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Vanguard Group: Passive About Climate Change

Despite Net Zero Pledges, Vanguard Is Indifferent to Climate and Investors' Best Interests

Executive Summary

Vanguard Group Inc. ("Vanguard"), the mutual fund giant with over US$7.2 trillion in assets under management (AuM)[1] has committed to the Net Zero Asset Managers Initiative, publicly pledging to slash its emissions by 2030 and achieve net zero emissions across all of its investment products by 2050.[2]

Considering Vanguard's significant share and bond holdings in fossil fuel exposed companies, and its corporate governance record to date, Vanguard has historically demonstrated a passive attitude towards climate change. Without any formal coal exit policy and no proactive plans to address environmental issues, the group also appears to be significantly trailing its peers on the road to net zero.

As the largest shareholder of almost every listed company in the United States (Vanguard averages a 9.6% stake across companies in the S&P 500)[3], the group holds enormous power to shape management decisions which reduce climate impact and enforce accountability against these goals. By and large however, studies have demonstrated that Vanguard has sided with management on the vast majority of shareholder propositions[4], and last year, the group opposed all of the Climate Action 100+ climate-critical votes which were proposed.[5]

Vanguard is the largest shareholder of almost every listed company in the United States.

Defending Vanguard's climate record and reluctance to take a more active governance role, representatives for the group have insisted that climate change is a

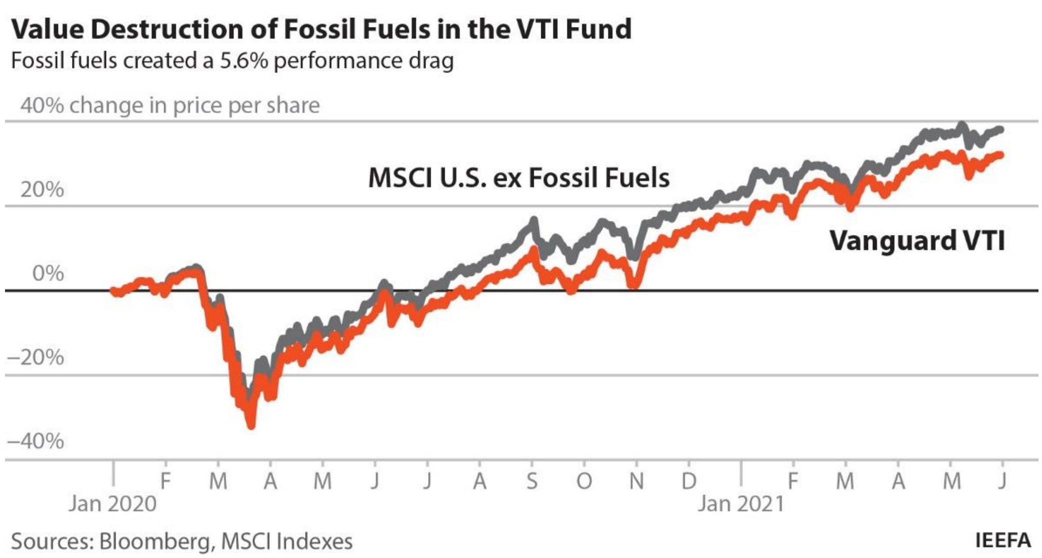
[1] Vanguard. Fast facts about Vanguard, Accessed 31 May 2021.
[2] Reuters. Investors BlackRock, Vanguard join net zero effort. 29 March 2021.
[3] IEEFA Calculations, Bloomberg data at 31 May 2021.
[4] Jan Fichtner, Eelke M. Heemskerk and Javier Garcia-Bernardo. Hidden power of the Big Three? Passive index funds, re-concentration of corporate ownership, and new financial risk. 2017.
[5] Majority Action. Climate in the Boardroom: How Asset Manager Voting Shaped Corporate Climate Action in 2020. September 2020.

priority for the company… however "they preferred to engage with companies rather than telling them what to do."[6] Yet over 2020, Vanguard only reported engaging with 655 of the ~13,000 companies it owns (5%).[7] State Street, who holds less than half Vanguard's assets under management, engaged with over 2,400[8] and BlackRock engaged with over 3,000 (~24%).[9]

With a portfolio of funds containing an estimated US$300 billion in fossil fuel exposure[10], with US$90 billion in thermal coal[11], this passive approach to governance and climate is coming at a rising cost to investors in Vanguard products.

