

Appendix

- Quick notes on ESG
- Data (input data and data transformation)
- FPG Matrix Calculations
- Details of Top Pick

Quick Notes on ESG

- Environmental, social, and governance (ESG) investing refers to a set of standards for a company's behavior used by socially conscious investors to screen potential investments.
- Source: Investopedia.com

Environmental	Social	Governance
<ul style="list-style-type: none"> • Environmental issues may include corporate climate policies, energy use, waste, pollution, natural resource conservation, and treatment of animals. • ESG considerations can also help evaluate any environmental risks a company might face and how the company is managing those risks. • Considerations may include direct and indirect greenhouse gas emissions, management of toxic waste, and compliance with environmental regulations. 	<ul style="list-style-type: none"> • Social aspects look at the company's relationships with internal and external stakeholders. • Does it hold suppliers to its own ESG standards? Does the company donate a percentage of its profits to the local community or encourage employees to perform volunteer work there? Do workplace conditions reflect a high regard for employees' health and safety? Or does the company take unethical advantage of its customers? 	<ul style="list-style-type: none"> • ESG governance standards ensure a company uses accurate and transparent accounting methods, pursues integrity and diversity in selecting its leadership, and is accountable to shareholders.⁶ • ESG investors may require assurances that companies avoid conflicts of interest in their choice of board members and senior executives, don't use political contributions to obtain preferential treatment, or engage in illegal conduct.

- **Input data:**

- Source:
<https://www.kaggle.com/datasets/patrickgaspar/fossil-free-funds>
- The input data has 110,510 rows and 121 columns
- For each fund the following details are provided:
 - Fund profile (fund name and fund net asset)
 - Financial performance (returns for year 1, returns for year 3 and returns for year 5)
 - ESG Score (Fossil fuel ESG Score, Deforestation ESG Score, Gender equality ESG Score, Civilian firearm ESG Score, Military weapon ESG Score, Tobacco ESG Score and Prison industrial complex ESG Score)

- **Data treatment:**

- There are only 75 unique Fund name
- Hence for each fund the **median** of fund net asset, returns for year 1, returns for year 3, returns for year 5 and ESG Score is calculated
- Financial performance:
 - **Top:** the fund was in top 20% based on returns. There are 6 funds in top
 - **Mid:** fund was between 20%ile and 50%ile based on returns or Missing. There are 24 funds in mid
 - **Bottom:** the fund was in bottom 50% based on returns. There are 45 funds in bottom
- ESG Score:
 - **Top:** ESG Score is A or B. There are 4 funds in top
 - **Mid:** ESG Score is C or D or E or Missing. There are 31 funds in mid
 - **Bottom:** ESG Score is F. There are 40 funds in bottom

	Financial Performance	ESG Score
Top	<ul style="list-style-type: none">• returns for year 1 > 18.114 (top 20%ile)• returns for year 3 > 12.091 (top 20%ile)• returns for year 5 > 12.786 (top 20%ile)	<ul style="list-style-type: none">• Fossil fuel ESG Score = A or B• Deforestation ESG Score = A or B• Gender equality ESG Score = A or B• Civilian firearm ESG Score = A or B• Military weapon ESG Score = A or B• Tobacco ESG Score = A or B• Prison industrial complex ESG Score = A or B
Mid	<ul style="list-style-type: none">• 9.800 < returns for year 1 <= 18.114• 8.157 < returns for year 3 <= 12.091• 9.435 < returns for year 5 <= 12.786	<ul style="list-style-type: none">• Fossil fuel ESG Score = C or D or E or Missing• Deforestation ESG Score = C or D or E or Missing• Gender equality ESG Score = C or D or E or Missing• Civilian firearm ESG Score = C or D or E or Missing• Military weapon ESG Score = C or D or E or Missing• Tobacco ESG Score = C or D or E or Missing• Prison industrial complex ESG Score = C or D or E or Missing
Bottom	<ul style="list-style-type: none">• returns for year 1 <= 9.800 (bottom 50%ile)• returns for year 3 <= 8.157 (bottom 50%ile)• returns for year 5 <= 9.435 (bottom 50%ile)	<ul style="list-style-type: none">• Fossil fuel ESG Score = F• Deforestation ESG Score = F• Gender equality ESG Score = F• Civilian firearm ESG Score = F• Military weapon ESG Score = F• Tobacco ESG Score = F• Prison industrial complex ESG Score = F

Details of Top Pick (1/2)

- 75 funds are analyzed:
 - 1 fund is such that it is top of the Financial Performance and mid of the ESG Score
 - 3 funds are such that they are mid of the Financial Performance and top of the ESG Score

