

ESG Matters - US

US ESG outflows defy 5 years of flow gains

Equity Strategy

Clean energy woes drive diversification among ESG funds

Waning ESG enthusiasm has led to the first-ever year of outflows from US ESG funds, driven by rising interest rates, a downturn in renewable energy stocks, stricter SEC rules, and political backlash. US ESG and clean energy funds, whose flows have historically trended together, saw net outflows worth -1.6% and -20% of AUM, respectively (per EPFR). US ESG funds, heavily invested in renewables like NextEra Energy, Avangrid, and Ormat Technologies, saw a performance drag, and reduced their positioning in the sector in Q4. Despite these challenges, the S&P 500 ESG Index outperformed the clean energy index (ICLN) by 47ppt in 2023. Investors appear less willing to sacrifice returns, leading to a decline in the use of exclusion screens by retail investors (such as Oil & Gas). Looking at ETFs specifically, the launch of US-domiciled ESG ETFs focused on clean energy was limited to one in 2023, and there was a drop in thematic or sector-focused ETF launches (e.g., Real Estate, Clean Energy, EVs), reflective of a growing focus on diversification strategies among investors.

AUM growth amidst 2023's outflow challenges

In 2023, US ESG funds faced a challenging year with net outflows of \$7.1B, marking the worst flow performance in the funds' history after five consecutive years of inflows. However, despite this setback, total US ESG AUM still grew by an impressive 24% in 2023. In Q4 alone, US ESG funds attracted a modest \$2.2B in net inflows, contributing to a 13% AUM growth. Globally, ESG funds saw more positive trends, with \$16.8B in inflows for global ESG funds and \$1.3B for Europe ESG funds in 2023. Following significant Q1 outflows, passive US ESG funds rebounded with \$5.4B in net inflows in Q4, achieving a 15.4% AUM growth compared to Q3 2023 (per EPFR). Notably, the 2023 outflows from US ESG funds were driven by a concentrated number of funds, with just six responsible for over half of the year's total outflows.

US ESG indices 26.5ppt return outperformed benchmarks

In 2023, US ESG indices posted a strong performance, yielding a 26.5ppt return for the year, surpassing local benchmarks by 1.9ppt. This was driven by significant underperformance in the Energy sector (-5.0ppt) and robust performance in the Tech sector (+56.0ppt). Notably, US ESG investors tactically reduced exposure to Utilities in Q4, as it underperformed the S&P 500 by 3.6ppt amid challenging rate conditions. Looking at ETFs specifically, while active US ESG ETFs outperformed their passive counterparts by an avg. of 5.6ppt over the year, they underperformed the S&P 500 by 9.1ppt.

US ESG portfolio favorites, from AI to Water

US ESG funds continue to favor tech giants such as Microsoft, Adobe, and NVIDIA as some of the most widely held stocks in their portfolios, per our ownership analysis. In Q4, there was an uptick in exposure to companies engaged in AI, including Alphabet, Cadence, PTC, and Broadcom. On the other hand, companies addressing water-related challenges, such as American Water and Pentair, and solar-focused companies like SolarEdge and First Solar, are among the most overweighted stocks vs. the S&P 500.

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Refer to important disclosures on page 16 to 17.

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AUM: assets under management

EV: electric vehicle

Beyond clean energy: ESG funds diversify

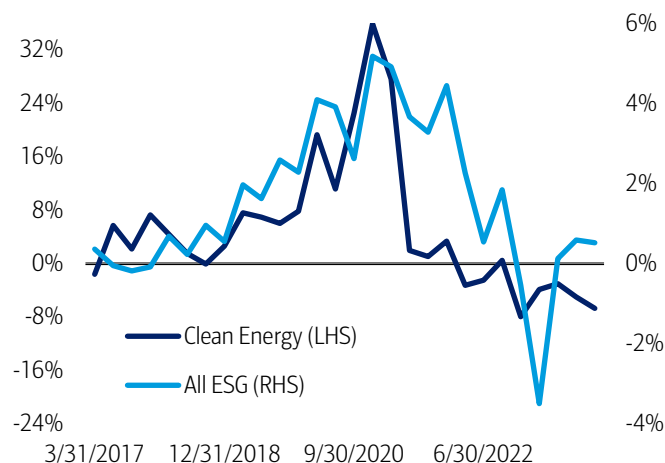
Investors are pulling out of sustainable funds as the once-high ESG enthusiasm wanes due to various factors, including rising interest rates, lackluster returns, a downturn in renewable energy stocks, stricter SEC rules, and political backlash. In fact, the flow of funds into both ESG and clean energy funds has followed a similar pattern. In 2023, US ESG funds saw net outflows worth -1.6% of AUM, while clean energy funds saw outflows equivalent to -20% of AUM (source: EPFR).¹ The clean energy sector faced its own set of obstacles, including the impact of high interest rates, supply chain constraints, and emerging liquidity concerns (Exhibit 1).

US ESG funds, heavily invested in renewable stocks like NextEra Energy (NEE), Avangrid (AGR), and Ormat Technologies (ORA), have experienced a significant performance drag. This has led to a reduction in their positioning within the renewables sector on a quarter-to-quarter basis (Exhibit 7). However, despite these challenges, the S&P 500 ESG Index managed to outperform the clean energy index (ICLN) by 47ppt in 2023 (4.7ppt in Q4). Notably, there was only a single launch of US-domiciled ESG ETFs exclusively focused on clean energy last year (vs 10 launches in 2021). Instead, 15 new ETFs were introduced with a broad ESG focus (4 of which combined ESG with a specific investing style), along with 5 climate-focused funds, 3 DEI- or social-focused funds, and 1 infrastructure fund (Exhibit 6).

ESG, initially thriving in a bullish environment, now faces the opposite scenario with increasing costs of capital and inflationary pressures on "green" initiatives. Despite these challenges, ESG funds have showcased resilience by diversifying their portfolios. Their current tech bias has helped offset some of the performance losses from the artificial intelligence trade. As investors become less willing to sacrifice returns for specific outperforming sectors, the use of exclusion sector screens by retail investors, particularly for Oil & Gas has declined. Additionally, new launches of thematic or sector-focused ESG ETFs (e.g., Real Estate, Clean Energy, and Electric Vehicles) are also on the decline.