For the better part of a decade, the performance drag of fossil fuel investments has been substantial.

Take for example Vanguard's largest fund, the Total Market Index Fund (VTI) which has over US$1.2 trillion in AuM (>15% of Vanguard's total assets, and coincidentally the world's largest fund).[12] Since January 2020, the VTI underperformed by ~5.6% versus a comparable benchmark which excludes fossil fuels. A significant amount of value has already been destroyed in the >US$1.2 trillion in investments in the fund.



This may only be the beginning of profound wealth destruction, as financial losses (for instance, related to damages and insurance) are only expected to escalate as more extreme weather events more frequently occur.

[6] The Guardian. Vanguard refuses to sign up to climate crisis commitment. 14 Jan 2020.
[7] Vanguard. Investment Stewardship, December 31, 2020.
[8] State Street Global Advisors. Stewardship Report 2020.
[9] Blackrock. Investment Stewardship Global Engagement Summary Report, Q1-Q4 2020.
[10] Source: Fossil Free Funds, Morningstar, Data at 31 May 2021
[11] Financial Times. Vanguard tops list of world's largest coal investors. 25 February 2021.
[12] Source: Bloomberg, Data at 31 May 2021.

Vanguard Can Be a Laggard or a Climate Leader

Public opinion polls conducted by Gallup have demonstrated that the majority (60%) of the U.S. population is in favor of policies and proposals which dramatically reduce the use of fossil fuels.[13]

Passive fund managers have a choice of products they offer investors and removing fossil fuel exposure in Vanguard's funds would *not* be as difficult as it would appear.

In the Prospectus for Vanguard's U.S. Index Large Capitalization funds,[14] a change of investment strategy is provided for, requiring only approval by the board. In the case of Vanguard's Total Stock Market Fund (VTI) which holds over US$1.2 trillion in AuM, removal of fossil fuel exposure would be even easier. The fund invests by sampling the index. Therefore, removing the ~6% fossil fuel exposure (almost immediately) would be reasonably straightforward.

Despite a slow start on environmental, social and governance (ESG) offerings, Vanguard could adopt a more innovative strategy and make ESG-compliant index products a default offering. Vanguard could also champion investor's best long-term interests by applying a coal exit policy to all of its funds.

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This report reviews both Vanguard's active and passive portfolio products and details the impact which has resulted from holding fossil fuels. The report reviews Vanguard's attitude and policies toward corporate governance and its overall transparency to date, and suggests that better corporate governance has a positive correlation with shareholder risk adjusted returns.

As an alternative to investment in open-ended stewardship and engagement strategies, the report reviews how relatively easy it would be for Vanguard to progressively exit fossil fuels and demonstrates that the structure of the group allows changes to more easily occur as compared with its peers.

Finally, the report benchmarks the Big 3 global indexers – BlackRock, State Street and Vanguard - and suggests that on climate and ESG commitments, Vanguard appears to be under-performing its peers. Vanguard has no coal exit policy, and its voting record and investor stewardship efforts indicate climate is not a priority. In contrast with BlackRock and State Street, Vanguard appears to lack any core competency in analyzing or addressing the dramatic impact of physical and

[13] Gallup. Most Americans Support Reducing Fossil Fuel Use. 22 March 2019.
[14] Vanguard. Vanguard U.S. Stock Index Large-Capitalization Funds Prospectus. 29 April 2021.

transition climate risks on financial assets, or even in engagement. To date, Vanguard's policies, which are presented in their engagement and Investment Stewardship reports, suggest the company has yet to understand the financial case outlined by the May 2021 IEA Roadmap to Net Zero[15] that outlines in full the urgent steps needed, and which are now being taken by their global peers.

