J.M. Smucker Company – ESG Analysis

I – Materiality Assessment

J.M. Smucker, one of the leaders in the pre-packaged food industry, has a key role to play as a thought leader to improve the Environmental, Social, and Governance (ESG) standards in the field. As a bedrock company producing hundreds of the food products relied upon by the American consumer, Smucker's has a responsibility to inspire via direct leadership improved ESG practices throughout the sector.

The pre-packaged food sector faces quite a few endemic challenges to their operations, chief among them being the packaging itself, delivering affordable nutrition at a reasonable price, and transparency in sourcing. These challenges map neatly into the ESG (respectively) subfields of Ecological Impacts, Product Quality & Safety, and Materials Sourcing & Efficiency.

Since the food & beverage industry has a such a wide variety of products and styles for production, these metrics are both the best to be applying and the most likely to have consistent, trackable data. Diving into these areas of material risk, we can further characterize the endemic level of exposure that the sector has to these issues in changing global market. For the packaging sustainability subsequent ecological impacts, there is relatively **low exposure** as this is not the primary concern for consumers. For food nutrition and quality concerns, there is **increasingly high exposure**, particularly in light of recent listeria, salmonella, and E.coli outbreaks that are magnified in the modern diversified and interconnected supply chain. Last, for transparency in ingredient sourcing there is **medium exposure**, partially due to the aforementioned food safety concerns, which are somewhat mitigated by a diversity of sourcing options (albeit with higher cost) across global markets.

II – Disclosure Assessment

- Packaging sustainability – on March 9, 2021, J.M. Smucker announced a plan to transition to 100% of their packaging being either compostable, recyclable, or reusable by 2025. By 2023, they had confirmed via 3rd party audit and

shared in their disclosures to shareholders that 85%[1] of their materials had met this standard, indicating a reasonable likelihood to deliver on this ESG goal by the end of 2025. **Operating at a level of Metrics & Targets.**

- Quality, affordable nutrition – while affordable, J.M. Smucker does not place an appropriate emphasis on quality nutrition, which can be seen through their flagship subsidiary, Hostess Brands, and how they have doubled down in recent years on cheap, high-sugar snacks[2]. Though J.M. Smucker claims "[to] enhance its recent efforts to help ensure people and pets have consistent access to trusted, quality food", this can be considered operating at a **no-disclosure level for their nutrition standards.**
- Transparency in sourcing – pre-packaged food products are composed of ingredients sourced from thousands or even millions of farms/vendors, difficult to trace when quality control failures result in food-born illness outbreaks. In 2022, J.M. Smucker was forced to recall all the peanut butter produced in their Kentucky facility[3] since it is often a component in other pre-packaged foods. This case hints towards the sectoral challenge on improving transparency when the ingredients can cause cascading failures in consumer safety, not to mention the difficulty to verify ethical procurement and cultivation practices. While they do have a supply chain verification portal and a procurement page, the portal is not public and the details are generic, not containing any specific or measurable goals[4], therefore **they are operating at a boilerplate language level.**

[1] J.M. Smucker 2024 Corporate Impact Report
[2] Food Business News, Smucker's five-step plan to grow Hostess Brands
[3] FDA, 2022 Recalls of Food Products Associated with Peanut Butter from J.M. Smucker Company due to the Potential Risk of Salmonella
[4] J.M. Smucker Supply Chain Responsibility Site

III – Management Assessment

J. M. Smucker compared to Campbell Soup Co.

ESG Criterion Area	Industry-relevant iteration	Leading, Average, or Lagging in the sector	Campbell Soup Co.
(E) Ecological Impacts	Packaging sustainability	***Leading***	***Leading***
(S) Product Quality & Safety	Quality, affordable nutrition	***Average***	***Leading***
(G) Materials Sourcing & Efficiency	Transparency in sourcing	***Lagging***	***Leading***

Campbell Soup Co. was identified by the quantitative approach as a comparable peer producing pre-packaged food, and they are across the board a more comprehensive leader in the ESG space. Their commitment to specific, measurable goals in the criterion area of improved materials sourcing by committing to 100% sustainable palm oil, a common ingredient with J.M. Smucker products. Additionally, Campbell's matches and even exceeds J.M. Smucker's 85% sustainable packaging material usage to date by operating at the 92% level[5], both calculated for the same year of reporting (2024).

IV – Social/Environmental Impact Assessment

For over 100 years, the J.M. Smucker brand has come to be intimately associated with the American family, their peanut butter and jelly products becoming so ubiquitous that it is hard to imagine society without their gingham-print lidded jars. Their commitment to remain with their headquarters in small town Ohio and donations towards educational charities have further ingrained a positive image in the mind of the American consumer. However, in exploring further through their 'ESG' business practices and recent history of recklessly cutting corners, their business model can be seen more so as an effort to offset the negativity than to create true positive impact.