Exhibit 1: Flows to all US ESG funds are strongly correlated ($r=0.66$) with flows to US clean energy funds

Quarterly flows as percentage of AUM for US ESG equity funds focused on clean energy (LHS) and all US ESG equity funds (RHS), Q1 2017-Q4 2023

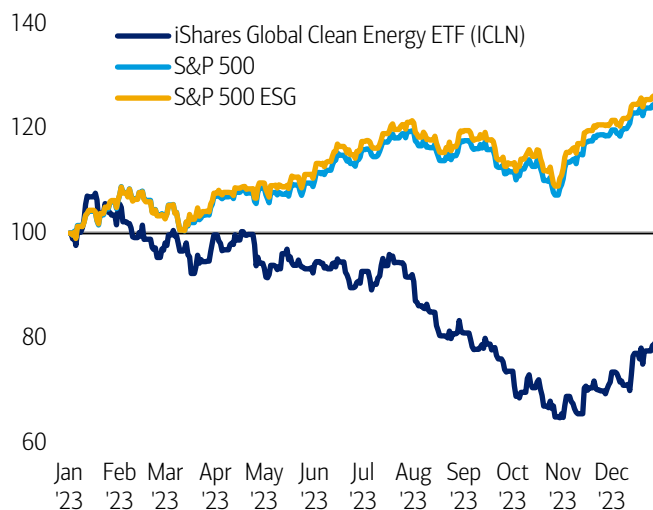


Source: BofA US ESG Research, EPFR. Correlation calculated based on net quarterly flows in USD. Funds classified as ESG as per EPFR. Clean energy funds classified based on their fund name (see methodology for details)

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Exhibit 2: Clean energy (ICLN) underperformed the S&P 500 ESG index by 47ppt in 2023

Performance of the S&P 500 Energy Index and S&P Global Clean Energy Index (indexed to 100), 1/1/2023-12/31/2023



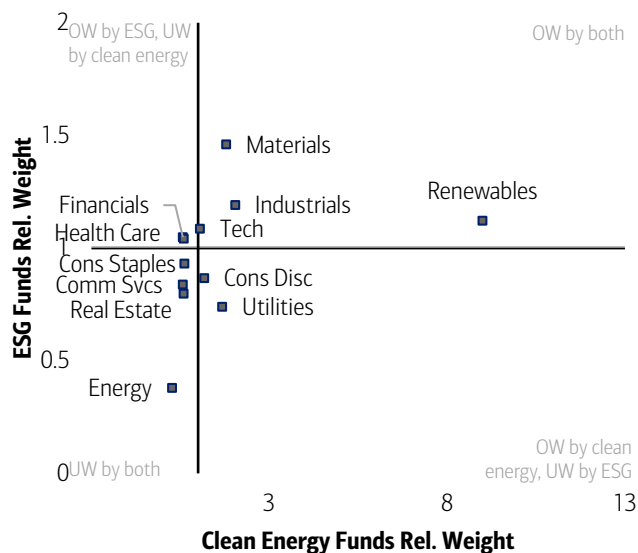
Source: BofA US ESG Research, Bloomberg

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¹ Based on AUM as of 12/31/2023

Exhibit 3: Sector weightings in ESG funds and clean energy funds have left them vulnerable to renewables' poor performance

Relative sector weightings in US equity clean energy funds and US equity ESG funds relative to the Russell 3000 index, as of 12/31/2023

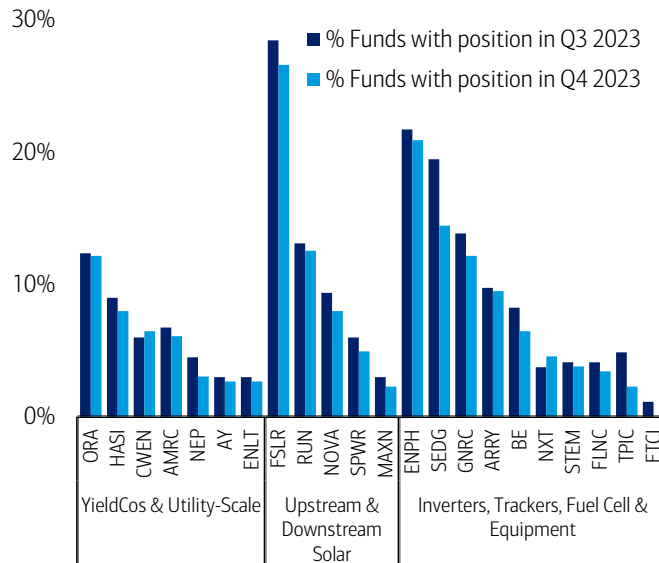


Source: BofA US ESG Research, FactSet Ownership. Note: The "Renewables" category reflects Utilities stocks that are involved in Renewable Energy Generation or Renewable Energy (per BICS sector classifications).

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Exhibit 4: 20 out of 22 US-listed clean energy stocks saw declines in ownership by ESG funds in Q4 2023

Percent of US ESG funds holding renewable energy stocks, as of Q3 2023 (9/30/2023) and Q4 2023 (12/31/2023)

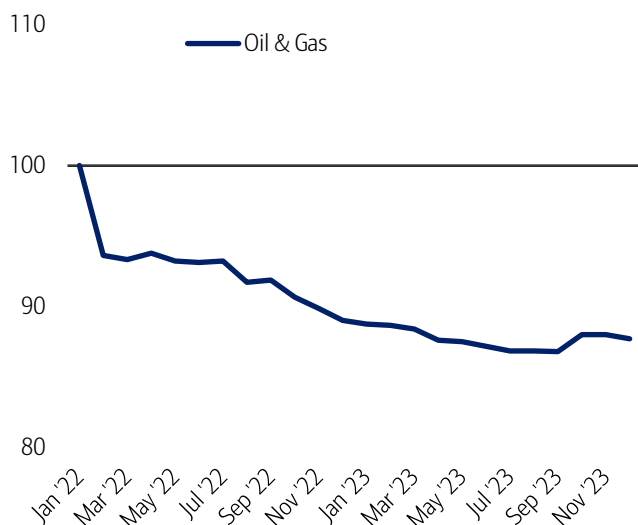


Source: BofA US ESG Research, FactSet Ownership. *As per the universe identified by BofA's clean energy fundamental analysts.

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Exhibit 5: Investors are less willing to exclude the Oil & Gas sector

Number of accounts with exclusion screen applied (indexed to 100), Jan 2022-Dec 2023

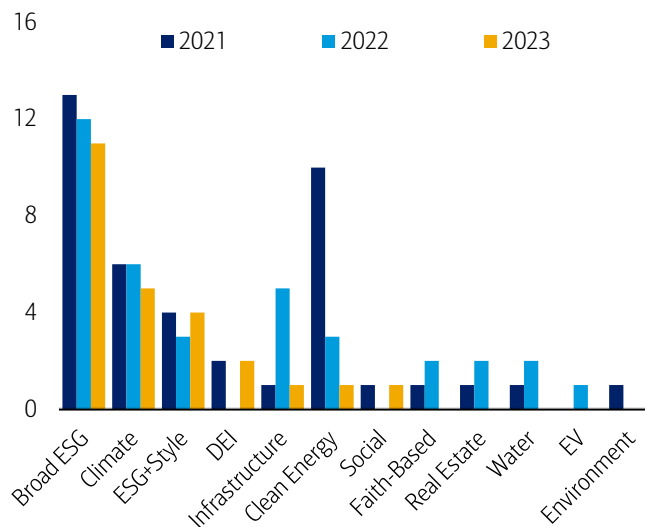


Source: Merrill Lynch Wealth Management, BofA US ESG Research.

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Exhibit 6: The number of sector-focused ETF launches (Clean Energy, Infrastructure, Real Estate, EV) fell 83% between 2021 and 2023

Number of US-domiciled ESG ETF fund launches by category, based on fund name and description



Source: BofA US ESG Research, Bloomberg. Based on 25 equity ETFs launched in 2023, 36 equity ETFs launched in 2022, and 41 equity ETFs launched in 2021 that are domiciled in the US and are categorized as ESG by Bloomberg. DEI stands for Diversity Equity Inclusion. EV stands for electric vehicles. Infrastructure, Clean Energy, Real Estate, and EV are considered sector-focused ETF categories.

