

Harnessing the Power of Data for ESG Investing

Welcome

We will begin promptly at 11 AM ET.

If you are unable to hear the speakers, please let us know in the chat box. You may enter your questions in the Q&A, we will address them at the end of the presentation. You can find a copy of the recording of this webinar at www.fdpinstitute.org/webinars



Financial Data Professional Institute

FDP Institute provides world class training and education to financial professionals to meet the accelerating needs of digital transformation in the industry.



Introductions



Zi Abraham, FDP, MCSI Business Consultant Verrazano Consulting Solutions LLC



Hossein Kazemi, Ph.D., CFA Senior Advisor FDP Institute

Today's Topic:

Harnessing the Power of Data for ESG Investing



Agenda

- 1 ESG Investing
- 2 ESG Data
- 3 ESG Data Challenges
- 4 Can AI help?
- 5 Q & A

What is ESG Investing?

ESG investing involves investing your money in companies that are committed to creating a positive impact on the world.

When making investment decisions, companies' commitment to enhancing performance in environmental, social, and governance areas is considered alongside financial factors.



Taking ESG factors into account for investment management allows for a comprehensive outlook of companies, mitigating risks and identifying opportunities.

Examples of ESG Criteria used by Sustainable Investors

Environmental

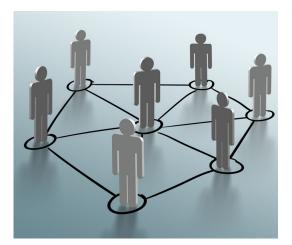
Meeting today's needs without compromising the ability of future generations to meet their needs



- Circular economy
- Water use and conservation
- Climate Change/Carbon/Methane
- Sustainable land use
- Biodiversity
- Plastics
- Clean technology

Social

Creating sustainable successful places that promote wellbeing, by understanding what people need from the places they live and work



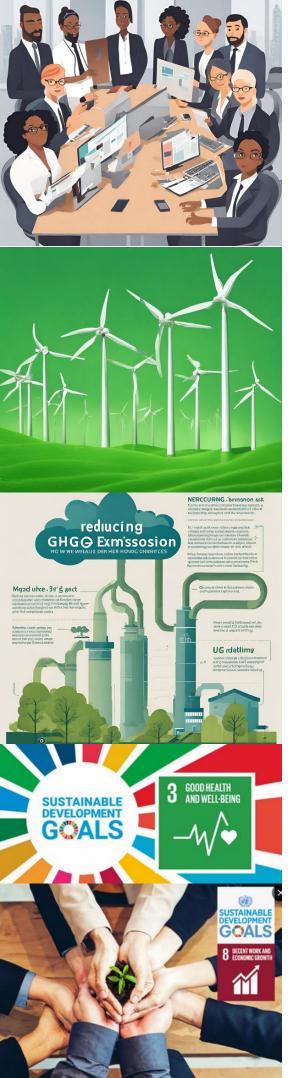
- Human rights
- Labor relations
- Just transition
- Diversity, equity and inclusion
- Workplace benefits

Governance

Links ecological citizenship with institutions and norms of governance addressing the three issues of globalization, democracy and sustainability.



- Tax fairness
- Cyber Security
- Executive compensation
- Responsible political engagement
- Corporate purpose
- Anti-corruption policies
- Board independence



Positive screening refers to the practice of actively selecting investments that meet certain ESG criteria.

- Positive screening provides a proactive approach for values-based investing and for focusing capital on more sustainable companies relative to industry average.
- Common ESG factors considered include GHG emissions, renewable energy use, board diversity, community relations, human rights policy and supply chain monitoring.

Negative screening focuses on limiting exposure to objectionable or unsustainable economic activities rather than a sole emphasis on positive impact.

- Negative screening involves excluding certain companies, sectors or practices based on ESG criteria.
- Common exclusions include tobacco, weapons, fossil fuels, alcohol, gambling, adult entertainment etc.



Alignment to UN Sustainable Development Goals (SDGs) is crucial in directing investments







17 Goals



169

Targets

"Unless we act now, the 2030 Agenda will become an epitaph for a world that might have been."

— António GUTERRES

Secretary-General of the United Nations

- New flows of private sector capital will play a decisive role in funding development efforts. While government spending development assistance will contribute, they are projected to account for no more than \$1 trillion per year.
- To bridge the financing gap, the private sector will need to invest significantly more, either by redirecting existing capital flows or by making new allocations.







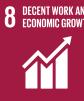


































Climate Change

Most investors prioritize climate change as top ESG issue, protecting portfolios from risks and taking advantage of opportunities for low-carbon, resilient economies.

Companies face greater physical risks due to changing weather patterns, and, transition risks as economies shift towards being less carbon-intensive. These risks could impact a company's expenses, revenues, asset and liability values, as well as the availability and cost of capital.

Regulations Governing ESG Investing

United States:

- SEC fund naming rule funds names could be considered materially deceptive or misleading if a fund does not adopt a policy to invest, under normal circumstances, at least 80% of the value of its assets in the investment focus that the name suggests Sep 2023
- SEC Climate Disclosure Rule would require firms disclose greenhouse gas emissions, climate transition plans, governance and risk management. Awaiting finalization.
- DOL 401(k) plan ESG guidance allows fiduciaries to consider ESG factors when evaluating investment choices but not at the expense of returns. Finalized in 2022.
- SEC Shareholder proposal rules makes it harder for shareholders to demand corporate ESG actions like climate or diversity reports.

European Union:

- EU Sustainable Finance Disclosure Regulation (SFDR) requires financial products and firms to disclose sustainability risks and consider adverse impacts in investment processes. In effect March 2021.
- EU Taxonomy provides criteria for determining if economic activities qualify as environmentally sustainable. Applied beginning 2022.
- EU Corporate Sustainability Reporting Directive (CSRD) requires large companies to report sustainability information. Proposed to take effect in 2023.
- EU Corporate Sustainability Due Diligence Directive (CSDDD) requires companies to identify, mitigate, and report on the impact of their operations and supply chains on human rights and the environment. Applies to both EU and non-EU companies. Proposed to take effect in 2024.