Critically, their efforts towards educational funding and placing a positive impression of the Smucker name in schools strikes a strange tone for a company associated with food products. Where it may feel more reasonable for a food company to donate to food pantries or towards the farmer communities they work with, the primary focus, per their Corporate Impact Report is urban, lower-income schools. This may introduce a predatory element to their efforts, ingratiating the brand with impressionable youth and leaving them susceptible to a lifetime addiction to sugary sweets.

In a somber moment of serendipity, on January 31st, 2025, Smucker announced plans to relocate a large portion of its operations from the Orville, Ohio headquarters to Chicago[6], tearing 400 families apart as these jobs relocate. While the business case for the move is likely quite strong, this company has built their name and image on being a stable bastion of a small town. While loyalty to a location may not be an explicit component in ESG criteria, this move will certainly harm community relations and does seem to run counter to the image J.M. Smucker has been portraying for decades.

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[5] Campbell Soup Co, 2024 Corporate Responsibility Report

[6] PR Newswire, 2025 The J.M. Smucker Co. Announces Agreement to Divest Certain Value Brands in Continued Portfolio Optimization of Sweet Baked Snacks Segment

Quantitative Analysis Section

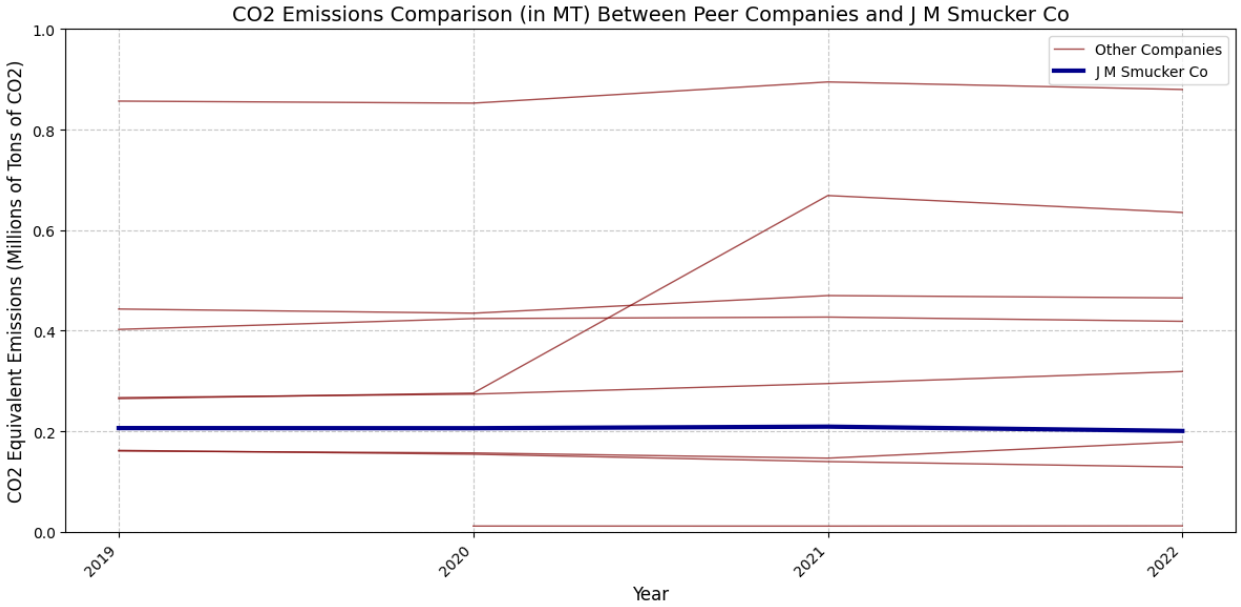
Data Processing:

- I filtered the dataset based on the TRBC sectoral categorization across the three sectors to ensure the companies listed were comparable, then further selected the 'top ten' within that resulting list based on percentage of data available across the ESG categories included.

Company Names	
Altria Group Inc	Mondelez International Inc
Campbell Soup Co	Hormel Foods Corp
Hershey Co	General Mills Inc
Calavo Growers Inc	Archer-Daniels-Midland Co
Conagra Brands Inc	Ingredion Inc

- With that list in hand, my approach to analyze J.M. Smucker Company in the context of their peers was to build and ESG criteria from the wider dataset:

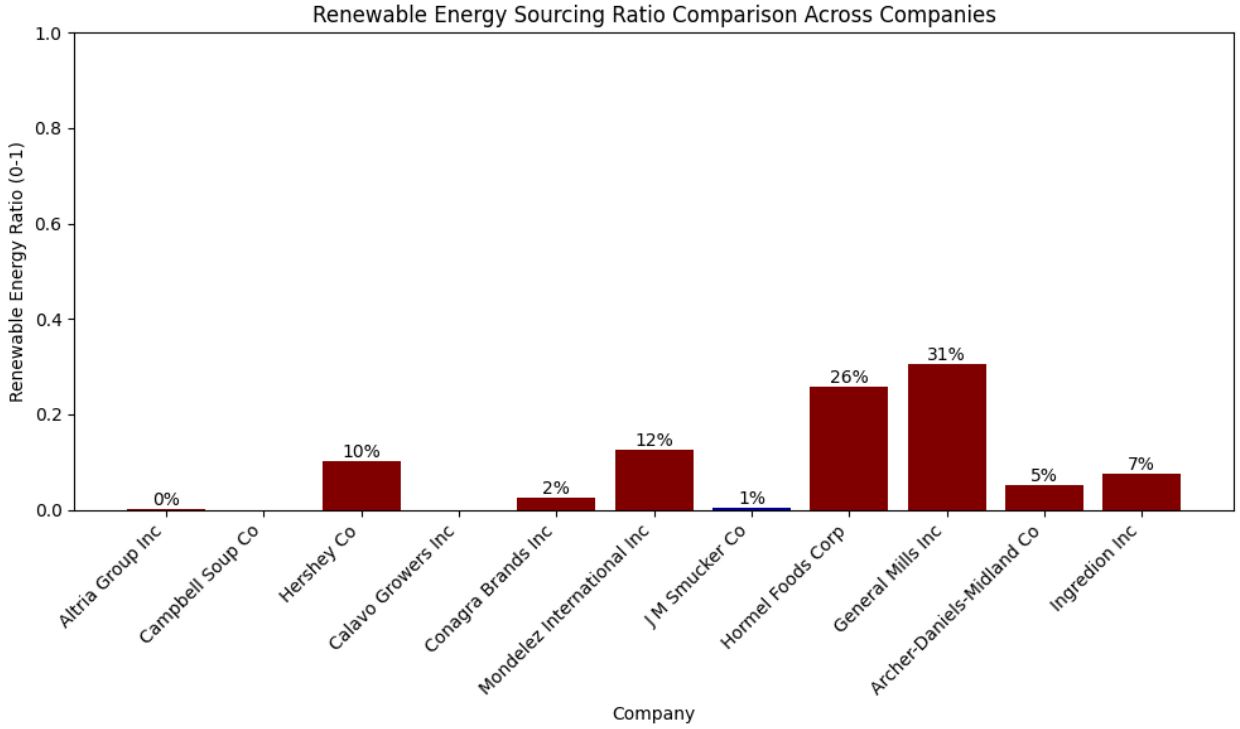
1) Scope 1 Emissions Cross-Comparison (E) – this data analysis component helps chart the magnitude of their direct carbon emissions as compared between peer organizations. The values here are scaled relative to the market cap of each company.



- Noteworthy: here is that while J.M. Smucker is in line with their peers, the emissions have not reduced over the course of their implementation of their climate goals published in 2020.

2) Proportion of Energy from Responsible Sources (E) – All companies require energy to power operations in different amounts, so this is proportional analysis should better

ground the relative level of effort these companies are putting towards a climate-conscious energy mix[7].



- Noteworthy: J.M. Smucker has nuclear power available locally at their headquarters in Ohio but has turned it down[8].

3) Company Diversity in Staff and Leadership Index (S) – Rather than compared to general society, this index compares the target company to its peers in terms of relative rankings for the emphasis placed on diversity in key roles, including management and board representation.

Category	**Overall Industry Ranking**	**Top 10 Ranking**
Black or African American - Ethnic Minorities Employees Percentage	Industry: bottom 25% (15.4th percentile)	Top 10 Peers: bottom 25% (0.0th percentile)
Hispanic or Latino - Ethnic Minorities Employees Percentage:	Industry: bottom 25% (7.3th percentile)	Top 10 Peers: bottom 25% (10.0th percentile)
Other - Ethnic Minorities Employees Percentage:	Industry: bottom 25% (23.4th percentile)	Top 10 Peers: below average (40.0th percentile)

[7] This does presume that renewable energy sources are available locally to these company's operations, which may not be borne out in reality.
[8] Compare Electricity, Akron, OH

Ethnic Minorities Board Percentage:	Industry: below average (26.0th percentile)	Top 10 Peers: bottom 25% (0.0th percentile)