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Exhibit 7: Less well diversified ESG fund categories tended to see worse performance

AUM (USD bn), 1Y flows (USD bn), 1Y returns, and average sector allocations for US ESG equity ETFs, as of 12/31/2023; sector allocations and 1Y returns for the S&P 500 index, as of 12/31/2023

						Average sector allocations											
Group	Category	AUM (USD bn)	Fund Count	1Y Flow (USD bn)	1 Yr Return (Avg)	Cons Disc	Cons Staples	Energy	Fin	Health Care	Ind	Tech	Mat	Comm Svcs	Utils	Real Estate	
Broad	Broad ESG	56.7	75	-10.3	17.0%	11.8%	5.8%	2.0%	15.9%	11.6%	13.6%	23.4%	4.4%	5.8%	1.9%	3.0%	
	Faith-Based	3.4	17	0.6	15.8%	8.1%	5.3%	6.0%	12.8%	9.4%	16.1%	17.9%	6.3%	3.4%	5.6%	8.7%	
	ESG+Style	4.0	21	-0.1	21.0%	9.0%	6.6%	3.7%	12.1%	12.5%	13.7%	25.1%	3.9%	6.5%	2.8%	3.3%	
Environmental	Climate	11.7	27	3.4	15.8%	10.2%	4.4%	2.7%	12.8%	8.6%	15.4%	23.9%	5.4%	6.1%	7.0%	2.5%	
	Water	2.3	6	-0.1	15.7%	3.5%	6.6%	0.0%	0.0%	6.0%	46.1%	11.6%	9.1%	0.0%	17.0%	0.1%	
	Environment	0.3	2	-0.2	0.4%	9.6%	2.7%	0.1%	0.0%	0.0%	30.7%	17.1%	15.6%	0.0%	10.5%	12.5%	
Social	Social	4.4	4	-0.4	17.2%	5.1%	9.5%	1.3%	18.9%	15.3%	9.8%	23.8%	4.8%	8.0%	2.0%	1.5%	
	DEI	0.4	7	0.0	21.6%	10.4%	6.4%	2.9%	14.3%	14.6%	8.4%	29.2%	2.3%	6.8%	2.0%	1.8%	
Sector	Clean Energy	8.1	29	-1.8	-15.4%	7.0%	0.2%	4.7%	0.4%	0.1%	37.4%	17.8%	7.6%	0.0%	22.5%	0.1%	
	EV	1.2	4	-0.3	-0.8%	49.1%	0.0%	0.0%	0.0%	0.0%	18.7%	13.5%	11.6%	1.4%	0.0%	0.0%	
	Infrastructure	0.9	8	0.1	8.3%	5.7%	0.0%	1.7%	0.1%	0.2%	36.5%	6.1%	2.7%	0.6%	22.9%	23.1%	
	Real Estate	0.4	4	-0.3	7.0%	0.0%	0.5%	5.2%	0.0%	0.0%	0.1%	0.0%	2.9%	0.0%	1.5%	89.0%	
S&P 500 Index					24.2%	10.9%	6.2%	3.9%	13.0%	12.6%	8.8%	28.9%	2.4%	8.6%	2.3%	2.5%	

Source: BofA US ESG Research, Bloomberg. Note: Average price returns of ETF, calculated as of 12/31/2023. 204 equity ETFs domiciled in the US that were classified by Bloomberg as ESG and/or religiously responsible, USD94bn AUM. The classification of strategies is based on fund names and might not reflect fund's actual ESG strategy.

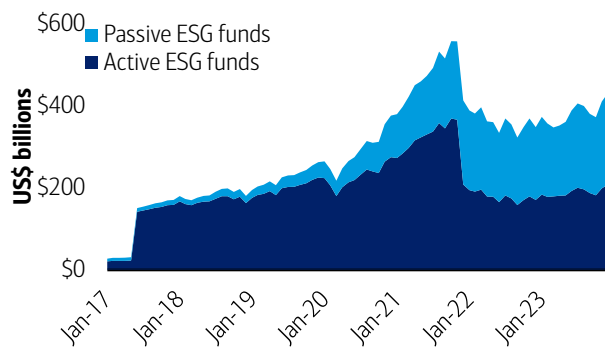
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Flows/AUM: Worst year ever for US flows

- 2023 was the worst ever year of flows for US ESG funds, which saw net outflows of \$7.1B following 5 consecutive years of inflows. Yet total US ESG AUM still grew 24% in 2023. In Q4 alone, funds attracted a modest \$2.2B in net inflows as AUM grew 13%. ESG funds elsewhere proved more popular in 2023, with global ESG funds seeing \$16.8B in inflows and Europe ESG funds seeing \$1.3B in inflows over the year (per EPFR data).
- Following massive outflows in Q1 2023, passive ESG funds have had a comeback, seeing \$5.4B in net inflows in Q4 2023 and AUM growth of 15.4% vs Q3 2023 (per EPFR data).
- 2023 outflows from US ESG funds were driven by a small number of funds (just 6 funds were responsible for over half of the year's total outflows), suggesting more concentrated risk rather than a mass exodus from the space. Inflows and outflows in Q4 were similarly concentrated among a small number of US ESG funds: 5 funds were responsible for over half of the quarter's total inflows to individual US ESG funds (\$27B) and 5 funds were responsible for over half of the quarter's total outflows (-\$25B).

Exhibit 8: US passive ESG AUM grew 15.4% QoQ while US active ESG AUM grew 11.3% QoQ

Assets under management in US ESG equity funds, US\$ billions (1/2017-12/2023)

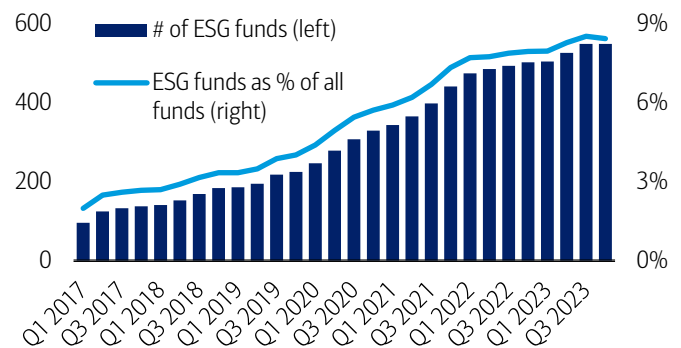


Source: EPFR Informa Financial Intelligence, BofA US ESG Research. Based on EPFR's classifications of funds as ESG and passive/active. See methodology in appendix for EPFR's definitions.

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Exhibit 9: 1 in 12 US funds is an ESG fund

Count of US equity ESG funds, percent ESG funds of total US equity funds (right) at the close of each quarter, Q1 2017-Q4 2023

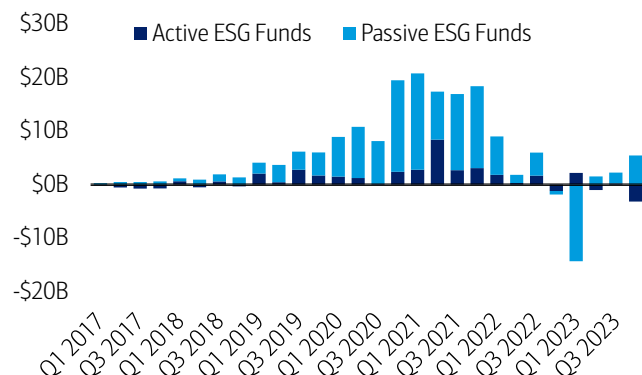


Source: EPFR Informa Financial Intelligence, BofA US ESG Research. Based on EPFR's classifications of funds as ESG and passive/active. See methodology in appendix for EPFR's definitions.