Fund profile: Fund name	Fund profile: Category group	Fund profile: Sustainability mandate	Fund profile: US-SIF member	Fund profile: Fund net assets	Financial performance: Month end trailing returns, year 1	Financial performance: Month end trailing returns, year 3	Financial performance: Month end trailing returns, year 5	Pick
Parnassus Core Equity Fund	U.S. Equity Fund	Y	Y	19,238,964,973	14.4	14.0	13.0	Second level
1919 Socially Responsive Balanced Fund	Allocation Funds	Y	Y	276,186,822	16.3	12.1	10.8	Second level
New Alternatives Fund	International Equity Funds	Y	Y	253,028,809	37.5	16.3	15.7	First level
Mirova International Sustainable Equity Fund	International Equity Funds	Y	Y	18,404,542	22.9			Second level
Domini Impact Equity Fund	U.S. Equity Fund	Y	Y	799,581,566	24.8	13.2	12.0	Third level
PAX LARGE CAP FUND	U.S. Equity Fund	Y	Y	761,448,655	18.3	13.9		Third level
Boston Trust Walden Equity Fund	U.S. Equity Fund	Y	Y	253,733,033	11.6	12.0	14.5	Third level
Aspiration Redwood Fund	U.S. Equity Fund	Y	Y	100,113,676	15.0	9.7	18.1	Third level
Boston Common ESG Impact U.S. Equity Fund	U.S. Equity Fund	Y	Y	39,301,388	13.4	9.1	10.5	Third level
Saturna Sustainable Equity Fund	International Equity Funds	Y	Y	12,395,340	21.0	13.1	11.6	Third level
Natixis Sustainable Future 2035 Fund	Allocation Funds	Y	Y	6,609,335	16.6	10.5		Third level
Natixis Sustainable Future 2045 Fund	Allocation Funds	Y	Y	5,268,450	18.3	11.2		Third level
Natixis Sustainable Future 2040 Fund	Allocation Funds	Y	Y	5,112,793	18.0	10.9		Third level
Natixis Sustainable Future 2050 Fund	Allocation Funds	Y	Y	4,320,307	19.1	11.3		Third level
Natixis Sustainable Future 2055 Fund	Allocation Funds	Y	Y	3,329,227	18.1	11.2		Third level
Natixis Sustainable Future 2060 Fund	Allocation Funds	Y	Y	3,201,978	19.1	11.5		Third level

Details of Top Pick (2/2)

- 75 funds are analyzed:
 - 1 fund is such that it is top of the Financial Performance and mid of the ESG Score
 - 3 funds are such that they are mid of the Financial Performance and top of the ESG Score

Fund profile: Fund name	Fund profile: Category group	Fossil Free Funds: Fossil fuel ESG Score	Deforestation Free Funds: Deforestation ESG Score	Gender Equality Funds: Gender equality ESG Score	Gun Free Funds: Civilian firearm ESG Score	Weapon Free Funds: Military weapon ESG Score	Tobacco Free Funds: Tobacco ESG Score	Prison Free Funds: Prison industrial complex ESG Score
Parnassus Core Equity Fund	U.S. Equity Fund	a. top	a. top	a. top	a. top	a. top	a. top	a. top
1919 Socially Responsive Balanced Fund	Allocation Funds	a. top	a. top	a. top	a. top	a. top	a. top	a. top
New Alternatives Fund	International Equity Funds	b. mid	a. top	b. mid	a. top	a. top	a. top	a. top
Mirova International Sustainable Equity Fund	International Equity Funds	a. top	a. top	a. top	a. top	a. top	a. top	a. top
Domini Impact Equity Fund	U.S. Equity Fund	a. top	b. mid	a. top	a. top	a. top	a. top	b. mid
PAX LARGE CAP FUND	U.S. Equity Fund	a. top	b. mid	a. top	a. top	a. top	a. top	b. mid
Boston Trust Walden Equity Fund	U.S. Equity Fund	b. mid	b. mid	a. top	a. top	a. top	b. mid	a. top
Aspiration Redwood Fund	U.S. Equity Fund	a. top	a. top	b. mid	a. top	a. top	a. top	a. top
Boston Common ESG Impact U.S. Equity Fund	U.S. Equity Fund	a. top	b. mid	a. top	a. top	a. top	b. mid	a. top
Saturna Sustainable Equity Fund	International Equity Funds	a. top	a. top	a. top	a. top	a. top	a. top	b. mid
Natixis Sustainable Future 2035 Fund	Allocation Funds	a. top	b. mid	b. mid	a. top	b. mid	a. top	b. mid
Natixis Sustainable Future 2045 Fund	Allocation Funds	a. top	b. mid	b. mid	a. top	b. mid	a. top	b. mid
Natixis Sustainable Future 2040 Fund	Allocation Funds	a. top	b. mid	b. mid	a. top	b. mid	a. top	b. mid
Natixis Sustainable Future 2050 Fund	Allocation Funds	a. top	b. mid	b. mid	a. top	b. mid	a. top	b. mid
Natixis Sustainable Future 2055 Fund	Allocation Funds	a. top	b. mid	b. mid	a. top	b. mid	a. top	b. mid
Natixis Sustainable Future 2060 Fund	Allocation Funds	a. top	b. mid	b. mid	a. top	b. mid	a. top	b. mid