As recent signatories to the Net Zero Asset Manager initiative, Vanguard has committed to "implement a stewardship and engagement strategy that is consistent with ambitions for all assets under management to achieve net zero emissions by 2050 or sooner."

IEEFA suggests the following as recommendations for meeting Vanguard's commitments to the Net Zero Asset Managers initiative:

- Commit to a coal exit policy which phases out thermal coal and coal power from all portfolios, with a particular focus on any firm building new capacity.

- Adopt index benchmarks for all funds to progressively reduce exposure to fossil fuels.

- Adopt investment stewardship guidelines which prioritize addressing climate risk. This means not just disclosing climate risk, but supporting activities which address climate-related business risks.

- Provide transparency around company engagements, particularly those concerning climate with time-limits and consequences.

[15] IEA. Net Zero by 2050: A roadmap for the global energy sector. 18 May 2021.

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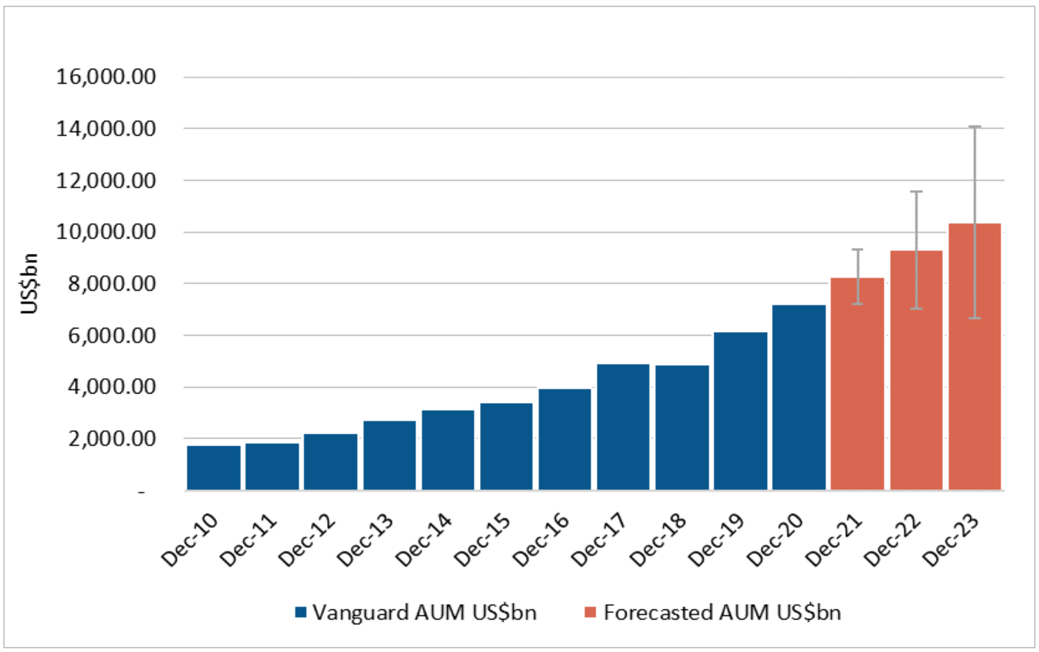
Background: Vanguard the Passive Giant

From humble beginnings in 1975, The Vanguard Group ("Vanguard") has grown to become one of the world's largest asset managers, overseeing assets of over US$7.2 trillion.[16] Trailing only BlackRock in size (who in April 2021 announced its assets had topped US$9 trillion[17]), Vanguard manages more wealth than the GDP of every other nation, aside from the U.S. and China.[18]

Growth in Vanguard's funds has been extraordinary. The inaugural index fund, the "First Index Investment Trust"[19] (now called the **"Vanguard 500 Index Fund"**), raised only US$11 million in its initial public offering in 1976 and now has over US$730 billion in assets under management (AuM).[20] Vanguard manages over 400 funds for more than 30 million investors across 170 countries.[21]

Figure 1: Vanguard's Assets Should Surpass US$10 Trillion by 2023



Source: Bloomberg, IEEFA calculations.