The regulatory focus on ESG reporting and risk management is increasing globally, though remains fragmented across jurisdictions. This could lead to disconnected standards making it difficult to have common objectives across jurisdictions.

Sustainability Standard Setters, Framework Developers and Influential Stakeholders

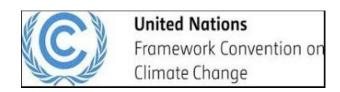
Frameworks provide an overview of the structure and topics to be addressed. Standards provide detailed structures, including specific metrics and detailed criteria.















































Global Sustainable Fund Flows: Q3 2023

03 2023	Flows	Asset	s	Fur	nds
Region	USD Billion	USD Billion	% Total	#	% Total
Europe	15.3	2,293	84	5,608	73
United States	-2.7	299	11	661	9
Asia ex-Japan	2.0	67	2	539	7
Australia/New Zealand	0.0	31	1	268	4
Japan	-0.9	23	1	236	3
Canada	-0.1	31	1	336	4
Total	13.7	2,744		7,648	

Source: Morningstar Direct, Manager Research. Data as of September 2023.

- Global sustainable fund assets stands at USD 2.74 trillion at the end of September 2023.
- Amid greenwashing accusations and regulatory tightening, fewer funds are adding ESG-related terms to their names.
- A growing number of funds are removing ESG-related terms from their names in the U.S., but not in Europe.

Source: Morningstar Global ESG Q3 2023 Flow Report final



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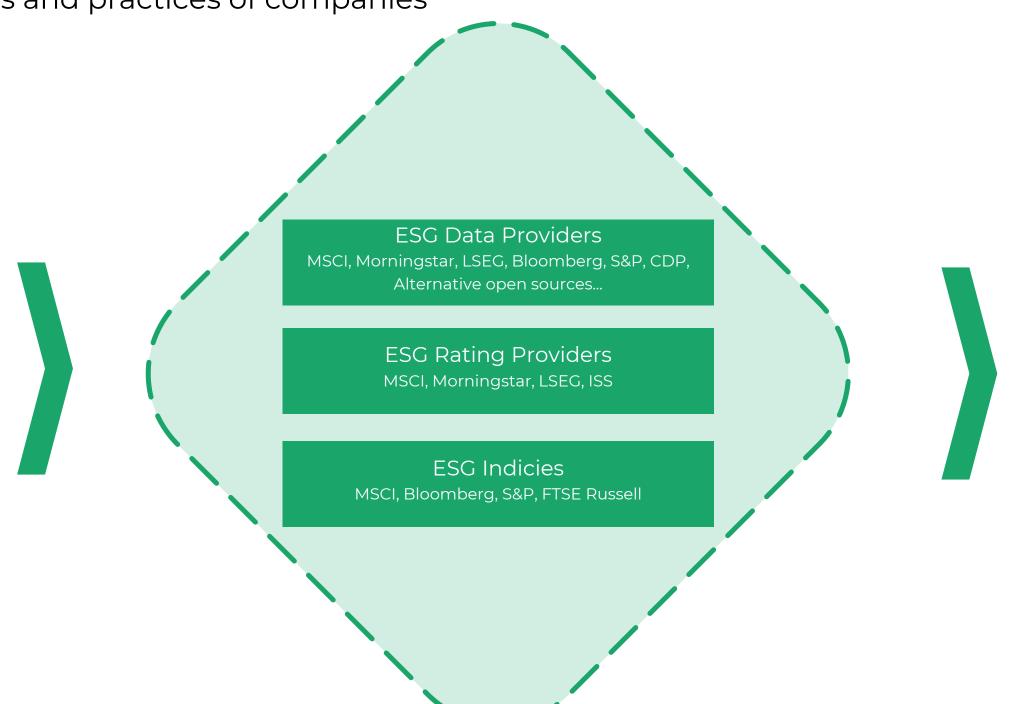
ESG Data

Quantitative or qualitative pieces of information on the environmental, social, economic and/or corporate governance exposures and practices of companies

Company disclosures
Annual reports, CSR reports,
websites, exchange filings..

Company responses Investor queries, information requests, news queries..

Alternative sources of company data



Asset Owners

Individual Investors, Pensions, Insurance Companies, Sovereign Wealth Funds, Endowments & Foundations, Single/Multi Family Offices

Asset Managers

Blackrock, Vanguard, Fidelity, Capital Group, Allianz, Amundi, JPM Chase, Goldman Sachs, UBS, DB

ESG Data Products

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e.g., MSCI provides a wide variety of ESG products and solutions. Here are the key ESG data products

ESG Ratings

ESG Rating is designed to measure a company's resilience to long-term, industry material environmental, social and governance (ESG) risks.



Business Involvement Screening and Global Sanctions

Enables institutional investors to manage environmental, social and governance (ESG) standards and restrictions reliably and efficiently



ESG Controversies allows investors to analyze a company's significant E, S & G impacts by identifying company involvement in major ESG controversies, company's performance and adherence to international norms and principles.



Thousands of Data Points

Power integration of ESG considerations into portfolio construction, analysis, investment strategies, decision-making and reporting



Sustainable Impact Metrics

Identify companies that derive revenues from products or services with positive impact towards addressing each of the UN SDGs

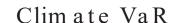


Climate Change Solutions is designed to facilitate climate risk integration across the investment process. It provides forward looking scenario analysis, temperature alignment, emission data, fossil fuel exposure, clean tech solutions.



ESG Fund Ratings

Measures the ESG characteristics of the total portfolio, and rank or screen funds based on a diverse set of ESG exposure categories.