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Exhibit 10: In Q4 2023, passive ESG funds saw inflows of \$5.4B, while active ESG funds saw outflows of -\$3.2B...

Quarterly net flows (USD bn) in active ESG, passive ESG, and non-ESG US equity funds, Q1 2017-Q4 2023

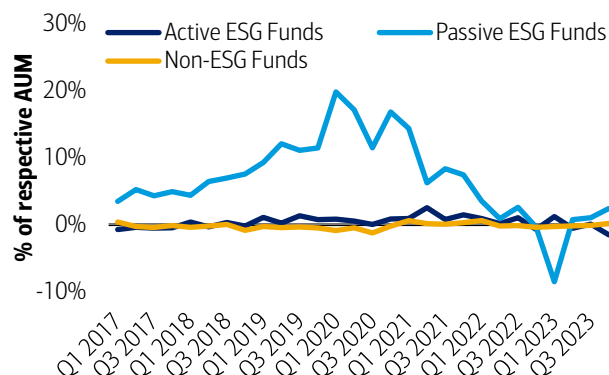


Source: EPFR Informa Financial Intelligence, BofA US ESG Research. Based on EPFR's classifications of funds as ESG and passive/active. See methodology in appendix for EPFR's definitions.

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Exhibit 11: ...equivalent to 2.4% of passive AUM (\$223B) and -1.5% of active AUM (\$208B), respectively

Quarterly net flows as percent of AUM in active ESG, passive ESG, and non-ESG US equity funds, Q1 2017-Q4 2023

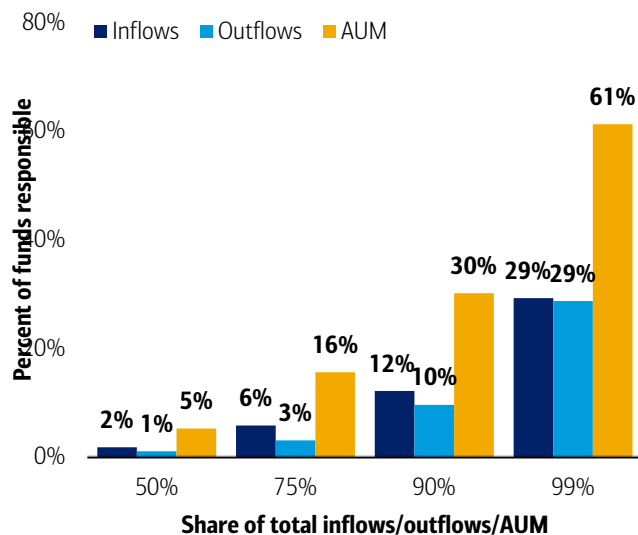


Source: EPFR Informa Financial Intelligence, BofA US ESG Research. Based on EPFR's classifications of funds as ESG and passive/active. See methodology in appendix for EPFR's definitions.

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Exhibit 12: Among US ESG funds, flows were highly concentrated, with just 6 funds (1%) responsible for over half of 2023 outflows

Percent of US ESG equity funds responsible for 50%, 75%, 90%, and 99% of US ESG funds' inflows, outflows, and AUM in 2023

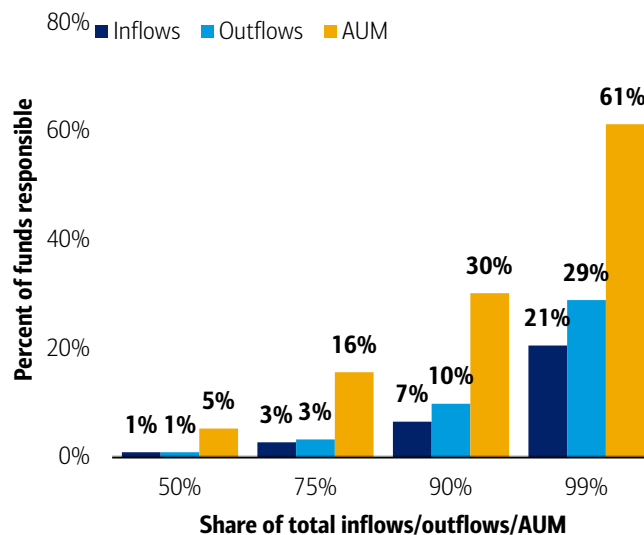


Source: BofA US ESG Research, EPFR. Based on 550 US ESG equity funds in the EPFR universe. Funds were classified as ESG by EPFR. See methodology in appendix for EPFR's definitions.

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Exhibit 13: Flows were similarly concentrated in Q4, with just 5 funds (1%) responsible for over half of Q4's outflows

Percent of US ESG equity funds responsible for 50%, 75%, 90%, and 99% of US ESG funds' inflows, outflows, and AUM in Q4 2023



Source: BofA US ESG Research, EPFR. Based on 550 US ESG equity funds in the EPFR universe. Funds were classified as ESG by EPFR. See methodology in appendix for EPFR's definitions.

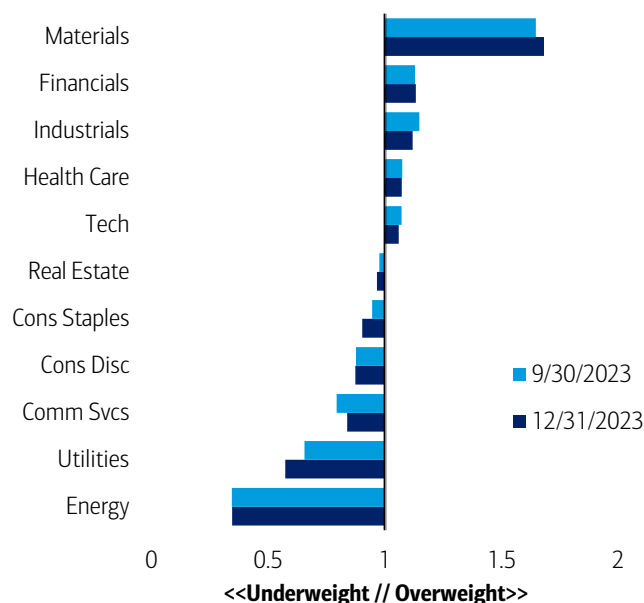
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Performance: riding the Tech highs

- In 2023 US ESG indices returned 26.5ppt on average (11.2ppt in Q4) outperforming their local benchmarks by 1.9ppt (0.1ppt in Q4).
- Overall, performance was helped by poor performance (-5.0ppt) in the underweighted Energy sector and strong performance in the overweighted Tech sector (+56.0ppt) in 2023. US ESG investors also decreased their exposure to Utilities last quarter, which underperformed the S&P 500 by 3.6ppt in Q4 amid a challenging rate environment.
- Looking at US-domiciled ESG ETFs specifically, over the year, active US ESG ETFs outperformed passive US ESG ETFs by 5.6ppt on average but underperformed the S&P 500 by 9.1ppt. In Q4, active US ESG ETFs outperformed passive US ESG ETFs by 1.6ppt on average.