Vanguard's assets have skyrocketed. From managing just over US$1 trillion in 2008, assets have increased six-fold. If Vanguard's growth continues on this trajectory, assets under management will exceed US$10 trillion by 2023, and they could succeed BlackRock to take the crown as the world's largest asset manager. This

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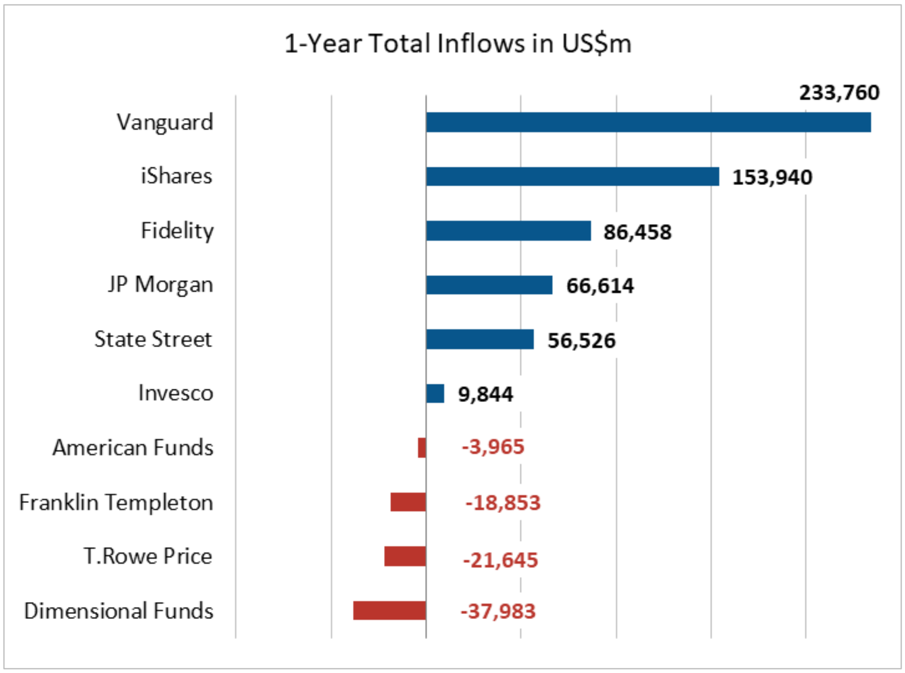
[16] Vanguard. Fast facts about Vanguard.
[17] Financial Times. BlackRock assets under management surge to record $9tn, 15 April 2021
[18] The World Bank. GDP, Accessed 31 May 2021
[19] WSJ. How the Index Fund Was Born. 3 September 2011.
[20] Vanguard 500 Index Mutual Fund (VFIAX) assets under management were US$513.7bn as of 31 May 2021; Vanguard 500 Index ETF (VOO) assets under management were US$243.6bn as of 31 May 2021. Source: Bloomberg.
[21] Vanguard. Fast facts about Vanguard. Accessed 31 May 2021.

would be a certainty if Vanguard is able to gain a stronger foothold in ex-U.S. markets, as they intend.

In the U.S., Vanguard dominates fund flow. Of the US$507bn inflows into U.S.-listed ETFs in 2020, Vanguard clenched almost 40%, raking in just over US$200bn.[22] More recently, in the 12 months to March 2021, Vanguard banked US$233bn in new money, dwarfing inflows by any other competitor.

Figure 2: Vanguard's Inflows Dwarf the Competition



Source: Morningstar Fund Flow Report March 2021, Data at March 2021.

While rivals BlackRock and State Street hold a firmer foothold in the world's ex-U.S. markets, Vanguard's assets far outrival any competitor in the U.S., and account for ~US$6 trillion of its US$7.2 trillion in AuM, some 85%.[23] The firm does have designs to grow its non-U.S. business, especially in the UK, Australia, China, Japan and Mexico.