Helps investors to better assess potential future costs and/or profits relating to their portfolio's exposure to future climate change impacts



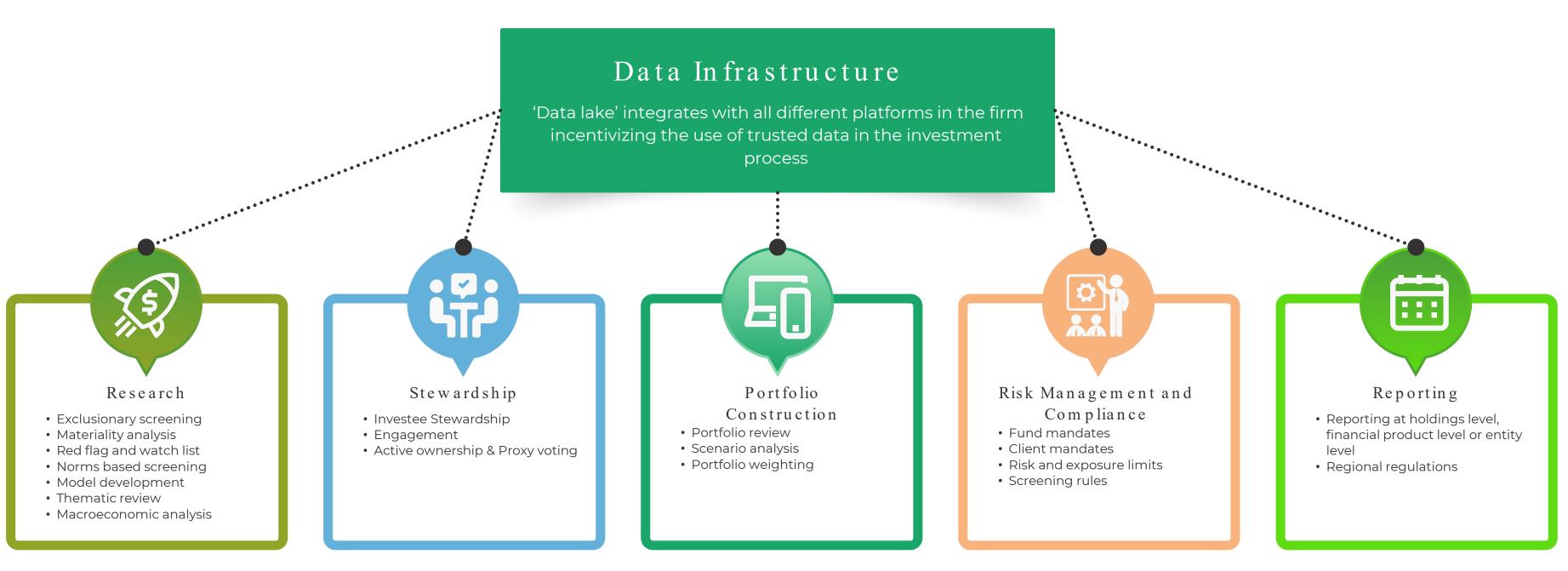
EU Sustainable Finance

EU Sustainable Finance legislative package data supports key legislative streams - SFDR, EU Taxonomy, Enhanced Corporate/Issuer Disclosures...

Source: MSCI Data Explore

Investment Activities

Investors and corporations prioritize consistent, reliable, and comparable sustainability data for their investment processes



Reference: UNPRI Driving Meaning ful Data programme

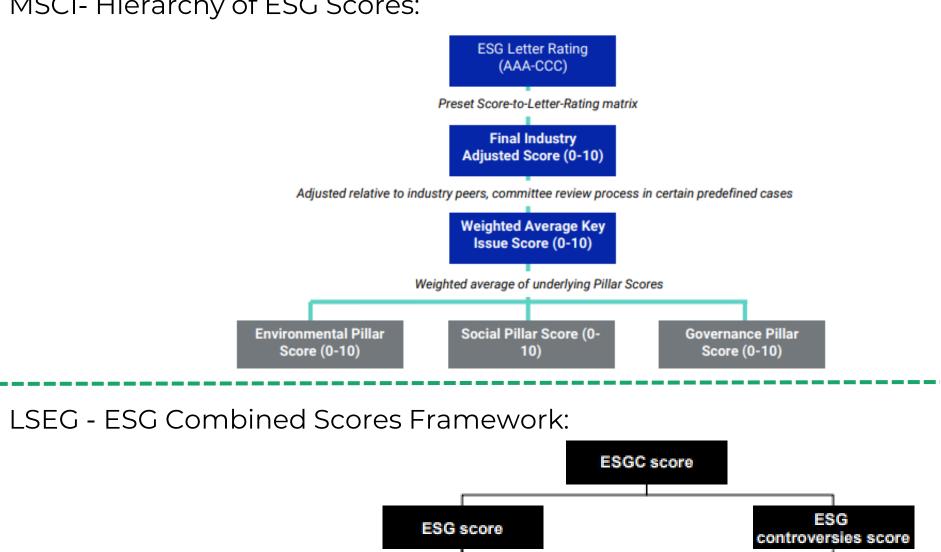
Issuer ESG Ratings Methodology: MSCI and LSEG

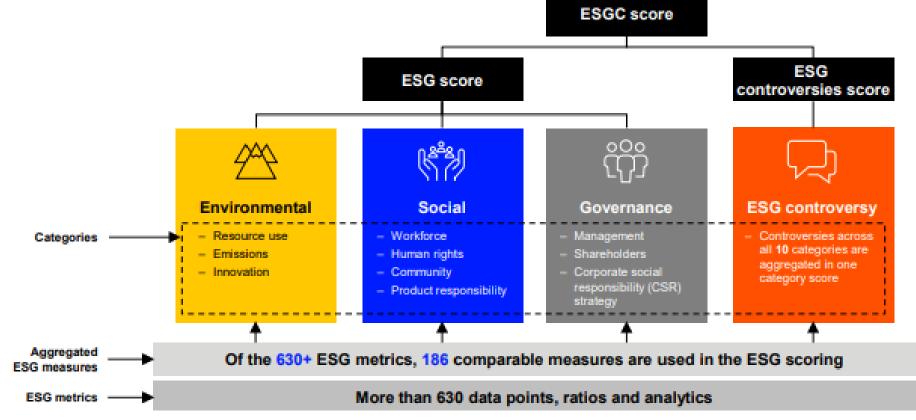
MSCI- ESG Ratings Key Issue hierarchy:

3 Pillars	10 Themes	33 ESG Key Issues	
Environmental		Carbon Emissions	
	Climata Changa	Climate Change Vulnerability	
	Climate Change	Financing Environmental Impact	
		Product Carbon Footprint	
		Biodiversity & Land Use	
	Natural Capital	Raw Material Sourcing	
		Water Stress	
		Electronic Waste	
	Pollution & Waste	Packaging Material & Waste	
		Toxic Emissions & Waste	
		Opportunities in Clean Tech	
	Environmental Opportunities	Opportunities in Green Building	
		Opportunities in Renewable Energy	
		Health & Safety	
	Human Canital	Human Capital Development	
	Human Capital	Labor Management	
		Supply Chain Labor Standards	
		Chemical Safety	
		Consumer Financial Protection	
Castal	Product Liability	Privacy & Data Security	
Social		Product Safety & Quality	
		Responsible Investment	
	Stakeholder Opposition	Community Relations	
	Stakeholder Opposition	Controversial Sourcing	
		Access to Finance	
	Social Opportunities	Access to Health Care	
		Opportunities in Nutrition & Health	
		Board	
	0	Pay	
Governance	Corporate Governance	Ownership & Control	
Governance		Accounting	
	Corporate Bahaviles	Business Ethics	
	Corporate Behavior	Tax Transparency	

Source: MSCI ESG Ratings Methodology -June 2023

MSCI- Hierarchy of ESG Scores:





Source: LSEG ESG Scores Methodology

Issuer ESG Ratings

MSCI's ESG Ratings and Climate Search Tool

https://www.msci.com/our-solutions/esg-investing/esg-ratings-climate-search-



Universe: MSCI ACWI Index constituents automobiles, (70

companies)

Tesla

Key Issues distribution in relation to industry peers

We focus on the key issues material to the automobiles industry. Here is how Tesla compares to industry peers. For more details, visit the ESG investing page.

ESG LAGGARD	AVERAGE	ESG LEADER
PRODUCT SAFETY & QUALITY OTO OTO OTO OTO OTOTO OTOT	CORPORATE GOVERNANCE CORPORATE BEHAVIOR PRODUCT CARBON FOOTPRINT	OPPORTUNITIES IN CLEAN TECH

Sustainalytics Company ESG Risk Ratings

https://www.sustainalytics.com/esg-rating

ESG Risk Rating

COMPREHENSIVE ?

Negligible	Low	Medium	High	Severe
0-10	10-20	20-30	30-40	40+

Last Full Update: Jul 14, 2023 Last Update: Nov 23, 2023 (?)

Ranking

Industry Group (1st = lowest risk)

Automobiles

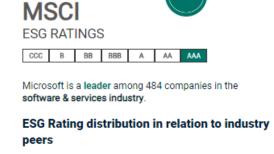
46 out of 89

Universe

Global Universe

7860 out of 15718

Microsoft



Universe: MSCI ACWI Index constituents software & services,

(484 companies)

AVERAGE

AAA

LEADER

Key Issues distribution in relation to industry peers

We focus on the key issues material to the software & services industry. Here is how Microsoft compares to industry peers. For more details, visit the ESG investing page.

ESG LAGGARD	AVERAGE	ESG LEADER
CORPORATE BEHAVIOR	CORPORATE GOVERNANCE	HUMAN CAPITAL DEVELOPMENT
		PRIVACY & DATA SECURITY
		OPPORTUNITIES IN CLEAN TECH

ESG Risk Rating

COMPREHENSIVE 0

Negligible	Low	Medium
0-10	10-20	20-30

High Severe 30-40 40 +

Last Full Update: Aug 30, 2023 Last Update: Oct 28, 2023 (?)

Ranking

Industry Group (1st = lowest risk)

Software & Services

67 out of 1101

Universe

Global Universe

1747 out of 15718

ESG Fund Ratings

MSCI's ESG Fund Ratings and Climate Search Tool

https://www.msci.com/our-solutions/esg-investing/esg-fund-ratings-climate-search-tool/funds/

American Funds New Economy Fund; A

(ANEFX)

Peer Group: Equity Global Domicile: USA

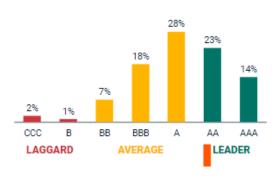
Holdings as of: September 30, 2023 As of date: November 26, 2023

Impact of ESG Issues



ESG Rating distribution of fund holdings

37% of the fund's holdings receive an MSCI ESG Rating of AAA or AA (ESG Leaders) and 2% receive an MSCI ESG Rating of B or CCC (ESG Laggards).



Peer and global rank

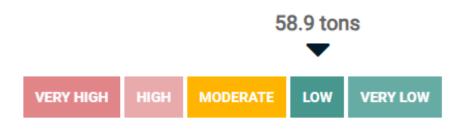
The fund ranks in the 23rd percentile within the Equity Global peer group and in the 60th percentile within the global universe of approximately 34,000 funds in coverage.



Climate Risk and Opportunities Weighted average carbon intensity

(tCO2e / \$m sales)

The fund's holdings have low carbon intensity, based on the weighted average carbon emissions per USD million sales.



Green vs. Fossil Fuel-Based Revenue

We classify 3.5% of the total revenue generated by the fund's holdings as green (e.g. alternative energy) and 0.6% of total revenue as fossil fuel-based (e.g. thermal coal).



