

ESG Country Performance Dashboard – Project Report

1. Introduction

Environmental, Social, and Governance (ESG) indicators have become essential for understanding a country's progress toward sustainable development. This project aims to analyze ESG data using Power BI and present insights through an interactive dashboard. The dashboard provides a global view of ESG performance, trends over time, and comparative analysis across countries and indicator categories.

The dataset used includes country-level ESG indicators covering multiple years and indicators such as biodiversity, air quality, business environment, resource usage, and social characteristics. The dashboard allows users to explore ESG patterns through filters such as Category, Series Code, Year, and Country Name.

2. Objective of the Dashboard

The main goal of the dashboard is to:

- Visualize global ESG performance across countries.
- Identify top-performing and low-performing countries.
- Analyze ESG trends over time.
- Provide indicator-level descriptions for better understanding.
- Enable interactive exploration using slicers.

This helps users, policymakers, and analysts gain actionable insights related to sustainability and governance.

3. Data Preparation

Before building the dashboard, the dataset underwent cleaning and transformation steps within Power Query:

✓ Data Cleaning Steps:

- Removed empty and duplicate rows.
- Standardized column names for uniformity.
- Trimmed unnecessary whitespace and corrected text formats.
- Removed non-country regions like “Arab World”, “Caribbean small states”, etc.
- Converted numerical fields to appropriate data types.

- Created category mapping for each ESG indicator.
- Ensured all relationships between tables were correctly defined (Country Code & Series Code).

✓ **Final Table Structure Used:**

- **ESGCountry** (Country details)
- **ESGSeries** (Indicator category + descriptions)
- **ESGData** (Country-level indicator values)
- **ESGSeries-Time** (Indicator year metadata)
- **ESGFootNote** (Supporting information)

4. Dashboard Elements & Visuals

4.1 Slicers

- **Category**
- **Series Code**
- **Year**
- **Country Name**

These allow dynamic filtering of all visuals.

4.2 Visuals Used

1. **ESG Value by Country (Map)**
 - Displays global distribution of ESG values using geographical points.
2. **Average ESG Value by Country Name (Bar Chart)**
 - Shows top and bottom performers in ESG metrics.
3. **Average ESG Value Over Years (Line Chart)**
 - Exhibits how ESG values have changed over time globally or for selected countries.
4. **Indicator Description Table**
 - Lists ESG indicator names and descriptions based on the selected category or series code.

5. Overall Insights

Key Insights Derived from All Visuals (Consolidated):

- ESG scores show **steady improvement over the years**, indicating stronger global governance and sustainability efforts.
- **High-income and OECD countries consistently perform better**, reflecting advanced environmental policies and stronger governance systems.
- Countries in **Africa and some parts of Asia show relatively lower ESG values**, pointing towards developmental and structural challenges.
- Significant variations exist across **indicator categories**, proving that performance in one ESG dimension does not guarantee good performance in another.
- The **map visual highlights regional disparities**, with Europe and North America showing dense clusters of high ESG values.
- **Trend analysis indicates a positive trajectory**, despite occasional dips due to economic or political instability.
- **Indicator descriptions clarify the complexities** of each ESG metric, helping users understand what drives the scores.

7. Recommendations

- Countries with lower ESG performance should prioritize **improving environmental policies, strengthening governance, and enhancing social well-being**.
- Stakeholders may use this dashboard to **monitor year-on-year improvements** and measure the impact of sustainability initiatives.
- Future enhancements could include:
 - Forecasting ESG trends using time-series models.
 - Adding risk scores and governance indexes.
 - Integrating economic indicators for deeper analysis.

6. Conclusion

The ESG Country Performance Dashboard offers a comprehensive and interactive view of global ESG performance. It helps users identify leading and lagging regions, explore indicator-level details, and understand long-term sustainability trends. This dashboard can be used by researchers, policymakers, and environmental analysts to:

- Compare countries' ESG progress.
- Monitor sustainability improvements.
- Identify areas requiring policy intervention.