



## Report on SDG Goal 13 Climate Action

Swami Vivekanand Subharti University, a premier institution of higher learning in India, has taken significant strides in aligning its campus and academic culture with the United Nations Sustainable Development Goal 13: Climate Action, which calls for urgent steps to combat climate change and its impacts. Climate change remains one of the most pressing global challenges of our era, caused primarily by rising greenhouse gas emissions from energy use, transport, deforestation, and waste mismanagement. Universities, as centers of learning and knowledge creation, bear the dual responsibility of not only educating future generations but also modeling sustainable practices that contribute to carbon neutrality and resilience. In this regard, has emerged as a pioneer in institutional climate action, adopting a multi-faceted approach that combines renewable energy, afforestation, sustainable transport, compulsory environmental education, and awareness campaigns. The university's initiatives are not limited to symbolic measures but reflect a deep, data-driven commitment to actual reduction in carbon emissions, ensuring that the campus becomes a living laboratory of sustainability. The integration of solar power generation, extensive plantations, the introduction of 45 electric vehicles, and widespread awareness programs, along with the compulsory teaching of Environmental Science across all courses, exemplify how an institution can localize SDG 13 into measurable, impactful outcomes that resonate globally.

One of the most impactful measures taken by has been the installation of solar energy systems with a generation capacity of approximately 2097 kWh. In India, much of the grid electricity comes from coal-based thermal power plants, with an average emission factor of about 0.82 kg of CO<sub>2</sub> per kWh of electricity generated. This means that for every unit of conventional electricity consumed, significant amounts of greenhouse gases are released into the atmosphere. By generating 2097 kWh of clean solar energy, effectively offsets **around** 1715 kilograms of CO<sub>2</sub> emissions per month, which adds up to over 20.5 metric tons of CO<sub>2</sub> avoided annually. This

reduction is equivalent to the amount of carbon absorbed annually by nearly 950 mature trees, highlighting the substantial climate benefit of this renewable energy initiative. Beyond direct emission savings, the solar installations serve as educational resources for students, offering practical insights into renewable technologies and encouraging a culture of energy efficiency. By reducing dependency on fossil fuels and integrating renewable energy into campus operations, not only lowers its carbon footprint but also contributes to India's broader goals under the Paris Agreement to increase renewable energy adoption and reduce emissions intensity. The financial savings from reduced electricity bills further make this project economically sustainable, reinforcing the principle that climate action can bring both environmental and economic dividends.

Equally impressive is University's commitment to afforestation through the plantation of more than 19,900 trees and plants across the campus, transforming the university into a vibrant green hub within Meerut city. Trees are often referred to as the "lungs of the planet" because of their ability to absorb carbon dioxide during photosynthesis and release oxygen. On average, a mature tree can absorb approximately 21 kilograms of CO<sub>2</sub> per year. Considering this estimate, the 19,900 plantations within the university collectively absorb over 417 metric tons of CO<sub>2</sub> annually, providing a massive natural carbon sink that offsets emissions not only from campus activities but also from the surrounding region. The trees also offer multiple co-benefits: they reduce local air pollution, moderate urban heat island effects by lowering ambient temperatures, recharge groundwater through improved soil structure, and provide habitats for birds, insects, and small animals, thereby enhancing biodiversity. The plantation drives at the university are often carried out with active participation from students and faculty, which fosters environmental stewardship and ensures that the act of planting is coupled with the responsibility of nurturing. Over the long term, as these trees grow, their carbon sequestration potential will increase even further, amplifying the climate benefits. Thus, the plantation program represents one of the university's most significant contributions to SDG 13, combining mitigation, adaptation, and ecosystem restoration in a single initiative.

Another notable step taken by to reduce its environmental impact is the adoption of 45 electric vehicles (E-vehicles) within the campus for internal transport. The transportation sector is a major contributor to greenhouse gas emissions, particularly through the use of petrol and diesel vehicles. On average, a small petrol car emits around 120 grams of CO<sub>2</sub> per kilometer. Assuming

that a conventional campus shuttle or vehicle travels approximately 10,000 kilometers per year, each such vehicle would emit about 1.2 metric tons of CO<sub>2</sub> annually. By replacing 45 conventional vehicles with electric ones, the university has potentially avoided over 54 metric tons of CO<sub>2</sub> emissions each year. This figure becomes even more significant when considering that the university's solar infrastructure can be used to charge these vehicles, making the transportation system not only emission-free but also powered by renewable energy. Beyond emissions reduction, electric vehicles reduce noise and air pollution, making the campus cleaner and healthier for students and staff. They also serve as live demonstrations of sustainable mobility solutions, raising awareness and normalizing the use of green transportation among young learners. This initiative reflects a progressive vision that goes beyond immediate carbon savings, as it prepares students to embrace the transition to electric mobility in their personal and professional lives.