Parnassus Core Equity Fund; Investor

(PRBLX)

Peer Group: Equity US Income Domicile: USA

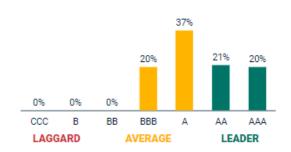
Holdings as of: September 30, 2023 As of date: November 26, 2023

Impact of ESG Issues



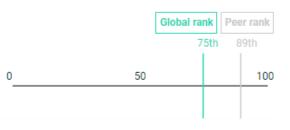
ESG Rating distribution of fund holdings

42% of the fund's holdings receive an MSCI ESG Rating of AAA or AA (ESG Leaders) and 0% receive an MSCI ESG Rating of B or CCC (ESG Laggards).



Peer and global rank

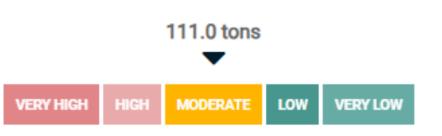
The fund ranks in the 89th percentile within the Equity US Income peer group and in the 75th percentile within the global universe of approximately 34,000 funds in coverage.



Climate Risk and Opportunities Weighted average carbon intensity

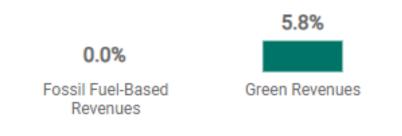
(tCO2e / \$m sales)

The fund's holdings have moderate carbon intensity, based on the weighted average carbon emissions per USD million sales.



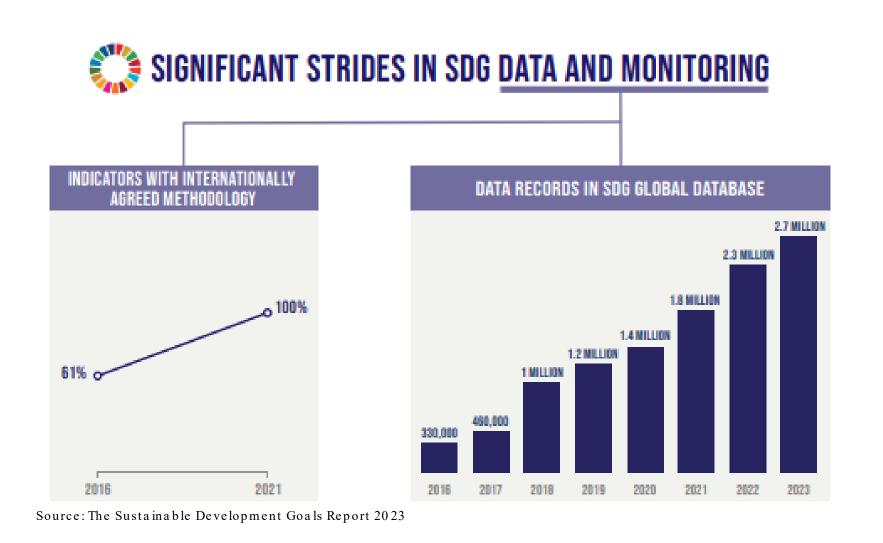
Green vs. Fossil Fuel-Based Revenue

We classify 5.8% of the total revenue generated by the fund's holdings as green (e.g. alternative energy) and 0.0% of total revenue as fossil fuel-based (e.g. thermal coal).



Importance of data: UN Sustainable Development Goals (SDGs)

Data plays a pivotal role in shaping policies and driving meaningful change.





- Investing in improved data infrastructure is crucial in facilitating a rescue plan for both people and the planet.
- With the world grappling with multiple crises in areas such as health, food, energy and climate change, better data is needed to support informed policymaking.
- Need to have efficient monitoring and reporting mechanisms in place, to track progress towards achieving the Sustainable Development Goals (SDGs).
- \$5.4 and \$6.4 trillion annual investment is needed to achieve the UN Sustainable Development Goals by 2030



Understanding Investor Data Expectations

Improve Quality of Data

The Importance of keeping Up-to-Date approaches in data provision. It's crucial for data providers to regularly update their methods to keep up with the latest scientific advancements.



Illuminating data through myriad dimensions

Data providers must offer multidimensional data to evaluate a company's exposure, management, industry specific issues etc.

Expand Coverage

Data providers should expand coverage to include other asset classes without sacrificing data quality standards.



SHOW ME IT'S GOOD!

Data is the key for unlocking ESG integration into the investment management process and it is fair to have minimum standard expectations



Provision for overriding data

Clients can improve their investment accuracy by having control over input data, allowing them to use their own research and expertise while maintaining consistency across all tools.



Report on key indicators

Provide data for all key indicators required for mandatory regulatory reporting

Enhance Data Granularity

Data providers play a crucial role in assisting investors by providing granular data to assess key issue details, alignment, facilitate engagement, set targets, monitor progress, and produce reports.



Provide Historical and Futuristic Data

Developing portfolio monitoring methodologies and tools that precisely track the improvement of holding and portfolio level metrics, and highlight the drivers behind trends and projections



Embrace Global Standards and Frameworks

Integrating ESG considerations and methodologies is essential for data providers, and should align with established best practices, relevant standards, and guidance.

Greatest Challenges with Incorporating ESG Data

1. Data consistency

Overcoming lack of consistency in ESG scores

2. Resource intensive

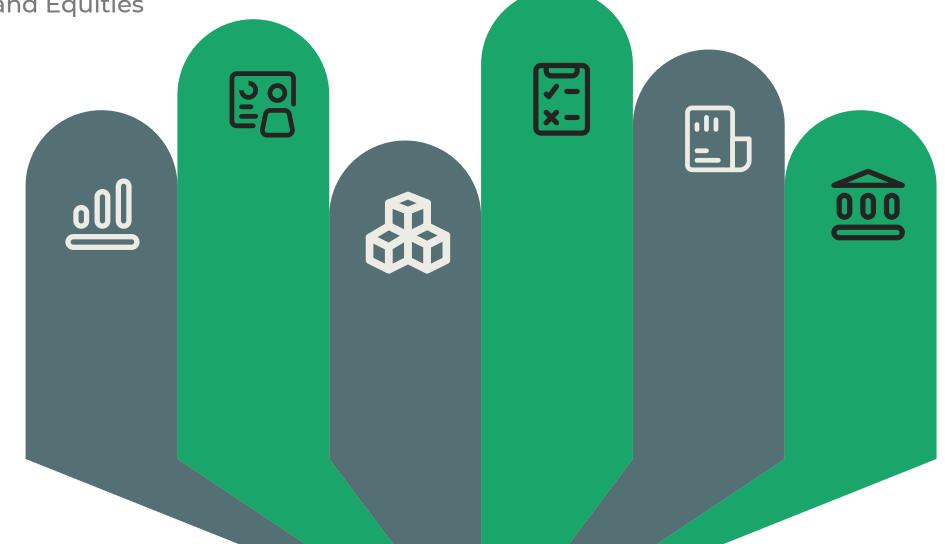
Significant effort required to aggregate, cleanse, interpret and analyze