This dominance in the U.S. means that the company holds an outsized portion of the U.S. stock market. Eight out of the 10 largest mutual funds by asset size belong to Vanguard with the largest, the **Vanguard U.S. Total Stock Market Index Fund (VTSAX, VTI)** holding over[24] US$1.2 trillion in AuM.[25] A further 19 of the top 50

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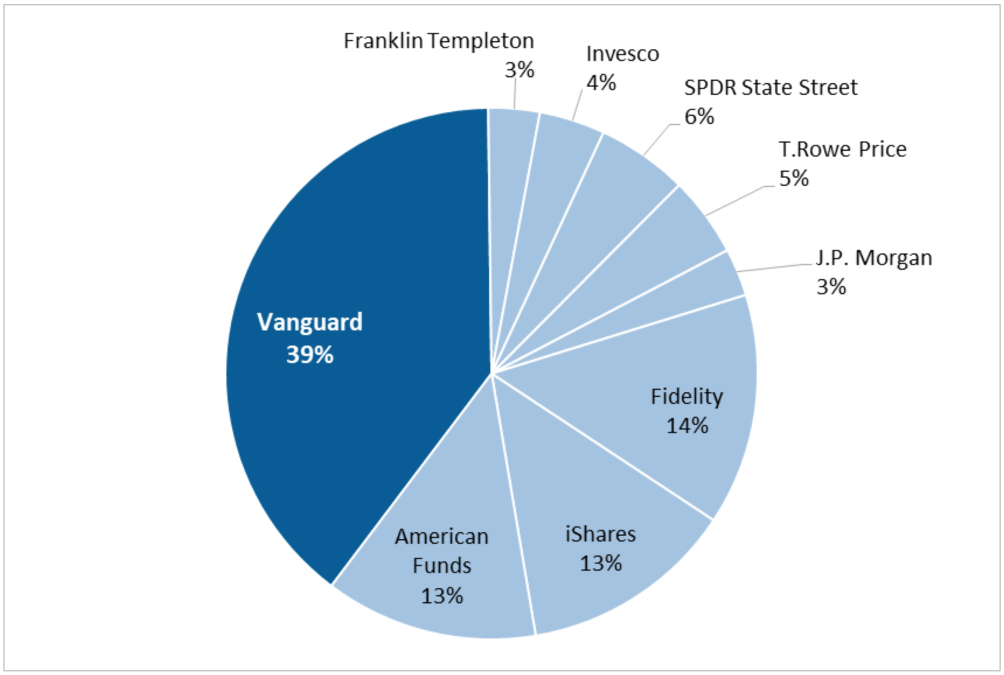
[22] Morningstar Fund Flow Report 2021. Morningstar Direct's Fund Flows Report | Morningstar.
[23] IEEFA calculations.
[24] Pensions and Investments. Vanguard Total Stock Market Index Fund tops $1 trillion. 16 December 2020.
[25] Vanguard Total Stock Market Index Mutual Fund had US$974bn in assets as of 30 April 2021. Source: Bloomberg.

exchange-traded funds (ETFs) by size belong to Vanguard, accounting for an additional US$1.4 trillion in AuM.

Figure 3: Vanguard Claimed 39% of Fund Flows in the U.S. in 2020



Source: Morningstar.

Amongst U.S. large cap names (i.e. stocks which are members of the S&P 500 index), **Vanguard controls over 5% of almost every company**;[26] averaging a 9.6% stake across the 500 companies.[27] Across the entire U.S. stock market (companies which are members of the Russell 3000 Index), Vanguard's average ownership is around 6.6%, with the company controlling more than 5% of around two thirds of the companies.[28]

The majority of Vanguard's funds are invested in passive products (~80%) spread across ETF's and mutual funds (Table 1). While best known for their index funds, **Vanguard is one of the world's largest active managers**, and while secondary, active funds represent a major part of the business.

