



**ENVIRONMENTAL & CIVIL  
ENGINEERING SOLUTIONS**  
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# Annual Carbon Emissions Report

## Swami Vivekanand Subharti University, Meerut - 250005

Investing in  
sustainability, is  
investing in the  
Future

Swami Vivekanand Subharti University is situated within the expansive and verdant landscape of Subhartipuram, encompassing approximately 250 acres of thoughtfully developed green campus. The University reflects a strong commitment to environmental stewardship, sustainable infrastructure, and holistic development, fostering an ecosystem that integrates academic excellence with responsible resource management and ecological balance



# Summary

SVSU has demonstrated a proactive commitment to sustainability by undertaking internal green assessments and publishing annual environmental reports, ensuring ongoing evaluation and continual improvement.



Scope 1 emissions include direct emissions From stationary and mobile sources. Stationary sources comprise diesel consumption in DG sets, LPG usage, and biomass Fuel in boilers, contributing approximately 184 MT CO<sub>2e</sub> per year. Diesel consumption contributed highest about 59.8% in total scope 1

Scope 2 emissions arise From electricity consumption across the campus and were estimated at approximately 2291 MT CO<sub>2e</sub> per year. The integration of solar renewable energy contributes to reducing dependence on grid electricity and lowering overall emissions.

Scope 3 emissions cover indirect impacts From upstream and downstream activities, including solid waste generation, water consumption, business travel, and employee commuting. The overall emission contributed about 95 MT CO<sub>2e</sub> per year. Where solid waste contributed 46.2% Followed by business travel contributing 15.4%.

## SWAMI VIVEKANAND SUBHARTI UNIVERSITY A Sustainability model

**This report presents the Greenhouse Gas (GHG) emissions assessment of Swami Vivekanand Subharti University (SVSU) in line with ESG principles and carbon accounting Frameworks. The study evaluates emissions across Scope 1, Scope 2, and Scope 3, providing a comprehensive overview of the University's carbon Footprint.**

**The green campus of Swami Vivekanand Subharti University, covering 43.07 hectares, contributes significantly to carbon sequestration. It is estimated to absorb approximately 130–345 tonnes of CO<sub>2</sub> annually, with an average of 220–250 tonnes per year. This enhances the sustainability efforts and supports its ESG performance.**

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**Swami Vivekanand Subharti University demonstrates a strong commitment to sustainability through the comprehensive assessment of its greenhouse gas emissions across Scope 1, Scope 2, and Scope 3.**

**Overall, the assessment identifies clear opportunities for emission reduction and positions the University on a progressive pathway toward a low-carbon and environmentally responsible campus.**

# Introduction

**An annual carbon Footprint assessment is the measurement of total greenhouse gas (GHG) emissions generated by an organization over a one-year period. It includes Scope 1 (direct), Scope 2 (energy-related), and Scope 3 (other indirect) emissions. This assessment helps identify emission sources, establish a baseline, and support sustainability**

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This Annual Carbon Footprint Report presents the Greenhouse Gas (GHG) emissions assessment of Swami Vivekanand Subharti University, developed in alignment with internationally recognized ESG and carbon accounting Frameworks. The study aims to quantify emissions across Scope 1, Scope 2, and Scope 3, providing a comprehensive understanding of the University's environmental impact and key emission sources.

## Scope 1 Emissions

Scope 1 emissions refer to direct greenhouse gas emissions arising from sources owned or controlled by the institution. These include emissions from fuel combustion in diesel generator (DG) sets, LPG usage, biomass consumption, and university-owned vehicles. Assessing Scope 1 emissions helps in understanding on-site fuel use and identifying opportunities for improving operational efficiency and reducing direct carbon output.

## Scope 3 Emissions

Scope 3 emissions include all other indirect emissions that occur across the institution's value chain, both upstream and downstream. These include activities such as waste generation, water consumption, business travel, and employee commuting. Assessing Scope 3 emissions provides a more comprehensive view of the institution's overall carbon footprint and supports the development of broader sustainability strategies.

## Scope 2 Emissions

Scope 2 emissions represent indirect emissions from the consumption of purchased electricity within the campus. These emissions occur at the source of electricity generation but are attributed to the institution's energy use. Evaluating Scope 2 emissions helps in tracking electricity consumption patterns and highlights opportunities for energy efficiency improvements and renewable energy integration.