3. Uneven coverage

Differences in coverage by asset class, region or provider. More focus on NA, EU and Equities

5. Historical data

Backward-looking ESG data may not reflect current or future risks. Forward-looking analysis is limited.



4. Rapid evolution

ESG metrics and frameworks are constantly shifting and advancing

6. Fitment to defined purpose

Alignment with product objectives, client mandates and firm's definitions, standards and principles

Overcoming Data Difficulties





Internal Solutions

Building in-house data tools with a focus on capturing alternative data and synthesizing into investment workflows.



Multiple data sources

Accessing ESG data from multiple sources rather than relying on a single data provider





Internal research

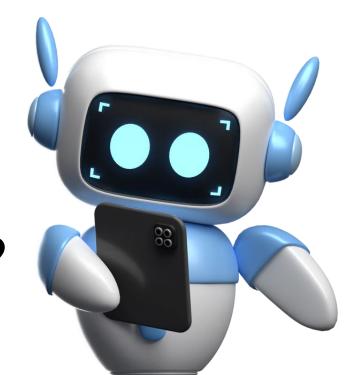
Conducting proprietary research, analysis and rating/scoring





Active engagements

Having direct engagement with companies to get disclosure on financially material ESG metrics

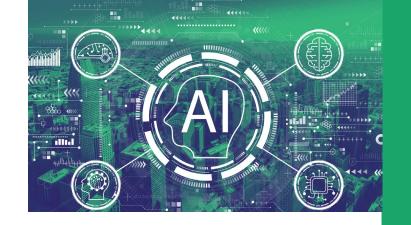


Can AIhelp?





The AI Landscape



Current State of AI

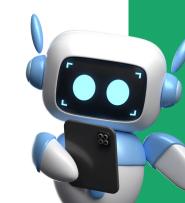
 Advances in deep learning techniques for computer vision, speech recognition, and natural language processing, combined with greater access to data and compute power, are fueling broader Al adoption and building excitement and promise.

AI Trends

• Al is being integrated into various industries and business functions for automation, augmentation of existing processes, discovering new insights, and making intelligent predictions from data.

AI in Asset Management

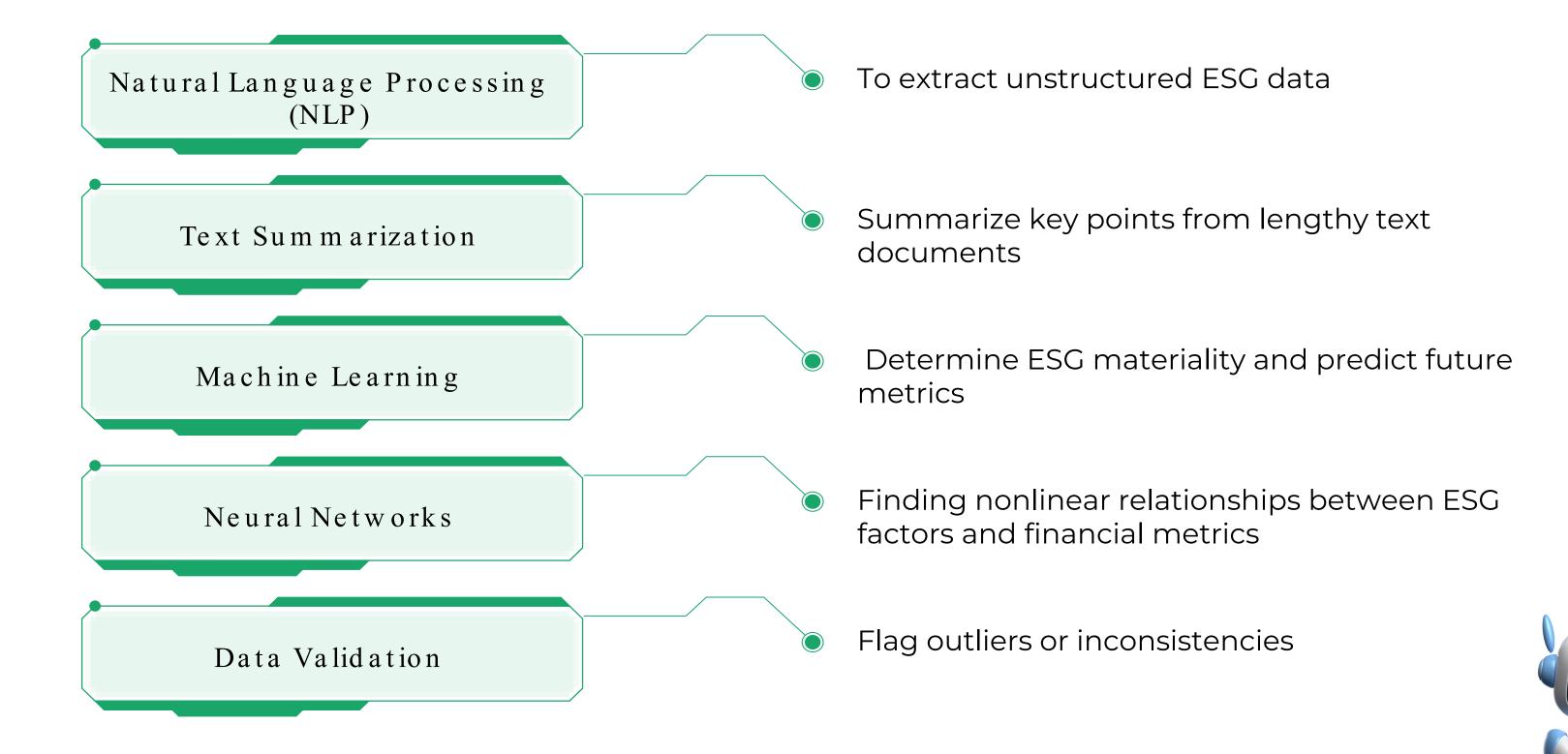
- Predictive Analytics
- Portfolio Optimization
- Risk Modeling
- Trade Execution
- Client Service