Exhibit 14: Over Q4, US ESG investors increased their underweighting of Utilities, while increasing their exposure to Materials (most overweight sector)

Relative sector weights of US ESG funds relative to the S&P 500, as of 9/30/2023 and 12/31/2023

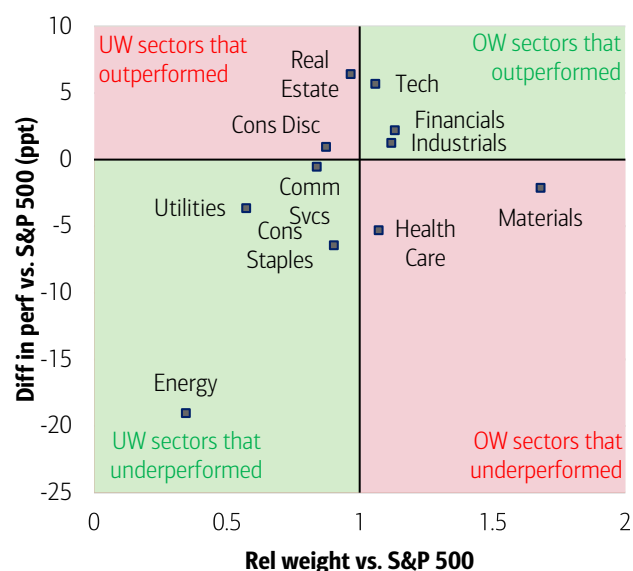


Source: BofA US ESG Research, FactSet Ownership

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Exhibit 15: ESG fund performance helped by Energy underweight but hurt by Materials overweight

Relative sector weights of US ESG funds relative to the S&P 500, as of 12/31/2023 and difference in performance (ppt) between the S&P 500 sector indices and the overall S&P 500 index over Q4 2023

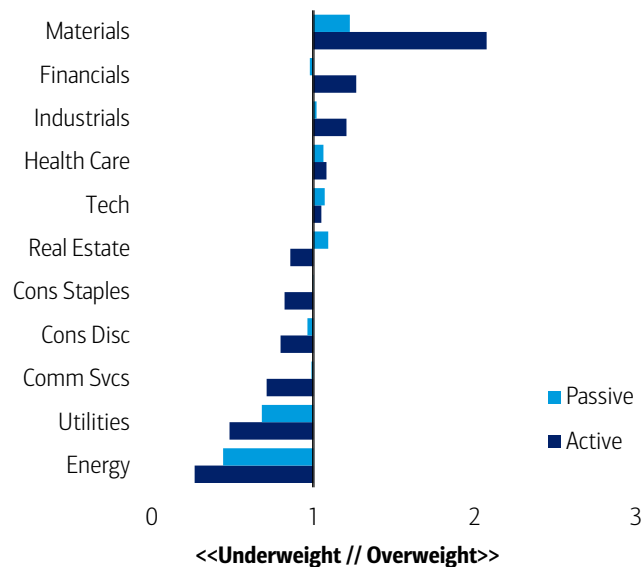


Source: BofA US ESG Research, FactSet Ownership

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Exhibit 16: Passive ESG funds align directionally with active ESG funds on most sector weights, and hew closely to S&P 500

Relative sector weights of active and passive US ESG funds relative to the S&P 500, as of 12/31/2023

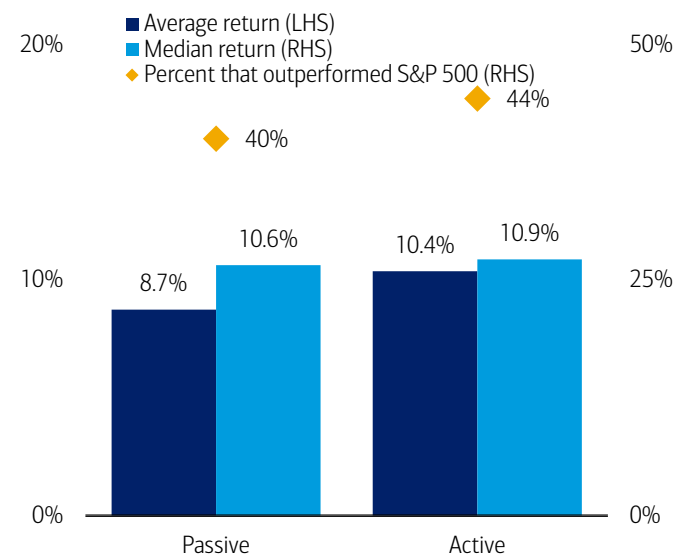


Source: BofA US ESG Research, FactSet Ownership

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Exhibit 17: Active ESG ETFs saw better performance than passive ESG ETFs in Q4 2023

Average and median price return (LHS) of active and passive ESG equity ETFs domiciled in the US in Q4 (9/30/2023 to 12/31/2023) and percent of funds that outperformed the S&P 500 index over that timeframe

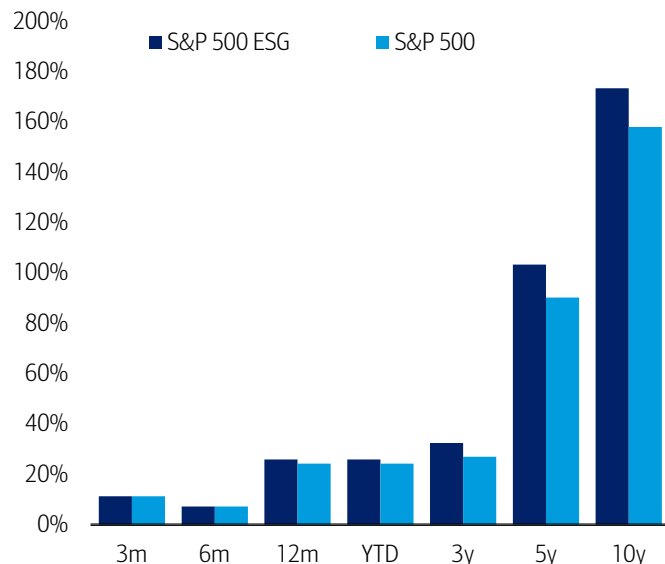


Source: BofA US ESG Research, Bloomberg. 204 equity ETFs domiciled in the US and classified by Bloomberg as ESG and/or religiously responsible. ETFs were classified as active or passive by Bloomberg (see methodology for definitions).