## Carbon Sequestration

Carbon sequestration is the process by which carbon dioxide (CO<sub>2</sub>) is absorbed and stored by trees, vegetation, and soil. Campus green cover acts as a natural carbon sink, helping offset emissions from institutional activities. It plays an important role in climate mitigation and strengthening ESG performance. Assessing sequestration also helps in understanding the contribution of green infrastructure toward achieving carbon neutrality goals.

# The Objective oF SVSU Reporting

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**“The key objective to quantify and manage the institution’s carbon Footprint across all emission scopes, enabling data-driven strategies that drive sustainable growth, regulatory alignment, and progress toward a low-carbon Future.”**

## **About the Campus:**

Swami Vivekanand Subharti University (SVSU) is a University under section 2(F) of the University Grant Commission (U.G.C.) Act, 1956 set up under the Swami Vivekanand Subharti Vishwavidyalaya, Uttar Pradesh Adhiniyam, 2008 (U.P. Act No.29 of 2008) as passed by Uttar Pradesh Legislature and assented by the Hon’ble Governor of Uttar Pradesh in September 2008.

The University has been established under the aegis of Mahayana Theravada Vajrayana Buddhist Religious and Charitable Trust, Meerut, which has acquired a commendable record of service in the Field of Education, Health Care and Social Welfare.

The main campus of the University is in the National Capital Region, strategically situated on National Highway 58, Delhi bypass road, Meerut, The campus aptly called 'Subhartipuram', is spread over a sprawling area of about 250 acres of land comprising magnificent buildings, lush green lawns and vibrant surroundings with over 7000 people, dedicated to make the University a Magnum Opus in the World.



# Methodology and Approach

The carbon Footprint assessment For Swami Vivekanand Subharti University was conducted Following internationally recognized Frameworks such as the GHG Protocol and relevant ESG reporting guidelines.

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Data collection was carried out using a structured questionnaire and institutional records, covering key activity data such as diesel consumption in DG sets, LPG usage, biomass Fuel consumption, electricity consumption, water usage, waste generation, and transportation-related activities. Both primary data (From campus sources) and secondary data (standard emission Factors) were utilized.

Emission calculations were performed by applying appropriate emission Factors sourced From recognized databases (such as IPCC and national guidelines) to the collected activity data. Emissions were categorized into Scope 1 (direct), Scope 2 (indirect electricity), and Scope 3 (other indirect emissions), ensuring comprehensive coverage.

Assumptions and estimations were applied where direct data was unavailable, including average Fuel consumption rates, commuting patterns, and waste generation Factors. All assumptions were based on standard practices to maintain consistency and accuracy.

The results were then analyzed to identify major emission sources, trends, and opportunities For reduction. This methodology ensures a transparent, consistent, and reliable estimation of the University's carbon Footprint, supporting effective ESG reporting and Future sustainability planning.

## Scope 1:

- **Stationary Emissions**
  - Diesel Consumption
  - Petrol Consumption
  - LPG & CNG Usage
  - Biomass usage
- **Mobile Emissions**
  - Institutes owned vehicles
  - Logistics served

## Scope 2:

- **Grid Electricity**
- **Renewable energy generated**

## Scope 3:

- **Solid waste**
  - Waste generation
- **Water consumption**
- **Business travel**
- **Employee commuting**

# The Assessment

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## **Reporting Boundary:**

The reporting boundary For Swami Vivekanand Subharti University covers all academic, administrative, and residential Facilities within the campus. The assessment includes emissions From operations under the University's operational control, encompassing Scope 1, Scope 2, and relevant Scope 3 activities. Both direct and indirect emission sources associated with campus activities have been considered to ensure a comprehensive and transparent carbon Footprint evaluation.

## **Reporting Period:**

The reporting period For this carbon Footprint assessment of Swami Vivekanand Subharti University covers the Financial year 2024–2025. All data related to energy consumption, Fuel usage, waste generation, water consumption, and transportation activities has been considered For this period to ensure consistency and accuracy in emissions estimation.