AI Tools and Techniques used for Harnessing ESG Data

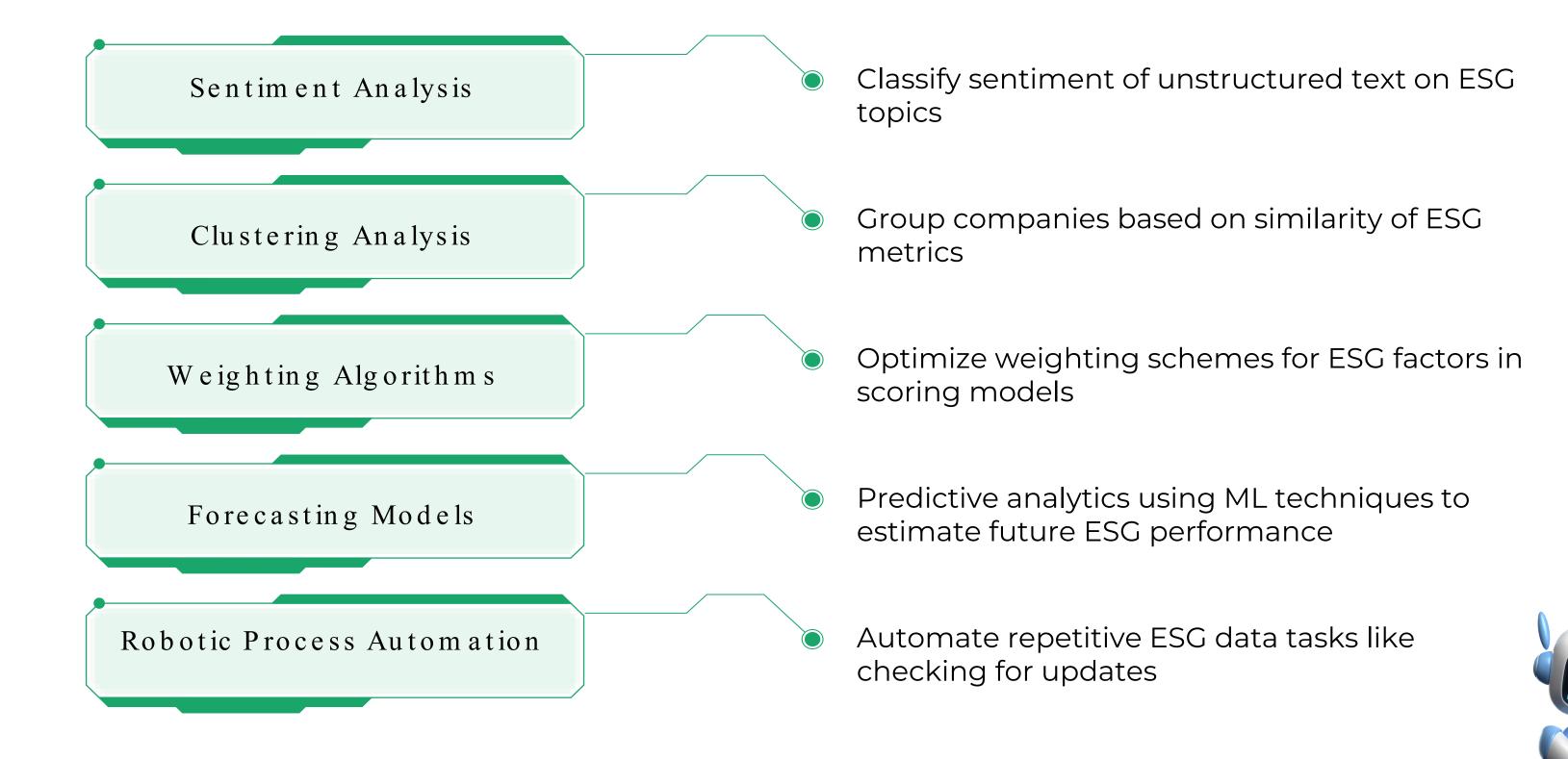






AI Tools and Techniques used for Harnessing ESG Data (contd.)









DATA EXTRACTION & ENRICHMENT

- Extract unstructured data
- Summarize text
- Classify sentiments
- Link to comapnies and locations

Using AI to synthesize ESG data



DATA INTEGRATION

- Map to structured schema
- Validate and assign missing values
- Incorporate alternate datasets



DATA ANALYSIS

- Identify key ESG themes
- Predict future metrics based on historical patterns
- Cluster companies by ESG performance
- Summarize key ESG metrics and events for companies





BUSINESS INTELLIGENCE

- Create interactive dashboards
- Generate summary report of key ESG insights
- Build notifications to view ESG alerts and data





Laws and Regulations Governing Use of AI in Asset Management





SEC regulations

The SEC does not have specific AI regulations but may scrutinize false or misleading claims about AI in investments. AI transparency and explainability is encouraged.



Investment Advisers Act

The SEC requires firms to establish policies to prevent violations of securities laws by algorithms and AI recommendations.



AI model risk management

Regulatory guidance indicates firms should actively govern, test, and monitor AI models to mitigate risks.

Documentation and explainability are encouraged.