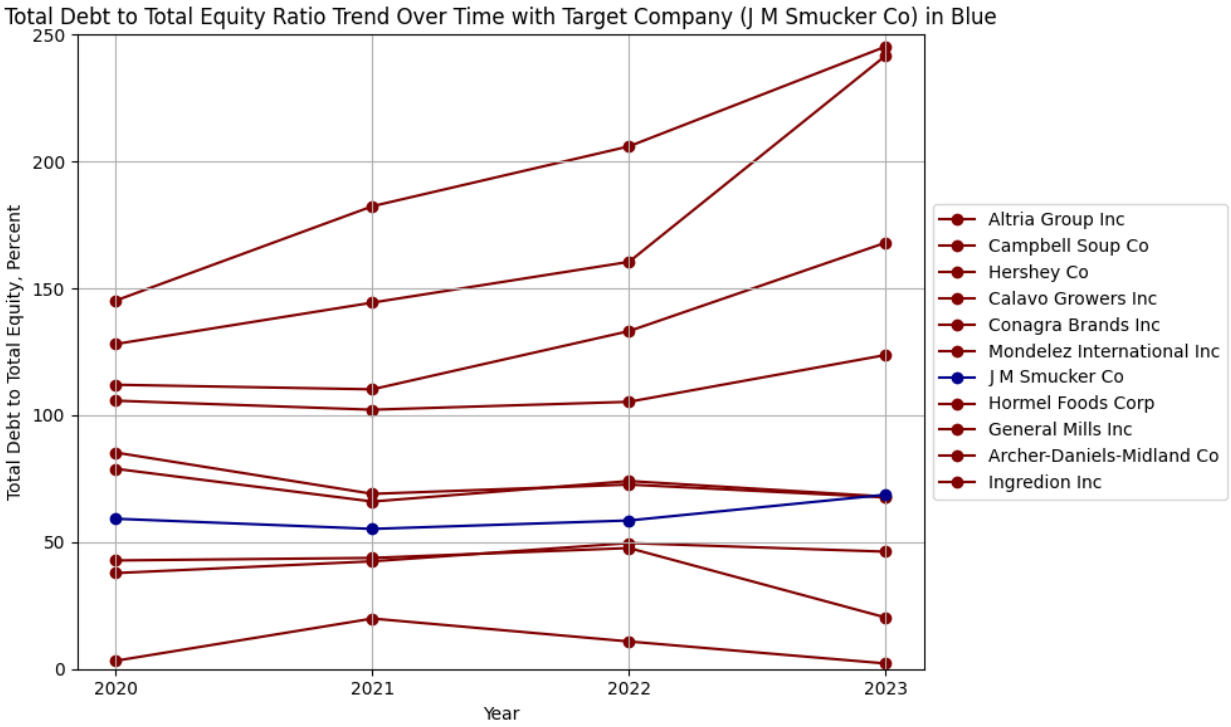
- Noteworthy: there is no category where J.M. Smucker is above the 50th percentile, they are consistently the poorest performing member in their peer group for diversity, particularly diversity in leadership.

4) Employee Quality Experience Index (G) – This index combines several measures that contribute to the overall quality of the employee experience, a key element in my assessment of the governance of the company, with this tool including the employee satisfaction, workplace safety, and union representation among other variables.

Category	**Overall Industry Ranking**	**Top 10 Ranking**
Trade Union Representation:	Industry: below average (43.6th percentile)	Top 10 Peers: below average (30.0th percentile)
No data available for J M Smucker Co in Injuries To Million Hours to calculate its rank.		
No data available for J M Smucker Co in Employee Health & Safety Training Hours to calculate its rank.		
No data available for J M Smucker Co in Employee Satisfaction to calculate its rank.		
No data available for J M Smucker Co in Employee Accidents to calculate its rank.		

- Noteworthy: J.M. Smucker, unlike all the top 10 peer organizations, failed to report on many areas of the employee experience.

5) Total Debt to Total Equity (G) – This fiscal assessment focuses on plotting the debt-to-equity ratio of the company as compared to peers over the 4 years of data in our sample, crystalizing for our analysis the relative level of quality fiduciary management displayed by the corporate leadership team.



- Noteworthy: J.M. Smucker, despite shedding divisions and selling food brands has consistently ranked as one of the most stable financially among peer organizations.

Overall Thesis:

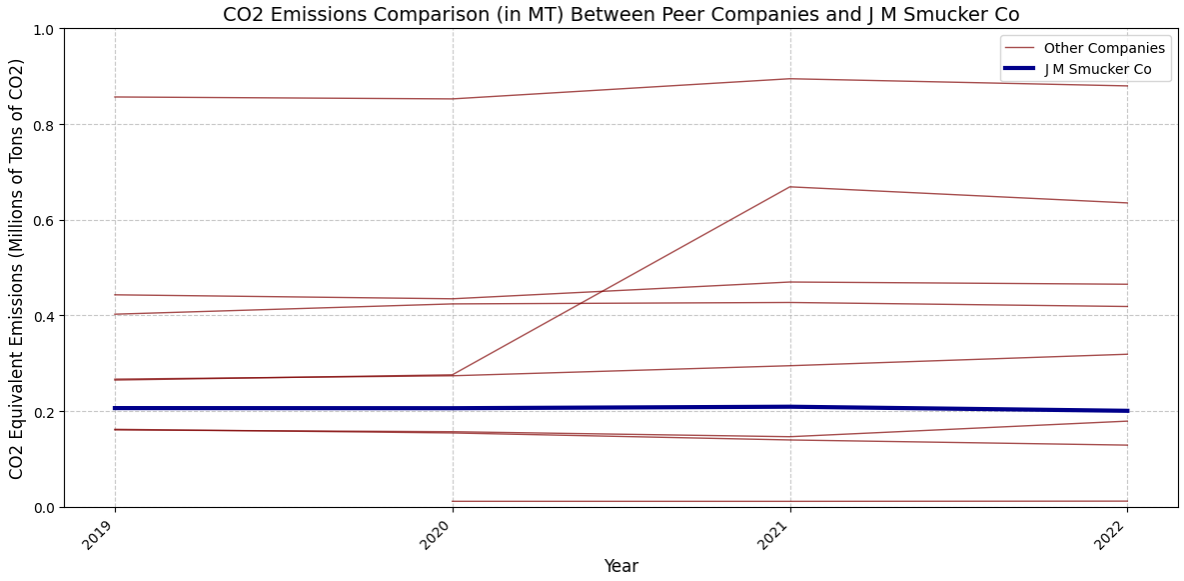
The numbers for J.M. Smucker, particularly those related to environmental responsibility and diversity, paint a very negative picture of J.M. Smucker from an ESG lense. They **are to be considered a laggard in the field of ESG**, only paying lip service to the principles of ESG, though they do carry a reasonable degree of financial health. It may be possible for them to improve in several key areas, and it could be argued that their diversity challenges are a reflection of being headquartered in a homogenous community in Ohio, however their lack of data disclosure, consistent follow through, and overall lack of serious dedication to ESG beyond boilerplate language make it difficult to see a path forward.

ESG & Impact Investing – Assignment 1: Vail Resorts Quantitative Analysis

```
# Set-up steps
import pandas as pd
import numpy as np
import warnings
import textwrap
from pandas.errors import SettingWithCopyWarning

warnings.filterwarnings("ignore", category=SettingWithCopyWarning)
esg_df = pd.read_csv("Assignment 1/Assignment_1.csv")
```

```
# Organizing our data to manageable levels (a)
target_company = 'J M Smucker Co'
target_attributes = {'Consumer Non-Cyclicals', 'Food & Beverages', 'Food & Tobacco'}

select_peers_df = esg_df[(esg_df['TRBC Economic Sector Name'].isin(target_attributes)) &
                         (esg_df['TRBC Business Sector Name'].isin(target_attributes)) &
                         (esg_df['TRBC Industry Group Name'].isin(target_attributes))
                ]

# checking for how complete the data is
select_peers_df.loc[:, 'Percent_Missing'] = select_peers_df.isnull().sum(axis=1) / len(selec

# once we know how much of the data is missing, we will pull the companies with the least am
select_peers_df_sorted = select_peers_df.sort_values(by='Percent_Missing')
top10_selectedcomp = select_peers_df_sorted.head(11)

# Confirm if the target is in this top 10 list
target_company_data = select_peers_df[select_peers_df['Company Common Name'] == target_compa
if target_company not in top10_selectedcomp['Company Common Name'].values:
    # If not, drop the last row of the top 10 and add the target company
```

```
plt.yticks(fontsize=10)
plt.ylim(0,1)
plt.grid(True, linestyle="--", alpha=0.7)
plt.legend(fontsize=10)
plt.tight_layout()
plt.gca().ticklabel_format(style='plain', axis='y')
plt.show()
```




```
# Data analysis on key ESG Metrics (c) - Proportion of Energy from Responsible Sources
top10_selectedcomp['energy_comp'] = top10_selectedcomp['Renewable Energy Purchased']/top10_se

# Plotting
plt.figure(figsize= (10, 6))
for company in top10_selectedcomp['Company Common Name']:
    color = 'maroon'  # Default color for other companies
    if company == target_company:
        color = 'darkblue'  # Target company color

    ratio = top10_selectedcomp[top10_selectedcomp['Company Common Name'] == company]['energy_
    plt.bar(company, ratio, color=color)

plt.xlabel("Company")
plt.ylabel("Renewable Energy Ratio (0-1)")
plt.title("Renewable Energy Sourcing Ratio Comparison Across Companies")
```

```
def extract_years(df):
    years = []
    for col in df.columns:
        match = re.search(r"(\d{4})", col)
        if match:
            years.append(int(match.group(1)))
    return sorted(list(set(years)))

def get_emissions_data(df, years):
    emissions_data = {}
    for index, row in df.iterrows():
        company = row['Company Common Name']
        emissions = []
        for year in years:
            for col in df.columns:
                match = re.search(r"(\d{4})", col)
                if match and int(match.group(1)) == year:
                    emissions.append(df.loc[index, col])
                    break
            else:
                emissions.append(None)  # Handle missing years
        emissions_data[company] = emissions
    return emissions_data

# testing the years and setting targets
selected_years = extract_years(top10_selectedcomp)
selected_emissions = get_emissions_data(top10_selectedcomp, selected_years)

# plotting
plt.figure(figsize=(12, 6))
for company, emissions in selected_emissions.items():
    emissions_millions = [e / 1000000 if e is not None else None for e in emissions]  #handle

    if company == target_company:
        plt.plot(selected_years, emissions_millions, color="darkblue", linewidth=3, label=tar
    else:
        plt.plot(selected_years, emissions_millions, color="maroon", alpha=0.7, linewidth=1,

plt.xlabel("Year", fontsize=12)
plt.ylabel("CO2 Equivalent Emissions (Millions of Tons of CO2)", fontsize=12)
plt.title(f"CO2 Emissions Comparison (in MT) Between Peer Companies and {target_company}", fo
plt.xticks(selected_years, rotation=45, ha="right", fontsize=10)
```

```
    top10_selectedcomp = pd.concat([top10_selectedcomp.iloc[:-1], target_company_data])
elif target_company in top10_selectedcomp['Company Common Name'].values:
    print(f"yes, {target_company} is already in the top 10 list.")


# outputting our results
max_line_length = 80
company_names = ', '.join(top10_selectedcomp['Company Common Name'].tolist())
wrapped_names = textwrap.fill(company_names, width=max_line_length)

print(f"There are {len(select_peers_df)} possible comparable companies to explore.")
print(f"Our 10 companies of study will be: \n{wrapped_names}")
```

```
yes, J M Smucker Co is already in the top 10 list.
There are 50 possible comparable companies to explore.
Our 10 companies of study will be:
Altria Group Inc, Campbell Soup Co, Hershey Co, Calavo Growers Inc, Conagra
Brands Inc, Mondelez International Inc, J M Smucker Co, Hormel Foods Corp,
General Mills Inc, Archer-Daniels-Midland Co, Ingredion Inc
```