## **Carbon Inventory Approach:**

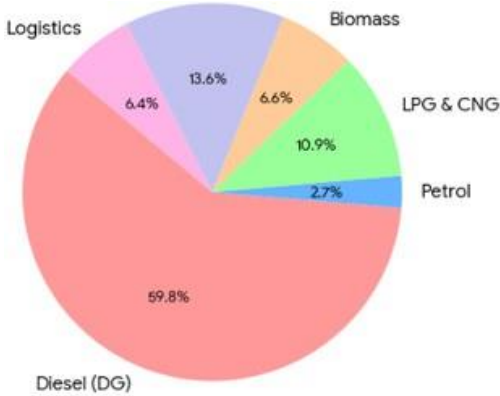
Carbon inventory involves identiFying emission sources and quantiFying associated greenhouse gas (GHG) emissions using internationally recognized methodologies. At the campus the greenhouse gas (GHG) inventory has been developed using international standards like GHG Protocol Corporate Accounting and Reporting Standard and ISO 14064-1:2018, guiding the quantiFication and reporting of greenhouse gas emissions at the organizational level.



## **Emission Factors:**

Emission calculations have been carried out using recognized emission Factors derived From sources such as the Intergovernmental Panel on Climate Change (IPCC) and relevant national grid emission Factors For electricity consumption. All emissions are reported in carbon dioxide equivalent (CO<sub>2</sub>e) to allow comparison across diFFerent greenhouse gases.

# Results

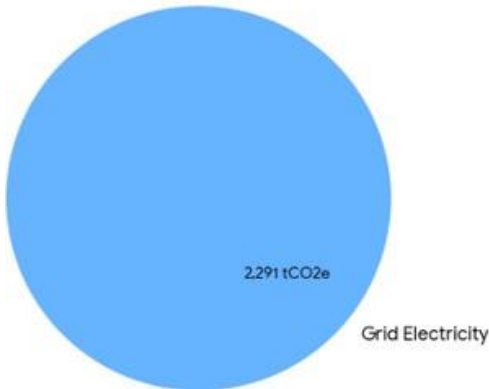


Distribution of Scope 1 Emissions

## Scope 1: Direct Emissions

Scope 1 constitutes emissions released directly from operations owned or controlled by the Institution. At SVSU Meerut, Scope 1 is 184 tCO<sub>2</sub>e, which includes emissions from diesel consumed for DG operations, refrigerants and fuel consumed by the Institute's student bus. Due to optimization of diesel consumption and refrigerants, a stark reduction of 35% was achieved as compared to baseline year data.

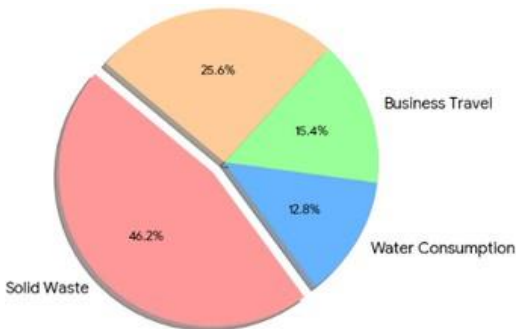
Scope 2 Emissions: Grid Electricity



Distribution of Scope 2 Emissions

## Scope 2: Indirect Emissions

Scope 2 constitutes emissions from the generation of purchased electricity, steam, heating, or cooling consumed. At SVSU Meerut the Scope 2 is 2290 tCO<sub>2</sub>e attributed to grid-based electricity consumption, showcasing an increase of 13.6%.