FTC - Truth in Advertising laws

The FTC prohibits false advertising and may examine asset managers' marketing claims about the use and benefits of AI.



FINRA regulations

Al used for automation of tasks like trading or portfolio management must abide by FINRA rules of supervision, surveillance and cybersecurity.



EU GDPR compliance

Asset managers operating in the EU must ensure AI systems comply with GDPR data privacy and consent requirements.

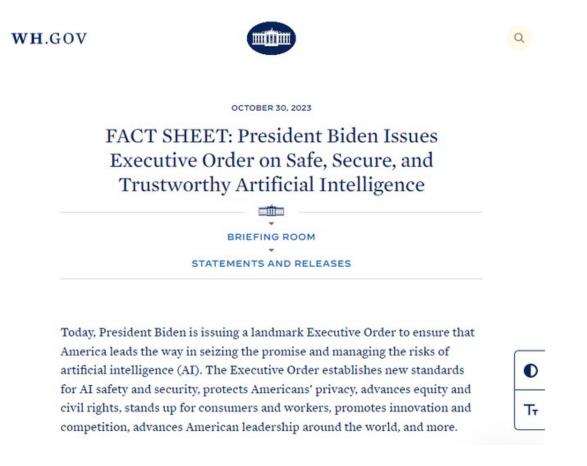






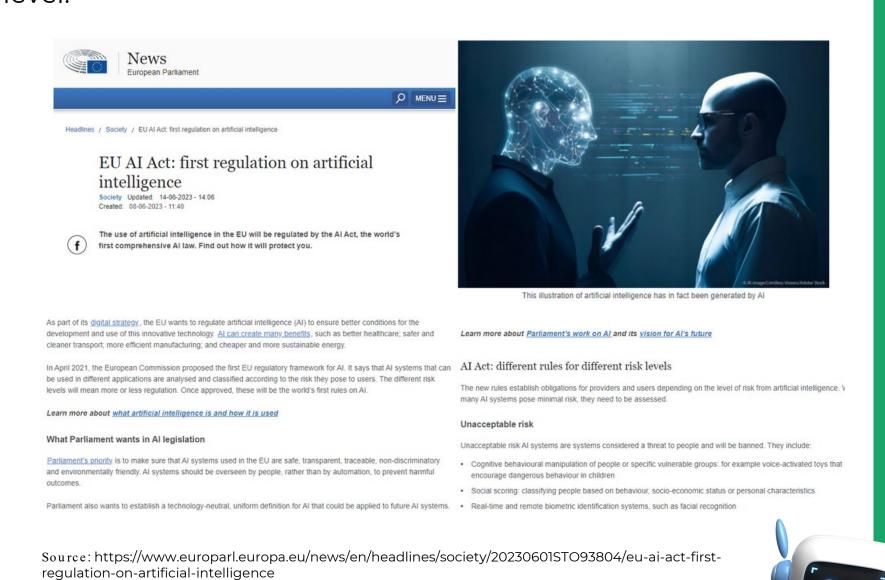


The US White House signed an executive order on October 30, 2023, addressing labor issues related to artificial intelligence (AI). The order calls for a report on AI's potential impact on the labor market and recommends best practices to minimize negative effects and maximize benefits for workers regarding job displacement and labor standards.



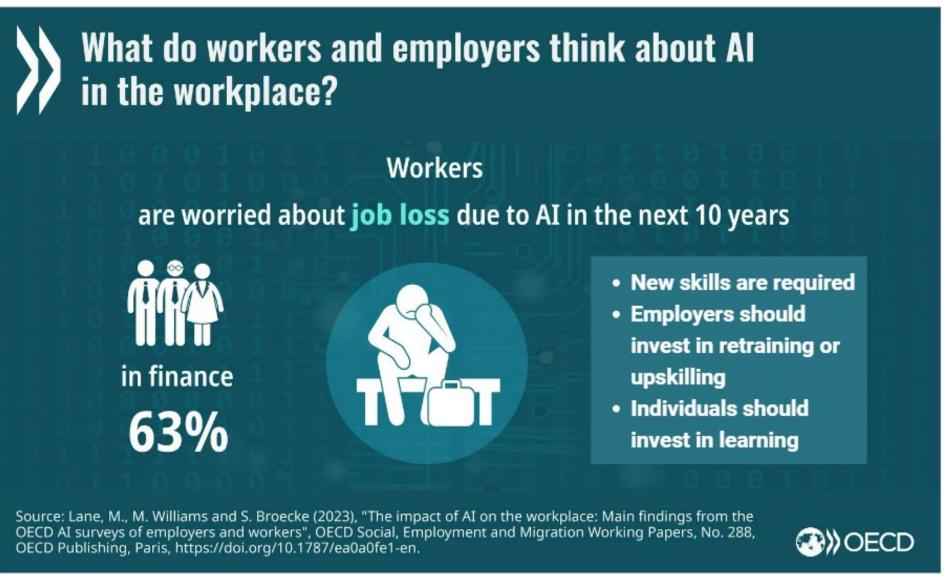
Source: https://www.whitehouse.gov/briefing-room/statements-releases/2023/10/30/fact-sheet-president-biden-issues-executive-order-on-safe-secure-and-trustworthy-artificial-intelligence/

The EU AI Act takes a risk-based approach and categorises AI systems into four risk levels: minimal or no risk, limited risk, high risk and unacceptable risk. Unacceptable risk AI systems will be strictly prohibited, with obligations then tapering based on risk level.



Governments should not rush with a "comprehensive" law that might become outdated quickly.





Learning Resources for ESG and AI

- PRI Academy: Responsible Investment Courses
- CISI: <u>Sustainable and Responsible Investment</u>
- FDP Institute by CAIA: <u>FDP Charter</u>



LIVE AND INVEST RESPONSIBLY

Contact Info

Reach out if there are any questions.



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Please join us for our upcoming webinar:

Investing in Asset Backed Securities Using Data Science

Q & A



Register Here:

https://bit.ly/3QXnENc





Thank You

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