In addition to infrastructure and technology-based measures, the university recognizes that awareness generation and education are vital for sustained climate action. The university actively organizes and celebrates international and national environmental observances such as World Environment Day, World Ozone Day, International Biodiversity Day, and other global initiatives related to sustainability. These events are marked by a wide range of activities, including seminars, expert lectures, workshops, poster competitions, rallies, and student-led campaigns. The primary aim of these programs is to cultivate climate literacy and encourage students to see themselves as active participants in the fight against climate change. For example, celebrating World Ozone Day provides an opportunity to discuss the importance of protecting the ozone layer and reducing the use of ozone-depleting substances, while World Environment Day brings attention to specific global themes such as air pollution, biodiversity conservation, or ecosystem restoration. By participating in these events, students gain knowledge, develop creative solutions, and adopt sustainable practices in their daily lives. Awareness activities also extend to the surrounding communities through outreach programs, ensuring that the university's impact on climate action is not confined to the campus but also benefits the larger society. Through consistent engagement, the university ensures that climate awareness becomes a cultural value and not just a one-time activity, thereby ensuring long-term behavioral change.

Perhaps the most far-reaching initiative of the university in terms of long-term impact is its decision to make Environmental Science a compulsory subject across all disciplines. This

academic requirement ensures that every student, whether they are pursuing medicine, engineering, management, law, humanities, or any other course, gains foundational knowledge about climate change, biodiversity, pollution control, sustainable development, and environmental management. Education is the cornerstone of sustainable development, as it equips individuals with the knowledge and values necessary to make informed decisions and adopt environmentally responsible lifestyles. By mandating environmental education, the university ensures that thousands of graduates each year leave the university not only with professional skills but also with climate literacy. Over time, these graduates will carry their awareness into their careers, families, and communities, multiplying the impact manifold. This initiative is directly aligned with SDG 13's target of improving education, awareness, and institutional capacity on climate change mitigation, adaptation, and early warning. In this way, the university is not just addressing climate action at the level of infrastructure but also embedding it in the intellectual and moral development of its students, ensuring that the values of sustainability become part of their identity as responsible global citizens.

The cumulative carbon benefits of the university's initiatives are profound. The solar installations save over 20.5 tons of CO<sub>2</sub> annually, the plantations absorb more than 417 tons of CO<sub>2</sub> every year, and the electric vehicles reduce emissions by at least 54 tons annually, adding up to nearly 492 metric tons of CO<sub>2</sub> reduction or offset each year.

Beyond these measurable outcomes, the intangible impacts of awareness programs and compulsory environmental education further amplify the university's contribution to climate action by fostering a culture of sustainability that will influence future generations. These figures demonstrate that the university's initiatives are not symbolic but quantitatively significant, reflecting a serious institutional commitment to combating climate change.

The Swami Vivekanand Subharti University has firmly established itself as a model of institutional climate responsibility through its multi-pronged approach to SDG 13: Climate Action. By investing in renewable energy, expanding green cover, promoting sustainable transport, organizing awareness campaigns, and mandating environmental education, the university has created a holistic framework that addresses both mitigation and adaptation. The quantifiable reduction of nearly 492 tons of CO<sub>2</sub> annually demonstrates the tangible impact of these measures, while the intangible benefits of education and awareness ensure long-term

continuity and expansion of climate action beyond the campus. university's initiatives show that climate action is not limited to large-scale government policies or international treaties but can and must be localized in educational institutions, where young minds are shaped, habits are formed, and values are nurtured. The university has proven that it is possible to combine academic excellence with environmental responsibility, creating a campus that is not only a place of learning but also a living demonstration of sustainability. In doing so, university not only contributes to the fight against climate change but also prepares a generation of climate-conscious leaders who will continue this mission in society at large. Through its commitment to SDG 13, the university embodies the principle that local actions can create global impact, and that the journey toward a sustainable future begins with conscious choices in our own surroundings.



**SWAMI VIVEKANAND SUBHARTI UNIVERSITY**  
Approved by UGC. Where Education is a Passion.

**World Ozone Day**  
September 16<sup>th</sup>, 2023

Events

- Poster Competition
- Quiz Competition
- Skit
- Lecture

Organize By :  
Faculty of Engineering and Technology in association with the University Environment Committee.



University Environment Committee  
is  
Celebrating  
**World Environment Day**  
**5th June 2023**



**#BeatPlasticPollution**

Venue: Garud Udyaan Timings: 09 am to 11 am