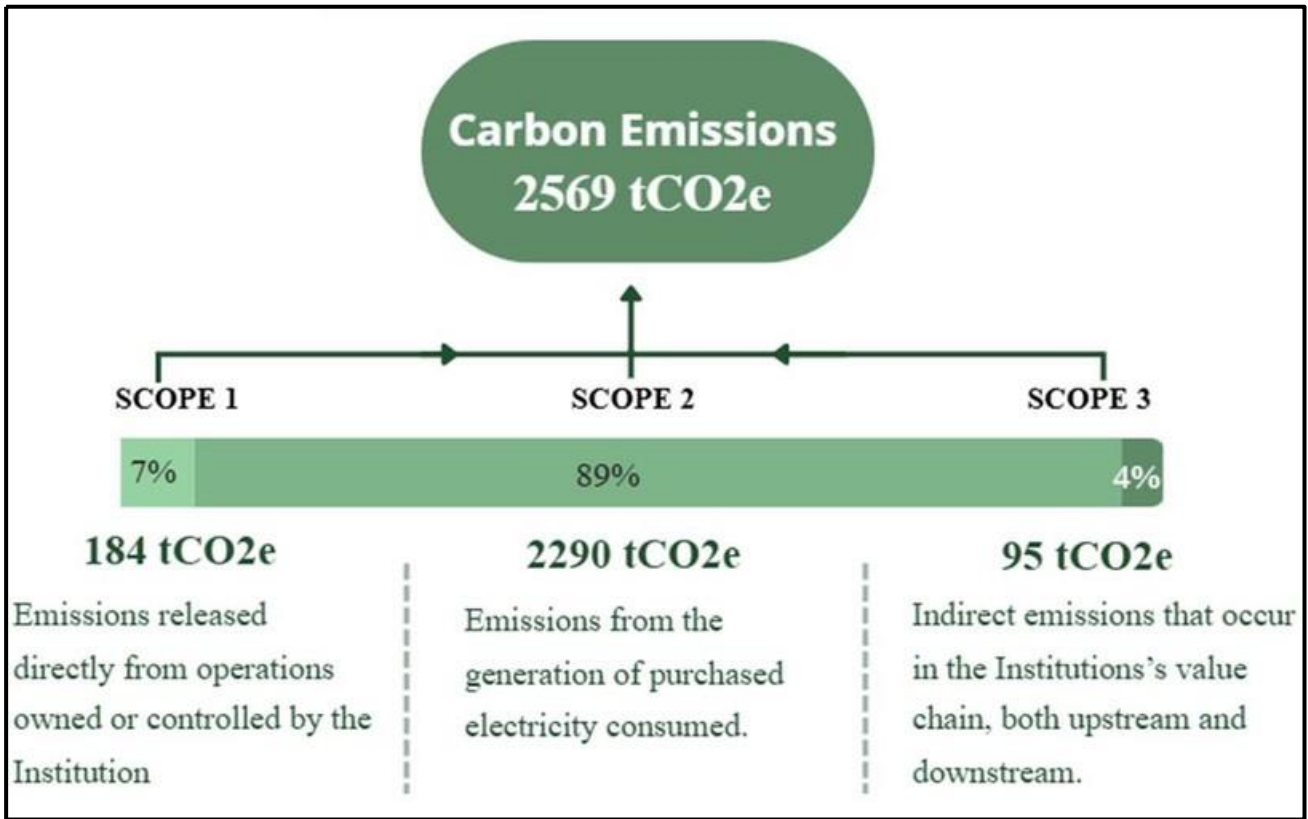
Distribution of Scope 3 Emissions

## Scope 3: Other Indirect Emissions

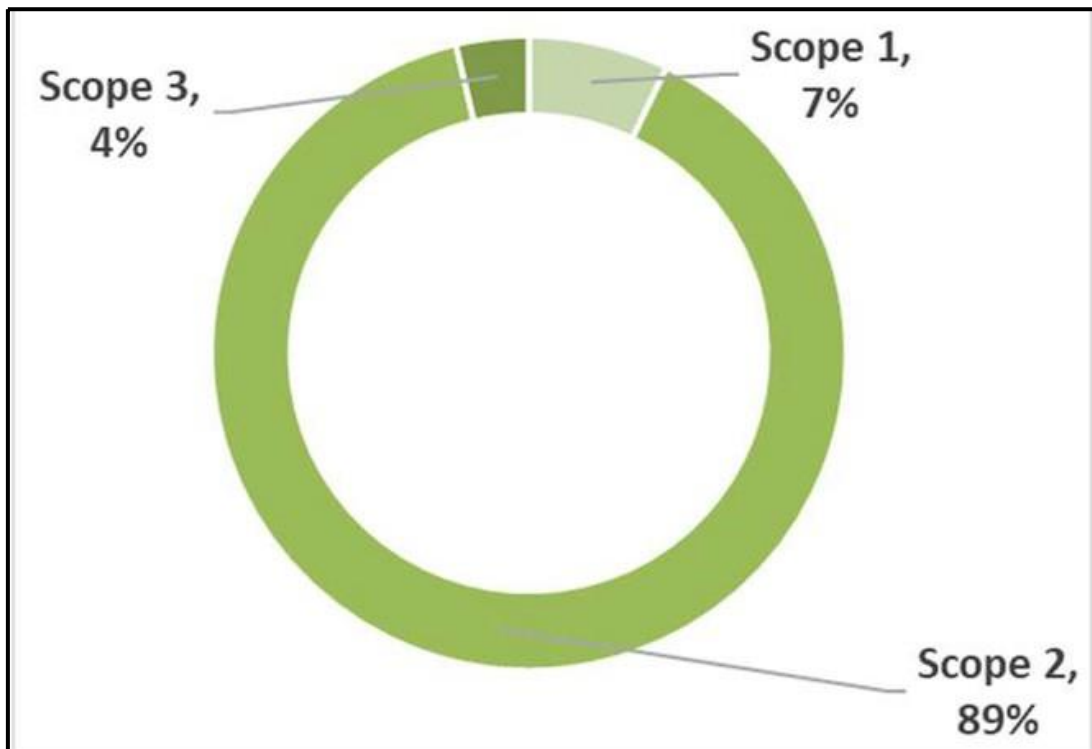
Scope 3 emissions are indirect emissions that occur in the Institute's value chain, both upstream and downstream, which are not included in Scope 2. At SVSU Meerut, Scope 3 emission is 95 tCO<sub>2</sub>e, which includes solid waste, employee commute and business travel of faculty, staff and students for academic purposes. The significant optimization of travel through online interactions and interviews has enabled a significant reduction in scope 3 by 134%.

