**ESG and Financial Performance Documentation**

In the global investment sector, Environmental, Social, and Governance (ESG) factors are becoming increasingly important. In addition to improving societal well-being, companies that thrive in ESG also typically exhibit better risk management and financial performance. This project uses company-level ESG data alongside key financial metrics (revenue, profit margin, market capitalization, growth rate) from 2015 to 2025 across industries and regions to uncover actionable insights.

**PROJECT OBJECTIVES**

* To identify high- and low-performing companies based on ESG performance.
* To investigate which ESG pillars (Environmental, Social, and Governance) most strongly correlate with financial success.
* To recognise patterns and trends in ESG and financial performance across different industries and regions.

**BUSINESS QUESTIONS**

1. Which industries have shown the highest average ESG scores, and how do their profit margins compare to industry averages?
2. How does Environmental ESG performance relate to carbon emissions?
3. Which regions score highest in ESG performance?
4. Which companies have the largest market capitalization?
5. What trends can be observed in ESG overall scores and revenue growth over the past 5 years?

**PROJECT PURPOSE**

The primary goal of this project is to provide clarity on the relationship between ESG factors and financial performance. By answering the above questions, the project will help executives, investors, and policy makers, make more informed, data-driven decisions that strike a balance between sustainability and profitability.

**DATA DESCRIPTION**

The dataset contains ESG and financial performance metrics for various companies across multiple industries and regions. It spans the years 2015 to 2025 and includes 10,000 rows, representing 1000 unique companies across 7 industries (e.g., Technology, Finance, Transportation) and 6 regions (e.g., Europe, North America, Oceania). Columns include:

* CompanyID: Unique identifier for each company in the dataset.
* CompanyName: Name of the company.
* Industry: The industry or sector the company operates in.
* Region: Geographical region where the company operates.
* Year: The year of the data point or report (2015–2025).
* Revenue: Total income generated by the company from its business activities.
* ProfitMargin: Percentage of revenue remaining after expenses.
* MarketCap: Market capitalization of the company.
* GrowthRate: Annual growth rate of revenue or market value.
* ESG\_Overall: Composite ESG performance score.
* ESG\_Environmental: Environmental component of ESG score.
* ESG\_Social: Social component of ESG score.
* ESG\_Governance: Governance component of ESG score.
* CarbonEmissions: Total carbon dioxide emissions.
* WaterUsage: Total water consumed in company operations.
* EnergyConsumption: Total energy used in company operations.

**Data Cleaning and Formatting**

The dataset was cleaned and transformed using MS Excel.

* **Duplicates and Data Types**:
  + Checked for and removed duplicate entries to ensure data integrity.
  + Formatted CompanyID as whole numbers for consistency.
  + Formatted CompanyName, Industry, and Region as text for uniformity.
  + Formatted Revenue and MarketCap as currency to accurately represent financial values.
  + Standardized Year to the YYYY format for readability.
  + Set ESG\_Overall, ESG\_Environmental, ESG\_Social, and ESG\_Governance as numbers for analytical precision.
* **Handling Missing Data**:
  + Identified blank values in GrowthRate for 2015. These were left unchanged, as growth rate calculations require prior-year data, which was unavailable for that year.
* **Unit Standardization**:
  + Added units to environmental metrics: CarbonEmissions as t CO2e, WaterUsage as m³, and EnergyConsumption as MWh.
* **Percentage Conversions**:
  + Created new columns next to ProfitMargin and GrowthRate, divided their original values by 100, and formatted them as percentages for clarity.

**Analysis and Pivot Tables**

* **Dataset Preparation**:
  + Converted the dataset into a table using Ctrl + T for easier handling.
  + Inserted a pivot table in a new worksheet named "Pivot Tables" to streamline analysis.

**Question 1: ESG Pillar Scores in Top-Profit-Margin Industries**

* **Pivot Table Setup**:
  + Dragged Industry to rows and ESG\_Environmental, ESG\_Social, and ESG\_Governance to values (set to average, formatted to 1 decimal place).
  + Applied a filter to display the top 3 industries by ProfitMargin.
  + Dragged ProfitMargin to values (set to average, formatted as a percentage to 1 decimal place).
* **Chart Creation**:
  + Inserted a combo chart (clustered column with line on secondary axis), showing ESG pillars as bars and ProfitMargin as a line.
  + Moved the legend to the bottom and titled the chart "ESG Pillar Scores in Top-Profit-Margin Industries."
  + Moved the chart to the "Dashboard" sheet.

