment due to energy consumption, water usage and waste generation in an educational institute is prominent. Therefore, there is an imminent need to reduce the overall environmental footprint of the institution.

As an Institution of higher learning, GIET Institutions, Rajahmundry (GIET) firmly believes that there is an urgent need to address the environmental challenges and improve their environmental footprint.

True to its belief, GIET has implemented rainwater harvesting in the campus. Continuing with rainwater harvesting, the college can also investigate the following recommendations:

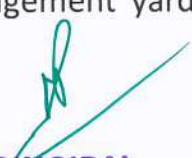
- **Attain water positive status:** GIET should focus on capturing the harvested rainwater to substitute freshwater consumption, work on sustainable groundwater beyond the fence and create a framework towards attaining water positive status over a period. Presently, GIET is consuming nearly 200 KL of fresh water per day. Since metering is not available, the water consumption is calculated rather than measure value.



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The first step is to increase the water conservation activities in the campus to reduce water consumption at source. The next step is to increase the rainwater harvesting capacity to completely offset the freshwater requirements of the plant. GIET can also explore adopting lakes, desilting of ponds and restoration of water bodies in localities surrounding the campus. Water getting harvested in those structures can offset the freshwater consumption of the college.

- **Install water efficient fixtures:** The best way to conserve water is at the source. Therefore, GIET will have to install water efficient fixtures to reduce water consumption. Some of the water efficient fixtures are:
 - Waterless urinals
 - Electronic taps (e-taps)
 - Electronic flush urinals (e-flush)
 - Foam taps
 - Spring loaded push taps
 - Low flush cistern
- **Install water flow meters:** Water flow meters are vital in understating the water consumption patterns of the campus. Presently, the water consumption is calculated rather than being measured. Water flow meters gives an accurate status if water consumption in the campus and from the water consumption values, the roadmap for water conservation activities can be prepared.
- **Segregate waste at source:** GIET has provided bins for waste collection. GIET must embark on awareness creation methods to increase the effectiveness of collection and provide more bins for proper waste segregation.
- **Maintenance of waste management yard:** The waste management yard is to be maintained just like raw materials storage room. Waste is nothing but a resource in wrong place. Therefore, by maintaining the waste management yard, quality of wastes can be maintained.



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Carbon Footprint and Energy Audit

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Acknowledgment

Sustainable Living Inc

Hiran Prashanth

Environmental Sustainability Auditor

01 August 2022

Carbon footprint and Energy audit at GIET Institutions, Rajahmundry

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Yours sincerely,

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True to its belief, GIET has solar PV for generating clean energy for its campus. 480 KWp of solar panels has been installed in the campus. GIET is also in the process of replacing conventional lamps with energy efficiency lamps. Sustainable Living Inc Team congratulates GIET team for their efforts.

Keeping GIET's work in energy efficiency, we recommend the following to be taken by the competent team at GIET:


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Work towards achieving carbon neutrality: INDC emphasizes creating an additional carbon sink of 2.5 to 3 billion tonnes of CO₂ equivalent through additional forest and tree cover by 2030. GIET's net carbon emission for the year 2021-22 is **1522.30 MT CO₂e**. GIET should focus on energy efficiency, renewable energy, and carbon sequestration as tools that will enable them to offset the present carbon emissions and achieve carbon neutrality.

Installation of biogas plant: In 2021-22, GIET had used 34.20 MT of LPG. There is an opportunity to install a biogas plant to generate biogas from sewage water. Presently, sewage water is being let out to the drain without treatment. An opportunity exists to generate biogas from the untreated sewage water and use the generated biogas to substitute LPG used in the college. By generating biogas from sewage water, about 0.93 MT of LPG can be replaced which will result in carbon savings of 2.79 MT CO₂e.

Improve energy efficiency of the college: It is recommended to adopt latest energy efficient technologies for reducing energy consumption in fans, lighting, and air conditioners. We recommend the following projects to be implemented at the earliest:

- Replace conventional 70W ceiling fans with energy efficient BLDC fans of 30W
- Installation of Air conditioners energy savers
- Replace conventional lamps with LED lamps
- Installation of solar water heaters for hostel


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