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Exhibit 18: The S&P 500 ESG index and S&P 500 index both saw price returns of 11.2% in Q4

Absolute price return in local currency (%) as of 12/31/2023

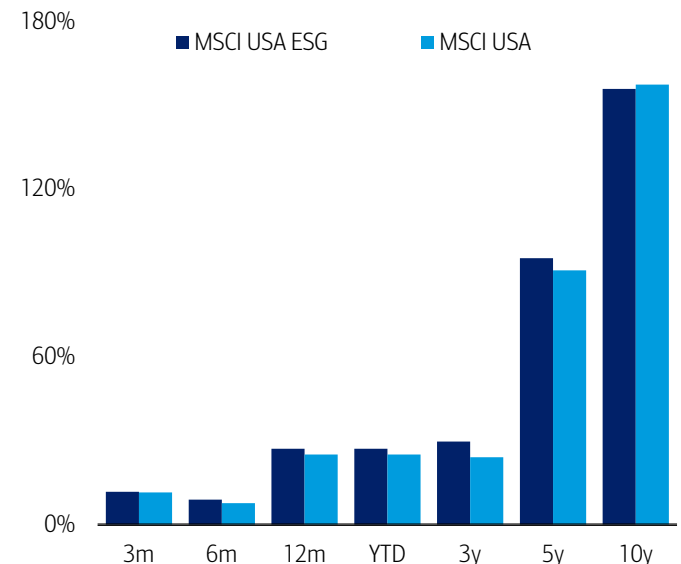


Source: BofA US ESG Research, Bloomberg

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Exhibit 19: The MSCI USA ESG index outperformed the non-ESG index by 0.2ppt in Q4

Absolute price return in local currency (%) as of 12/31/2023



Source: BofA US ESG Research, Bloomberg

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Acting on AI, Water and Solar

- Tech stocks making up 40% of the companies with crowded positioning; MSFT, ADBE, and NVDA are among the most widely held stocks by US ESG funds; and more funds have added exposure over Q4 to companies involved with AI (e.g., Alphabet [GOOGL], Cadence [CDNS], PTC [PTC], and Broadcom [AVGO]). Although a broad swathe (38%) of US ESG funds own electric vehicle (EV) stock Tesla Inc (TSLA), governance concerns have led a large proportion of these funds to underweight the stock versus the S&P 500 (0.73 rel. weight vs the S&P 500)
- Companies offering solutions related to water related issues (e.g., water utilities provider American Water [AWK] and water treatment providers Pentair [PNR], Veralto Corporation [VLTQ], and Xylem [XYL]) and solar energy providers (SolarEdge Technologies [SEDG], First Solar [FSLR]) are among the most overweighted stocks by US ESG funds relative to the S&P 500.
- As you might have guessed... gambling and tobacco stocks (e.g., Philip Morris International [PM], Altria Group [MO], Las Vegas Sands Corp [LVS]) rank among the least popular stocks in US ESG funds.

The exhibits below are screens and not recommended lists either individually or as a group of stocks. Investors should consider the fundamentals of the companies and their own individual circumstances/objectives before making any investment decisions. The screens are intended to be indicative metrics only and may not be used for reference purposes or as a measure of performance for any financial instrument or contract, or otherwise relied upon by third parties for any other purpose, without the prior written consent of BofA Global Research. These screens were not created to act as a benchmark.

US ESG fund crowding

We screen companies with crowded positions, i.e., in which a large proportion of ESG investors have broad overweight or underweight positions relative to the S&P 500 (SPX). This provides both a breadth and magnitude measure of the importance of stocks from a positioning perspective. The companies highlighted in green are those where a large proportion of investors (33% of funds) are overweight relative to SPX (1.00 or higher). The red-highlighted stocks are those where a large proportion of investors are underweight relative to SPX (lower than 1.00).

Exhibit 20: Crowded screen

S&P 500 stocks held by at least one-third of US ESG funds, as of 12/31/2023. Sorted by the stocks' weight in ESG funds relative to the S&P 500. Green=overweight, red=underweight.

			% Funds with position	ESG funds' weight relative to S&P 500
Ticker Name		Sector		
XYL	Xylem Inc.	Industrials	34%	6.15
AWK	American Water Works Company, Inc.	Utilities	39%	4.85
ECL	Ecolab Inc.	Materials	41%	4.33
DE	Deere & Company	Industrials	35%	3.48
DHR	Danaher Corporation	Health Care	37%	3.07
APTV	Aptiv PLC	Consumer Discretionary	35%	2.70
ADSK	Autodesk, Inc.	Information Technology	36%	2.66
INTU	Intuit Inc.	Information Technology	39%	2.49
SPGI	S&P Global, Inc.	Financials	33%	2.49



Exhibit 20: Crowded screen

S&P 500 stocks held by at least one-third of US ESG funds, as of 12/31/2023. Sorted by the stocks' weight in ESG funds relative to the S&P 500. Green=overweight, red=underweight.

			% Funds with position	ESG funds' weight relative to S&P 500
Ticker Name		Sector		
CRM	Salesforce, Inc.	Information Technology	41%	2.24
ADBE	Adobe Incorporated	Information Technology	47%	2.14
INTC	Intel Corporation	Information Technology	33%	1.98
TXN	Texas Instruments Incorporated	Information Technology	34%	1.87
MA	Mastercard Incorporated Class A	Financials	42%	1.70
ZTS	Zoetis, Inc. Class A	Health Care	34%	1.42
GOOGL	Alphabet Inc. Class A	Communication Services	41%	1.28
V	Visa Inc. Class A	Financials	46%	1.24
DIS	Walt Disney Company	Communication Services	34%	1.14
MSFT	Microsoft Corporation	Information Technology	57%	1.02
NVDA	NVIDIA Corporation	Information Technology	43%	1.00
HD	Home Depot, Inc.	Consumer Discretionary	38%	0.96
MRK	Merck & Co., Inc.	Health Care	34%	0.89
ACN	Accenture Plc Class A	Information Technology	35%	0.89
UNH	UnitedHealth Group Incorporated	Health Care	35%	0.82
LLY	Eli Lilly and Company	Health Care	35%	0.79
CSCO	Cisco Systems, Inc.	Information Technology	35%	0.78
TSLA	Tesla, Inc.	Consumer Discretionary	38%	0.73
AAPL	Apple Inc.	Information Technology	39%	0.64

Source: BofA US ESG Research, FactSet Ownership

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BofA GLOBAL RESEARCH

Most overweighted stocks in US ESG funds

Exhibit 21: 25 most overweighted US stocks by ESG funds

US-domiciled ESG funds' weight relative to S&P 500 Index, as of 12/31/2023

Ticker	Company	Sector	ESG funds' weight relative to S&P 500
BALL	Ball Corporation	Materials	16.62
PNR	Pentair plc	Industrials	10.55
SEDG	SolarEdge Technologies, Inc.	Tech	7.60
VLTO	Veralto Corporation	Industrials	6.36
FSLR	First Solar, Inc.	Tech	6.33
XYL	Xylem Inc.	Industrials	6.15
SYT	Sysco Corporation	Cons Staples	5.72
VRSK	Verisk Analytics Inc	Industrials	5.65
ENPH	Enphase Energy, Inc.	Tech	4.93
AWK	American Water Works Company, Inc.	Utilities	4.85
CHRW	C.H. Robinson Worldwide, Inc.	Industrials	4.76
HOLX	Hologic, Inc.	Health Care	4.68
WAT	Waters Corporation	Health Care	4.50
A	Agilent Technologies, Inc.	Health Care	4.38
ECL	Ecolab Inc.	Materials	4.33
WM	Waste Management, Inc.	Industrials	4.12
FTV	Fortive Corp.	Industrials	4.10
BIO	Bio-Rad Laboratories, Inc. Class A	Health Care	4.07
IEX	IDEX Corporation	Industrials	4.04
CBOE	Cboe Global Markets Inc	Financials	4.04
DHI	D.R. Horton, Inc.	Cons Disc	4.01
AOS	A. O. Smith Corporation	Industrials	3.92
CHTR	Charter Communications, Inc. Class A	Comm Svcs	3.76
CME	CME Group Inc. Class A	Financials	3.60
WST	West Pharmaceutical Services, Inc.	Health Care	3.55