**Question 2: Environmental ESG Impact on Emissions**

* **Data Categorization**:
  + Added a new column in the dataset using an IF statement, (=IF(ESG\_Environmental >79, "High", IF(ESG\_Environmental <=60, "Low", "Medium"))), to categorize ESG\_Environmental scores as "High," "Medium," or "Low" (named ESG\_Env\_Category).
* **Pivot Table Setup**:
  + Dragged ESG\_Env\_Category to rows, and CarbonEmissions to values (set to average, formatted to 0 decimal places).
* **Chart Creation**:
  + Inserted a bar chart with CarbonEmissions as bars.
  + Titled the chart "Environmental ESG Impact on Emissions."
  + Moved the chart to the "Dashboard" sheet.

**Question 3: Regional ESG Scores Trends**

* **Pivot Table Setup**:
  + Dragged Region to rows, and ESG\_Overall to values (set to average, formatted to 1 decimal place).
* **Chart Creation**:
  + Inserted a bar chart with Region as bars.
  + Titled the chart "ESG Scores by Region" and moved it to the "Dashboard" sheet.

**Question 4: Top Companies by Market Capitalization**

* **Pivot Table Setup**:
  + Dragged CompanyName to rows, and MarketCap to values (set to average, formatted to 2 decimal places).
* **Chart Creation**:
  + Inserted a bar chart with CompanyName as bars.
  + Titled the chart "Top Companies by Market Capitalization" and moved it to the "Dashboard" sheet.

**Question 5: Performance Trends in ESG Scores and Revenue**

* **Pivot Table Setup**:
  + Dragged Year to rows (filtered to 2021–2025), and ESG\_Overall and Revenue to values (set to average, formatted to 1 decimal place).
* **Chart Creation**:
  + Inserted a custom combination chart with two lines (ESG\_Overall on the secondary axis).
  + Titled the chart "Performance Trends in ESG Scores and Revenue Over the Past Five Years" and moved it to the "Dashboard" sheet.

**Dashboard Design and Interactivity**

* **Chart Arrangement**:
  + Organized charts on the "Dashboard" sheet for a clear and logical layout.
* **Slicers**:
  + Added slicers for Year, Region, and Industry, connecting them to the pivot charts for interactive filtering.
* **Color Palette**:
  + Used #013D5A for the dashboard heading and light blue for the background to ensure a professional appearance.
* **KPIs and Icons**:
  + Included key performance indicators (KPIs) at the top of the dashboard with icons for visual enhancement.

**Insights**

1. Technology has the highest profit margin (19%) and strong Environmental and Governance scores. Finance leads in Environmental but lags in Social and Governance, reflecting a weaker profit margin (14%).
2. Companies with higher Environmental scores emit significantly less carbon, indicating that strong environmental practices translate to measurable operational impact.
3. Europe leads in ESG (67.9), while Africa and the Middle East score the lowest, highlighting gaps in regional ESG maturity.
4. Company 463 dominates in market value despite a mid-range ESG score. Others like Companies 596 and 355 combine strong ESG with high valuation, showing that ESG and financial success can align.
5. From 2021 to 2025, ESG scores rose steadily while revenue increased by 36.6%, suggesting a positive correlation between ESG performance and financial growth.

**Recommendations**

1. Improve Social and Governance pillars in sectors like Finance to balance ESG performance.
2. Reduce emissions by strengthening Environmental ESG practices, especially for low performers.
3. Build ESG capacity in low-scoring regions like Africa and the Middle East to attract impact-driven investment.
4. Prioritize companies with strong ESG and high market value for long-term investment.
5. Link executive rewards to ESG progress to drive accountability.
6. Adopt clean technologies and sustainable operations to lower environmental risks and improve efficiency.
7. Track ESG and financial data together to measure real impact over time.
8. Simplify and improve ESG reporting to enhance transparency and investor trust.