The rationale for the proces above is to isolate the companies that are comparable to JM Smucker in terms of their TRBC designations. This filtration process produced 50 companies, from which I sorted to find the companies with the most available ESG data and selected the top 10 to allow for easier comparison in the rest of this analysis.

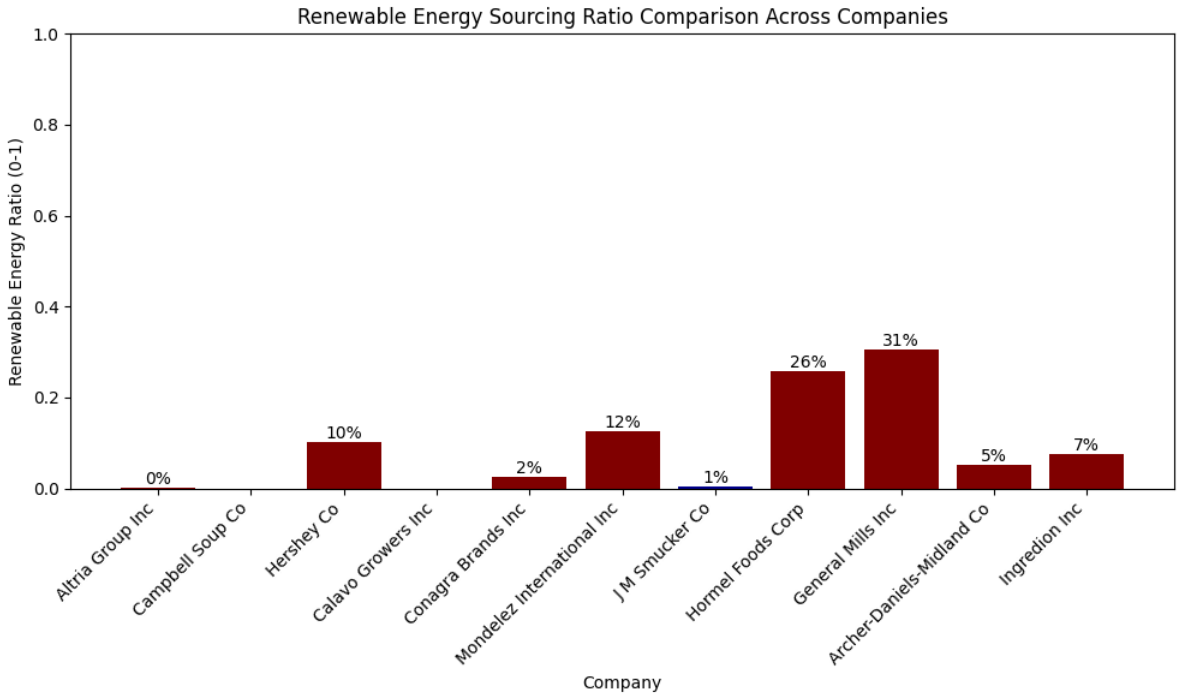
Identifying Select Key ESG Metrics (b)