Source: BofA US ESG Research; Factset Ownership

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BofA GLOBAL RESEARCH

Exhibit 22: 25 most underweighted US stocks by ESG funds

US-domiciled ESG funds' weight relative to S&P 500 Index, as of 12/31/2023

Ticker	Company	Sector	ESG funds' weight relative to S&P 500
PM	Philip Morris International Inc.	Cons Staples	0.01
BA	Boeing Company	Industrials	0.01
MO	Altria Group, Inc.	Cons Staples	0.02
DUK	Duke Energy Corporation	Utilities	0.02
WYNN	Wynn Resorts, Limited	Cons Disc	0.03
PPL	PPL Corporation	Utilities	0.04
LVS	Las Vegas Sands Corp.	Cons Disc	0.04
NOC	Northrop Grumman Corp.	Industrials	0.04
FE	FirstEnergy Corp.	Utilities	0.04
PNW	Pinnacle West Capital Corporation	Utilities	0.04
DVN	Devon Energy Corporation	Energy	0.06
TXT	Textron Inc.	Industrials	0.06
MGM	MGM Resorts International	Cons Disc	0.06
ETR	Entergy Corporation	Utilities	0.07
GD	General Dynamics Corporation	Industrials	0.07
FANG	Diamondback Energy, Inc.	Energy	0.09
BRKB	Berkshire Hathaway Inc. Class B	Financials	0.09
TDG	TransDigm Group Incorporated	Industrials	0.09
UAL	United Airlines Holdings, Inc.	Industrials	0.10
XOM	Exxon Mobil Corporation	Energy	0.10
STZ	Constellation Brands, Inc. Class A	Cons Staples	0.10
LMT	Lockheed Martin Corporation	Industrials	0.12
HWM	Howmet Aerospace Inc.	Industrials	0.12
VICI	VICI Properties Inc	Real Estate	0.12
NRG	NRG Energy, Inc.	Utilities	0.13

Source: BofA US ESG Research; Factset Ownership

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BofA GLOBAL RESEARCH

Most widely held stocks in US ESG funds

Exhibit 23: 25 most widely held US stocks by ESG funds

Top 25 most widely held stocks in S&P 500 Index, as of 12/31/2023

Ticker	Company	Sector	% ESG funds with position
MSFT	Microsoft Corporation	Tech	57.1%
ADBE	Adobe Incorporated	Tech	47.0%
V	Visa Inc. Class A	Financials	45.6%
NVDA	NVIDIA Corporation	Tech	43.3%
MA	Mastercard Incorporated Class A	Financials	42.4%
GOOGL	Alphabet Inc. Class A	Comm Svcs	41.5%
ECL	Ecolab Inc.	Materials	40.6%
CRM	Salesforce, Inc.	Tech	40.6%
INTU	Intuit Inc.	Tech	39.2%
AAPL	Apple Inc.	Tech	39.2%
AWK	American Water Works Company, Inc.	Utilities	38.7%
TSLA	Tesla, Inc.	Cons Disc	37.8%
HD	Home Depot, Inc.	Cons Disc	37.8%
DHR	Danaher Corporation	Health Care	37.3%
ADSK	Autodesk, Inc.	Tech	36.4%
ACN	Accenture Plc Class A	Tech	35.5%
LLY	Eli Lilly and Company	Health Care	35.5%
DE	Deere & Company	Industrials	35.5%
APTV	Aptiv PLC	Cons Disc	35.0%
UNH	UnitedHealth Group Incorporated	Health Care	34.6%
CSCO	Cisco Systems, Inc.	Tech	34.6%
DIS	Walt Disney Company	Comm Svcs	34.1%
ZTS	Zoetis, Inc. Class A	Health Care	34.1%
MRK	Merck & Co., Inc.	Health Care	34.1%
TXN	Texas Instruments Incorporated	Tech	33.6%

Source: BofA US ESG Research; Factset Ownership

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BofA GLOBAL RESEARCH

Exhibit 24: 25 least widely held US stocks by ESG funds

Bottom 25 least widely held stocks in S&P 500 Index, as of 12/31/2023

Ticker	Company	Sector	% ESG funds with position
PM	Philip Morris International Inc.	Cons Staples	0.5%
MO	Altria Group, Inc.	Cons Staples	0.9%
GD	General Dynamics Corporation	Industrials	1.8%
TXT	Textron Inc.	Industrials	1.8%
WYNN	Wynn Resorts, Limited	Cons Disc	2.3%
PNW	Pinnacle West Capital Corporation	Utilities	2.8%
EVRG	Evergy, Inc.	Utilities	2.8%
NOC	Northrop Grumman Corp.	Industrials	2.8%
HII	Huntington Ingalls Industries, Inc.	Industrials	2.8%
DUK	Duke Energy Corporation	Utilities	3.2%
PPL	PPL Corporation	Utilities	3.2%
FANG	Diamondback Energy, Inc.	Energy	3.2%
CTRA	Coterra Energy Inc.	Energy	3.2%
J	Jacobs Solutions Inc.	Industrials	3.7%
UHS	Universal Health Services, Inc. Class B	Health Care	3.7%
MRO	Marathon Oil Corporation	Energy	4.1%
DVN	Devon Energy Corporation	Energy	4.1%
LVS	Las Vegas Sands Corp.	Cons Disc	4.1%
CZR	Caesars Entertainment Inc	Cons Disc	4.1%
VTRS	Viatis, Inc.	Health Care	4.6%
UAL	United Airlines Holdings, Inc.	Industrials	4.6%
SO	Southern Company	Utilities	4.6%
L	Loews Corporation	Financials	4.6%
AEE	Ameren Corporation	Utilities	5.1%
HWM	Howmet Aerospace Inc.	Industrials	5.1%

Source: BofA US ESG Research; Factset Ownership

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BofA GLOBAL RESEARCH

US most widely held stocks by sector

Exhibit 25: Screen for most widely held stocks by sector

Top 3 most widely held S&P 500 stocks in US ESG funds by sector, as of 12/31/2023

Sector	Ticker	Name	% US ESG Funds Owning	ESG funds' weight relative to S&P 500
Comm Svcs	GOOGL	Alphabet Inc. Class A	41%	1.28
	DIS	Walt Disney Company	34%	1.14
	VZ	Verizon Communications Inc.	30%	1.28
Cons Disc	HD	Home Depot, Inc.	38%	0.96
	TSLA	Tesla, Inc.	38%	0.73
	APTV	Aptiv PLC	35%	2.70
Cons Staples	PG	Procter & Gamble Company	32%	1.08
	PEP	PepsiCo, Inc.	31%	0.91
	TGT	Target Corporation	29%	1.14
Energy	SLB	Schlumberger N.V.	19%	0.76
	OKE	ONEOK, Inc.	19%	1.03
	BKR	Baker Hughes Company Class A	19%	1.10
Financials	V	Visa Inc. Class A	46%	1.24
	MA	Mastercard Incorporated Class A	42%	1.70
	SPGI	S&P Global, Inc.	33%	2.49

Exhibit 25: Screen for most widely held stocks by sector

Top 3 most widely held S&P 500 stocks in US ESG funds by sector, as of 12/31/2023

