Project Report

Title:	Data Governance and Security Dashboard
Tools Used:	PowerBI

1. Executive Summary

This project focuses on building an interactive ESG (Environmental, Social, Governance) Dashboard using Power BI. The dashboard primarily analyzes governance-related indicators such as law enforcement, cybersecurity, and political stability by country and year. The data was cleaned, transformed, and modeled from multiple CSV sources provided by the World Bank and other global datasets.

2. Datasets & Cleaning Process

2.1 ESGCountry.csv

- **Renamed columns**: Country Name, Country Code, Region, Income Group

- **Removed rows** with null values in `Country Code` or `Country Name`

- **Cleaned** Region and Income Group values (removed "NA", "..", etc.)

2.2 ESGData.csv

- **Unpivoted** year columns into long format (Year, Score)

- Renamed columns: `Attribute` → `Year`, `Value` → `Score`

- Converted:

  - Year → Whole Number

- ○ Score → Decimal

- **Removed** rows where Score was null or ".."

- **Added** ESG Dimension column (categorizing indicators)

2.3 ESGCountry-Series.csv

- Verified text format for `Country Code` and `Series Code`

- **Removed** nulls and duplicates

2.4 ESGSeries.csv

- Renamed columns: Series Code, Indicator Name, Short Definition

- **Cleaned** invalid or empty definitions

- Checked for duplicate Series Codes

2.5 ESGSeries-Time.csv

- Checked date validity and range of years

- Used to determine data availability across time

2.6 ESGFootNote.csv

- Created `Composite Key`: Country Code + Series Code + Year

- Removed placeholders (e.g., ".", "NA") from Footnotes

- Prepared for tooltip integration in visuals

3. Dashboard Features

3.1 KPI Cards

- **Total Indicators Tracked**

- **Total Countries Covered**

- **Average Score**

- **Time Range**

3.2 Time Series Analysis

- Line Chart: **Score Trend by Year**

- Country comparison over time

3.3 Category/Dimension Analysis

- Bar Charts: Score by **Indicator**, **Country**, or **ESG Dimension**

- TreeMap: Score distribution by Region or Income Group

3.4 Filtering Options (Slicers)

- **Country**

- **Region**

- **Year**

- **ESG Dimension** (Governance / Security / Law)

- **Indicator**

3.5 Footnotes

- Integrated into visuals using tooltips (hover to view metadata or explanations)

4. Data Model Relationships

Table	Linked With	Join Key
ESGCountry	ESGCountry-Series	Country Code
ESGSeries	ESGCountry-Series	Series Code
ESGData	ESGCountry-Series	Country Code + Series Code + Year
ESGSeries-Time	ESGSeries	Series Code
ESGFootNote	ESGData (via Composite Key)	Country + Series + Year

5. Tools Used

- **Power BI (Power Query)** – Data import, transformation, and visualization

- **Data Types** – Whole Numbers, Text, Decimal

- **Data Cleaning** – Null removal, unpivoting, renaming, merging tables

- **Relationships** – Star schema structure for optimal performance

6. Conclusion

The ESG Dashboard enables users to analyze trends and disparities in governance-related indicators globally. Through interactive filtering and clean, connected data, users can derive actionable insights into ESG performance by region, country, and year.