1) Scope 1 Emissions Cross-Comparison (E)
2) Proportion of Energy from Responsible Sources (E)
3) Company Diversity in Staff and Leadership Index (S)
4) Employee Quality Experience Index (S)
5) Total Debt to Total Equity (G)

```
# Data analysis on key ESG Metrics (c) - Scope 1 Emissions
import matplotlib.pyplot as plt
import re

# fixing the emissions values to the relevant years
```

```
plt.xticks(rotation=45, ha= 'right')
plt.ylim(0, 1)
plt.tight_layout()

# Add values on top of bars
for company in top10_selectedcomp['Company Common Name']:
    ratio = top10_selectedcomp[top10_selectedcomp['Company Common Name'] == company]['energy
    percentage = ratio * 100
    plt.text(company, ratio, f"{percentage:.0f}%", ha='center', va='bottom')

plt.show()
```

```
posx and posy should be finite values
posx and posy should be finite values
posx and posy should be finite values
posx and posy should be finite values
```




```
# Data analysis on key ESG Metrics (c) -- Company Diversity in Staff and Leadership Index
# building my own index for GSE
```

```
diversity_metrics = [
    'Black or African American - Ethnic Minorities Employees Percentage',
    'Hispanic or Latino - Ethnic Minorities Employees Percentage',
    'Other - Ethnic Minorities Employees Percentage',
    'Ethnic Minorities Managers Percentage',
    'Ethnic Minorities Board Percentage'
]

# building an evaluation function for the diversity metrics above
def compare_to_industry(df, target_company, diversity_metrics, top10_selectedcomp=None): #Ado
    target_data = df[df['Company Common Name'] == target_company].iloc[0]
    results = {}  # Dictionary to store results for summary print

    for metric in diversity_metrics:
        if metric not in df.columns:
            print(f"Warning: Metric '{metric}' not found in the data. Skipping.")
            continue

        if pd.isna(target_data[metric]):
            print(f"No data available for {target_company} in {metric} to calculate its rank
            continue

        industry_data = df[df['Company Common Name'] != target_company][metric]
        industry_percentile_rank = (industry_data < target_data[metric]).sum() / len(industry
        industry_category = categorize_rank(industry_percentile_rank)

        top10_percentile_rank = None
        top10_category = None

        if top10_selectedcomp is not None: #Only do the calculation if it is not none.
            try:
                top10_data = top10_selectedcomp[top10_selectedcomp['Company Common Name'] !=
                top10_percentile_rank = (top10_data < target_data[metric]).sum() / len(top10_
                top10_category = categorize_rank(top10_percentile_rank)
            except KeyError:
                print(f"Warning: Metric '{metric}' not found in top 10 data. Skipping peer co
        else:
            print("top10_selectedcomp is not defined, skipping peer comparison.")

        print(f"\n{metric} Ranking for {target_company}:")
        print(f"Compared to the industry: {industry_category} ({industry_percentile_rank:.1f}
        if top10_percentile_rank is not None:
```

```
            print(f"Compared to top 10 peers: {top10_category} ({top10_percentile_rank:.1f}t

        results[metric] = {  # Store results for summary
            "industry_category": industry_category,
            "industry_percentile_rank": industry_percentile_rank,
            "top10_category": top10_category,
            "top10_percentile_rank": top10_percentile_rank
        }
    return results

def categorize_rank(percentile_rank):
    if percentile_rank >= 90:
        return "top 10%"
    elif percentile_rank >= 75:
        return "top 25%"
    elif percentile_rank >= 50:
        return "above average"
    elif percentile_rank >= 25:
        return "below average"
    else:
        return "bottom 25%"

# exploring our target company rankings
diversity_results = compare_to_industry(esg_df, target_company, diversity_metrics, top10_sele

print("\n--- Summary ---")
for metric, data in diversity_results.items():
    print(f"{metric}:")
    print(f"  Industry: {data['industry_category']} ({data['industry_percentile_rank']:.1f}t
    if data["top10_category"] is not None:
        print(f"  Top 10 Peers: {data['top10_category']} ({data['top10_percentile_rank']:.1f
```

```
Black or African American - Ethnic Minorities Employees Percentage Ranking for J M Smucker Co
