



# Winter Analytics '25

Driving impactful sustainability insights through data-driven analysis and strategic recommendations

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# Problem Statement

As an ESG consultant, you are tasked with analyzing a dataset containing 124 Sustainable Development Goal (SDG) indicators for 217 countries. Your objective is to derive actionable insights that support global and regional efforts to achieve the United Nations Sustainable Development Goals (SDGs) by 2030. Your analysis should incorporate country groupings and predictive modeling, with a special emphasis on India's sustainability commitments. You are free to remove any countries or indicators if you feel the need to do so but you will have to provide justification for each of the steps taken.

## Deliverables

### Round 1:

- **Clustering and Trend Analysis**
  - a. Group countries based on SDG indicator values for the years 2005 and 2015.
  - b. Analyze shifts in cluster memberships over time, identifying regions or countries that have shown significant progress or decline.
- **Indicator Analysis of the Worst-Performing Cluster**
  - a. Identify the cluster that ranks the lowest in SDG performance based on key indicators.
  - b. Analyze the specific indicators contributing to its poor performance.
  - c. Suggest targeted strategies to improve these indicators and accelerate progress.

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- **Data Visualization**

Create visualizations to illustrate the trends and disparities in the worst-performing cluster.

- **Correlation Analysis**

Explore correlations between indicators (e.g., education and poverty, health and economic growth) for different clusters

- **Future Projections**

Build predictive model to assess India's ability to achieve the following targets by 2030:

- a. 50% of total energy requirements met through renewable sources.
- b. 45% reduction in carbon intensity from 2005 levels.

## **Round 2:**

(Only for teams qualifying from Round 1)

- **Case Study Analysis**

- a. Identify and analyze a country that has made significant progress on specific SDGs between 2005 and 2015.
- b. Examine the policies and strategies that contributed to this success.

- **Net Zero Analysis**

- a. Evaluate India's potential to achieve net-zero emissions by 2070 in light of its progress on the Panchamrit commitments made at COP26.
- b. Identify critical gaps and recommend additional measures needed to meet these ambitious targets.

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# Dataset

The dataset contains SDG indicator values for 217 countries across multiple years. It includes historical data for key years, including 2005 and 2015, allowing for trend analysis and predictive modeling. Dataset is available publically at <https://data.worldbank.org/>

Dataset Link: [Dataset](#)

# Submissions

## Round 1 Submission

- Teams must submit a Jupyter Notebook (.ipynb file) containing all analysis, insights, strategies, and the approach clearly documented within the notebook.
- Note that all findings, visualizations, and recommendations must be incorporated within the notebook itself.
- Deadline: **8th February 2025, EOD.**

## Round 2 Submission

- Qualified teams must submit:
  - a. Jupyter Notebook (.ipynb file) with an in-depth analysis, continuing from the Round 1 submission.
  - b. Presentation (Maximum 5 slides, excluding Intro, Executive Summary, Thank You, and Appendix) summarizing key insights and recommendations.
- Teams must prepare a **7-minute** presentation based on their deck.
- Teams will present their solutions on **15th February 2025.**
- Each team will be assigned a mentor for guidance during this round.

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# Appendix

## **Understanding the United Nations Sustainable Development Goals (SDGs)**

The United Nations Sustainable Development Goals (SDGs) are a set of 17 global objectives adopted in 2015 as part of the 2030 Agenda for Sustainable Development. These goals aim to eradicate poverty, safeguard the environment, and promote prosperity for all by 2030. They serve as a universal blueprint for governments, organizations, and individuals to work collectively towards a sustainable future.

The SDGs were established to succeed the Millennium Development Goals (MDGs), which were in place from 2000 to 2015. Unlike the MDGs, which primarily targeted developing nations, the SDGs encompass a broader range of issues—including climate action, sustainable economic growth, gender equality, and responsible consumption—applicable to all countries.

## **India's Commitment to the SDGs**

The Government of India has actively pursued SDG implementation through initiatives such as NITI Aayog, a national policy think tank responsible for planning and monitoring progress on these goals. Various policies and programs, including the National Solar Mission, Swachh Bharat Abhiyan, and Jal Jeevan Mission, contribute to advancing sustainability in key sectors like renewable energy, sanitation, and water conservation.

While India has made significant strides in areas such as access to clean energy and poverty reduction, substantial challenges remain in domains like climate resilience, sustainable urbanization, and resource conservation.

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Achieving the SDGs will require a collaborative effort between the government, private sector, and civil society to ensure long-term, sustainable progress.

For more details on the United Nations Sustainable Development Goals (SDGs), visit [UN SDG Website](#).