Health Care	DHR	Danaher Corporation	37%	3.07
	LLY	Eli Lilly and Company	35%	0.79
	UNH	UnitedHealth Group Incorporated	35%	0.82
Industrials	DE	Deere & Company	35%	3.48
	XYL	Xylem Inc.	34%	6.15
	UPS	United Parcel Service, Inc. Class B	32%	0.88
Materials	ECL	Ecolab Inc.	41%	4.33
	BALL	Ball Corporation	32%	16.62
	LIN	Linde plc	31%	2.26
Real Estate	PLD	Prologis, Inc.	32%	1.20
	EQIX	Equinix, Inc.	30%	1.23
	AMT	American Tower Corporation	28%	1.89
Tech	MSFT	Microsoft Corporation	57%	1.02
	ADBE	Adobe Incorporated	47%	2.14
	NVDA	NVIDIA Corporation	43%	1.00
Utilities	AWK	American Water Works Company, Inc.	39%	4.85
	EXC	Exelon Corporation	25%	0.75
	NEE	NextEra Energy, Inc.	25%	0.80

Source: BofA US ESG Research, FactSet Ownership

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BofA GLOBAL RESEARCH

US ESG movers and shakers**Exhibit 26: Change in ownership screen**

Top 3 stocks by increase in percent of US ESG funds that own the stock in the last quarter, by sector, as of 12/31/2023

Sector	Ticker	Name	Change in % funds owning (ppt)	% US ESG funds owning, Q4 2023	% US ESG funds owning, Q3 2023	ESG funds' weight relative to S&P 500, Q4 2023
Comm Svcs	CHTR	Charter Communications, Inc. Class A	2.44	18%	15%	3.76
	GOOGL	Alphabet Inc. Class A	1.75	41%	40%	1.28
	CMCSA	Comcast Corporation Class A	1.64	30%	28%	0.85
Cons Disc	PHM	PulteGroup, Inc.	6.11	19%	13%	0.96
	ABNB	Airbnb, Inc. Class A	2.40	13%	11%	0.40
	HD	Home Depot, Inc.	2.17	38%	36%	0.96
Cons Staples	KVUE	Kenvue, Inc.	2.80	6%	4%	0.52
	CHD	Church & Dwight Co., Inc.	2.03	22%	20%	1.02
	DLTR	Dollar Tree, Inc.	1.02	12%	11%	0.50
Energy	TRGP	Targa Resources Corp.	1.91	9%	7%	0.93
	CVX	Chevron Corporation	1.04	14%	13%	0.25
	OXY	Occidental Petroleum Corporation	0.97	6%	5%	0.34
Financials	AJG	Arthur J. Gallagher & Co.	3.79	15%	11%	0.89
	WTW	Willis Towers Watson Public Limited Company	2.49	22%	20%	0.79
	MSCI	MSCI Inc. Class A	2.48	22%	19%	2.46
Health Care	MCK	McKesson Corporation	2.90	18%	15%	0.75
	GEHC	GE Healthcare Technologies Inc.	2.38	11%	9%	0.39
	JNJ	Johnson & Johnson	1.58	24%	22%	0.26
Industrials	CDAY	Ceridian HCM Holding, Inc.	1.98	17%	15%	0.96
	BR	Broadridge Financial Solutions, Inc.	1.55	19%	18%	3.34
	PH	Parker-Hannifin Corporation	1.55	19%	18%	0.48
Tech	PTC	PTC Inc.	2.88	15%	12%	1.21



Exhibit 26: Change in ownership screen

Top 3 stocks by increase in percent of US ESG funds that own the stock in the last quarter, by sector, as of 12/31/2023

	CDNS	Cadence Design Systems, Inc.	2.57	32%	29%	2.15
	AVGO	Broadcom Inc.	2.50	24%	21%	0.46
Materials	CTVA	Corteva Inc	4.22	12%	8%	0.35
	BALL	Ball Corporation	1.66	32%	31%	16.62
	LIN	Linde plc	1.65	31%	29%	2.26
Real Estate	DLR	Digital Realty Trust, Inc.	7.05	22%	15%	0.99
	SBAC	SBA Communications Corp. Class A	1.06	16%	15%	2.03
	HST	Host Hotels & Resorts, Inc.	1.05	15%	14%	0.67
Utilities	PCG	PG&E Corporation	1.43	7%	5%	0.14
	EIX	Edison International	1.06	17%	16%	0.63
	AWK	American Water Works Company, Inc.	0.81	39%	38%	4.85

Source: BofA US ESG Research, FactSet Ownership

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BofA GLOBAL RESEARCH

Methodology

EPFR fund flow and AUM methodology

To track AUM and fund flows of US ESG equity funds, we use methodology consistent with our monthly global ESG From A-Z reports. Funds are classified as ESG by EPFR. EPFR qualifies funds as SRI/ESG if they have sustainable investment as their objective or promote environmental or social characteristics. Before the introduction of relevant SRI/ESG legislation in recent years, historically, EPFR has followed the standard where an active fund must indicate SRI/ESG as the fund's investment focus. For passive funds, the fund must track an SRI/ESG benchmark.

EPFR classifies funds as active or passive using the following definitions:

- **Active:** Includes only funds that are actively traded and are not tied to a passive index/benchmark.
- **Passive:** Includes only funds that are tied to an index/benchmark and seek to mirror the index/benchmark's performance.

To track AUM and fund flows for US ESG equity funds focused on clean energy, we use a keyword-based approach. Within the US equity funds classified by EPFR as ESG, we screen fund names for the following keywords: renewable, cleantech, clean power, wind, solar, hydrogen, fuel, energy, and clean.

Ownership methodology

To compare holdings of US ESG funds versus the S&P 500 index, we use methodology consistent with our monthly global ESG From A-Z reports.

For this ownership analysis, the US ESG Fund universe is defined using Lipper fund data and a keyword-based identification methodology. We identified 217 ESG funds domiciled in the US with a US or Global geographical focus. We then query FactSet ownership database for those 217 funds to get their security level ownership data. Equity holdings were aggregated to build positioning metrics for relative weights and percentage of ownership at the stock level relative to S&P 500 as well as MSCI USA ESG leaders (USSLM) Index. Asset under management (AUM) invested in S&P 500

constituents was 164bn USD in this month's run. Equity holdings were marked-to-market the composite as of December 31, 2023.

List of key words

The following list contains the list of key words we searched in fund names in order to label a fund as ESG fund: ESG, SRI, Ethic, Carbon, Climate, Climate Change, Water, Clean Energy, Women, Catho, Islam, PRI, Sustainable, Responsible, Social, Impact, Env, Environmental Social, Governance, Responsible, Fossil, Fossil Fuel, Conscious, Gender, Clean, SDG, Vegan, Animal impact, Low Carbon, Low CO₂.

Bloomberg ETF methodology

To assess the launches, flows, performance, and sector allocations of US ESG ETFs by category, we filter for US-domiciled equity ETFs that have been classified by Bloomberg as having an ESG focus and/or as being religiously responsible. ESG ETFs are classified as passively or actively managed by Bloomberg. Bloomberg defines a fund as active if a fund seeks to outperform the benchmark and passive if a fund is attempting to replicate the returns of an index, according to the investment strategies and objectives of the prospectus.

ESG indices

To assess ESG index performance, we use methodology consistent with our monthly global ESG From A-Z reports. We assess performance of the S&P 500 ESG Index relative to the S&P 500 Index and assess performance of the MSCI USA ESG Index relative to the MSCI USA Index. We take a simple average to calculate the annual return for the two ESG indices and their relative performance to their local benchmarks.

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