Compared to the industry: bottom 25% (15.4th percentile).
Compared to top 10 peers: bottom 25% (0.0th percentile).

Hispanic or Latino - Ethnic Minorities Employees Percentage Ranking for J M Smucker Co:
Compared to the industry: bottom 25% (7.3th percentile).
Compared to top 10 peers: bottom 25% (10.0th percentile).

Other - Ethnic Minorities Employees Percentage Ranking for J M Smucker Co:
```

```
Compared to the industry: bottom 25% (23.4th percentile).
Compared to top 10 peers: below average (40.0th percentile).
No data available for J M Smucker Co in Ethnic Minorities Managers Percentage to calculate it

Ethnic Minorities Board Percentage Ranking for J M Smucker Co:
Compared to the industry: below average (26.0th percentile).
Compared to top 10 peers: bottom 25% (0.0th percentile).

--- Summary ---
Black or African American - Ethnic Minorities Employees Percentage:
  Industry: bottom 25% (15.4th percentile)
  Top 10 Peers: bottom 25% (0.0th percentile)
Hispanic or Latino - Ethnic Minorities Employees Percentage:
  Industry: bottom 25% (7.3th percentile)
  Top 10 Peers: bottom 25% (10.0th percentile)
Other - Ethnic Minorities Employees Percentage:
  Industry: bottom 25% (23.4th percentile)
  Top 10 Peers: below average (40.0th percentile)
Ethnic Minorities Board Percentage:
  Industry: below average (26.0th percentile)
  Top 10 Peers: bottom 25% (0.0th percentile)
```

```python
# Data analysis on key ESG Metrics (c) -- Employee Quality Experience Index
# Employee indicators of interest

employee_metrics = [
    'Trade Union Representation',
    'Injuries To Million Hours',
    'Employee Health & Safety Training Hours',
    'Employee Satisfaction',
    'Employee Accidents'
]

# exploring our target company rankings
employee_metrics = compare_to_industry(esg_df, target_company, employee_metrics, top10_selec

print("\n--- Summary ---")
for metric, data in employee_metrics.items():
    print(f"{metric}:")
    print(f"  Industry: {data['industry_category']} ({data['industry_percentile_rank']:.1f}t
    if data["top10_category"] is not None:
        print(f"  Top 10 Peers: {data['top10_category']} ({data['top10_percentile_rank']:.1f
```

```
Trade Union Representation Ranking for J M Smucker Co:
Compared to the industry: below average (43.6th percentile).
Compared to top 10 peers: below average (30.0th percentile).
No data available for J M Smucker Co in Injuries To Million Hours to calculate its rank.
No data available for J M Smucker Co in Employee Health & Safety Training Hours to calculate
No data available for J M Smucker Co in Employee Satisfaction to calculate its rank.
No data available for J M Smucker Co in Employee Accidents to calculate its rank.

--- Summary ---
Trade Union Representation:
  Industry: below average (43.6th percentile)
  Top 10 Peers: below average (30.0th percentile)
```

```python
# Data analysis on key ESG Metrics (c) -- Total Debt to Total Equity
# There are several columns with the same name, missing the year labels so here we must add t
from matplotlib.colors import ListedColormap
year_columns = [col for col in top10_selectedcomp.columns if 'Total Debt to Total Equity, Per
year_columns.sort()
years = [2020, 2021, 2022, 2023]

# Plotting
maroon_cmap = ListedColormap(["#800000", "#8B0000", "#A0522D", "#B22222", "#C41E3A", "#DC143C
num_other_companies = len([c for c in top10_selectedcomp['Company Common Name'] if c != targe
maroon_shades = maroon_cmap(range(num_other_companies))
company_index = 0

plt.figure(figsize= (10, 6))
for company in top10_selectedcomp['Company Common Name']:
    color = 'maroon'  # Default color for other companies
    alpha = 1.0
    if company == target_company:
        color = 'darkblue'
        zorder = 2
    else:
        zorder = 1
        alpha= 0.5
        color = maroon_shades[company_index]  # Use a shade from the colormap
        company_index += 1

    company_data = top10_selectedcomp[top10_selectedcomp['Company Common Name'] == company][y
    plt.plot(years, company_data, marker='o', color=color, label=company, zorder= zorder, alp
```

```
plt.xlabel("Year")
plt.ylabel("Total Debt to Total Equity, Percent")
plt.ylim(0, 250) # values greater than 250% pull the chart awkwardly
plt.title(f"Total Debt to Total Equity Ratio Trend Over Time with Target Company ({target_co
plt.xticks(years)
plt.legend(loc='center left', bbox_to_anchor=(1, 0.5))
plt.grid(True)
plt.tight_layout()
plt.show()
```