# Results

Distribution of Scope 1 2 and 3 Emissions in tCO<sub>2</sub>e



Percentage Distribution of Scope 1 2 and 3



# Recommendations For SVSU

At SVSU, Merut the holistic approach oF strong ESG practices across operations and academics makes it more impactFul. Based on practices From Ivy Leagues, this section recommends initiatives that enhance the depth and build consistency in how these eFForts are tracked, reviewed, and scaled. ECS recommendations are designed to be practical, phased and most importantly embedded into everyday decision-making.

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- **Reduce DG Dependency:** Minimize diesel generator usage by optimizing grid supply and increasing backup through battery storage and solar systems.
- **Enhance Renewable Energy Share:** Expand solar PV capacity to Further reduce high Scope 2 emissions From grid electricity.
- **Improve Energy EFFiciency:** Implement LED retroFits, energy-eFFicient equipment, and smart energy management systems across campus.
- **Promote Clean Cooking Alternatives:** Transition From LPG and biomass to electric or PNG-based cooking systems where Feasible.
- **Green Transportation:** Encourage electric vehicles (EVs) For campus Fleets and develop EV charging inFrastructure.
- **Sustainable Commuting:** Promote carpooling, public transport, and cycling initiatives to reduce employee commuting emissions.
- **Waste Management Optimization:** Strengthen segregation, composting, and recycling practices to reduce solid waste emissions.
- **Water Conservation Measures:** Adopt rainwater harvesting, low-Flow Fixtures, and wastewater reuse systems to minimize indirect emissions.
- **Awareness and Training Programs:** Conduct regular environmental awareness campaigns For students and staFF to drive behavioral change.
- **Continuous Monitoring & Reporting:** Establish a digital carbon tracking system with annual audits to track progress and align with ESG targets.
- **Green Procurement Practices:** Adopt policies to source eco-Friendly, low-carbon, and locally produced materials to reduce upstream (Scope 3) emissions.
- **Digitalization & Paper Reduction:** Promote paperless administration, e-learning, and digital records to minimize resource consumption.
- **Carbon Sequestration Enhancement:** Increase tree plantation and green cover density to enhance on-campus carbon absorption.
- **Sustainable InFrastructure Planning:** Integrate green building principles (IGBC/GRIHA standards) in new developments and retroFits.
- **Set Net-Zero Targets:** Establish science-based emission reduction targets and a long-term roadmap toward carbon neutrality/net-zero.

# CertiFicate



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# CERTIFICATE

## OF ANNUAL CARBON FOOTPRINT ASSESSMENT



This is to certify that the Greenhouse Gas (GHG)  
Emissions Assessment of

# Swami Vivekanand Subharti University

has been conducted for the annual reporting period 2024-2025 in  
accordance with internationally recognized methodologies and ESG  
reporting frameworks.

**This certificate is presented by  
Environmental & Civil Engineering Solutions**

April 10th, 2026

**Dr. Kamble N N**  
Lead Auditor

This certificate can be verified on  
[sustainability@envirocivilsolutions.onmicrosoft.in](mailto:sustainability@envirocivilsolutions.onmicrosoft.in)

This certificate has a validity of one year.

**Certificate ID: ECS/ESG/26-27/01**