[26] As of 31 May 2021, Vanguard owned 5% or more of 496 of the 504 member stocks in the S&P 500 index.
[27] Sources: Bloomberg, S&P Capital IQ, IEEFA Calculations.
[28] Lucian Bebchuk & Scott Hirst. The Specter of the Giant Three. NBER Working Paper. June 2019.

Table 1: Vanguard's AUM by Investment Style at 31 May 2021

Fund Type:	US$ Billion	%
ETFs	1,794.97	25.6%
Mutual Funds	5,225.75	74.4%
Active vs. Passive:		
Active Long Term	1,214.85	17.6%
Passive Long Term	5,805.87	82.4%
Asset Split:		
Equity	4,641.47	65.2%
Fixed Income	1,346.32	19.3%
Multi-Asset/Alternatives	580.73	8.5%
Cash Management	452.19	6.9%
Total U.S. Assets as of 30 April 2021	**7,020.72**	

Sources: Vanguard Group, Bloomberg, IEEFA Calculations, Data at 31 May 2021.
Note: Excludes Seperately Managed Accounts, 529 Funds, Funds domiciled outside of the U.S.

Vanguard's Actively Managed Assets: Flexibility to Divest

Worldwide, Vanguard actively manages assets totalling around US$1.6 trillion, with US$1.2 trillion domiciled in the U.S. Actively managed funds provide fund managers with discretion to include/exclude companies or bonds within the specified fund mandate.

Of the actively managed funds domiciled in the U.S., IEEFA estimates that half, representing over US$540 billion, are actively-managed equity funds. These active funds contain a high proportion of fossil fuel exposure.

Fossil-Free Funds,[29] a not-for-profit subsidiary of As You Sow, provides analytics into the climate impact of U.S.-listed mutual funds and ETFs, and determines the fossil fuel investment or exposure[30] of individual funds as a percentage of market capitalization.[31]

Based on Fossil Free Funds' data, IEEFA has estimated that **Vanguard's fossil fuel exposure represents, on average, ~5% in each of its actively managed funds.** In aggregate, this represents around US$14 billion of fossil fuel exposure.

[29] Fossil Free Funds.
[30] Broadly, fossil fuel exposure contains companies within the following categories. A full breakdown of methodology is provided in the Appendix. 1) Carbon Underground 200 – meaning top 100 coal and top 100 oil and gas reserve holders globally; 2) Coal Industry – companies engaged in mining coal and the top 100 coal reserve holders; 3) Oil/Gas industry – companies involved in drilling, extraction and production, integrated midstream, refining and marketing, and equipment and services. 4) Macroclimate 30 – 30 largest public company owners of coal-fired power plants in Developed Markets plus China and India. 5) Fossil fired utilities – independent power producers, diversified, regulated electric, and regulated gas.
[31] Details of methodology is available on Fossil Free Funds' indexes website.

Table 2: On Average, Fossil Fuels Make Up 4.9% of Vanguard's Actively Managed Equity Funds

		AUM US$bn	Fossil Fuel Grade	% Fossil Fuels	Fossil Fuel Investments	# Fossil Fuel Stocks
Wellington	VWELX	119,195.47	C	3.39%	3,780.00	3
PRIMECAP	VPMCX	76,014.00	B	0.93%	655.58	6
International Growth	VWIGX	70,522.18	B	1.47%	999.01	3
Windsor II	VWNFX	57,600.26	C	5.13%	2,420.00	17
Dividend Growth	VDIGX	51,262.21	A	0.00%	-	0
Equity Income	VEIRX	48,705.46	A	0.00%	-	0
Windsor	VWNDX	24,005.97	F	10.00%	2,070.00	14
Explorer	VEXPX	23,600.61	B	0.55%	114.04	8
Capital Opportunity	VHCOX	20,973.10	B	1.40%	273.80	7
International Value	VTRIX	14,827.48	D	8.97%	1,090.00	19
Growth and Income	VQNPX	13,611.97	C	4.44%	515.47	135
PRIMECAP Core	VPCCX	12,524.18	B	1.13%	119.95	9
Global Equity	VHGEX	8,876.71	B	2.38%	188.58	26
Strategic Equity	VSEQX	7,920.88	C	5.43%	372.13	24
Selected Value	VASVX	7,070.04	D	6.73%	373.26	10
Global Minimum Volatility	VMVFX	2,891.37	D	5.99%	193.69	27
International Explorer	VINEX	2,852.20	B	1.60%	38.70	2
Global Wellington	VGWLX	1,746.39	C	3.55%	57.80	8
Strategic Small-Cap Equity	VSTCX	1,617.53	C	4.89%	61.64	32
Global Capital Cycles	VGPMX	1,384.95	F	26%	310.29	7
Explorer Value	VEVFX	1,286.75	B	2.97%	17.82	5
Emerging Markets Select Stock	VMMSX	1,059.08	F	11%	86.69	26
Global ESG Select Stock	VEIGX	548.57	B	1.48%	4.53	1
International Core Stock	VWICX	528.61	F	10%	24.12	9
Average % Fossil Fuel Exposure Across Active Equity Funds				**4.98%**		

Source: Vanguard, Bloomberg, Fossil Free Funds. Data at 31 May 2021.

Actively managed funds have the flexibility to divest (and invest in) companies or bonds in a portfolio at the discretion of the fund manager (within the constraints of the fund mandate).

Just as BlackRock was able to divest thermal coal companies from its actively managed portfolios[32] with ease in 2020,[33] it would be reasonably uncomplicated for Vanguard to divest the highest carbon intensive fossil fuel holdings from its actively managed funds, be that simply major coal-fired power plant owners, or a more comprehensive divestment of firms failing to implement the IEA's Roadmap to Net Zero Emissions by 2050 (i.e. developers of new greenfield coal, oil and gas projects). IEEFA's understanding of Vanguard's rules suggests such a decision would *not* require a shareholder vote or any change to individual fund mandates.

[32] BlackRock removed companies which derived 25% of their revenue from thermal coal from its actively managed portfolios.
[33] BlackRock. A Fundamental Reshaping of Finance. 2021.

Aside from the positive climate implications resulting from the divestment of fossil fuels, to a great extent, fossil fuels have yielded poor investment returns for the last decade and eroded the long-term alpha these active funds have sought to achieve.

Take for instance Vanguard's largest actively managed equity fund, the **Vanguard Wellington Fund (VWELX)**, which contains 3.39% or US$3.78bn of fossil fuel exposure.[34] The objective of the fund according to the fund prospectus is "…to provide long-term capital appreciation and moderate current income."[35] The principal investment strategy is to invest "60% to 70% of its assets in dividend-paying common stocks of large established companies."[36]

Table 3: Fossil Fuel Exposure in the VWELX Has Significantly Eroded Investor Returns

	% of VWELX Portfolio	Fossil Fuel Investment (US$m)	Dividend Yield	Performance % Since Jan 2020	Fossil Fuel Exposure
Total SE	1.50%	1,770	6.77%	-25.15%	Carbon reserves/Oil & Gas industry
Exelon Corp	1.03%	1,230	3.34%	-1.43%	Fossil Fired Utilities
Duke Energy Corp	0.99%	1,210	3.79%	10.39%	Coal Fired Power
VWELX Fund Performance & Dividend Yield			7.27%	9.59%	
S&P 500				29.42%	

Source: Fossil Free Funds, Bloomberg. Data to 31 May 2021.

The three fossil fuel-exposed holdings in the VWELX portfolio have all significantly underperformed the S&P 500 (by 30-45% each) and the Vanguard Wellington fund since January 2020. Each company has also paid out a lower dividend yield than the yield of the fund, thereby lowering the total fund's return to well below the benchmark.

Duke Energy for one, would be a suitable candidate for VWELX divestment. Duke Energy represents 1% of the fund and had only appreciated 16% from January 2020 to May 2021 versus the overall fund performance, which returned 30%. Duke Energy had a dividend yield of 3.7% in the 12 months to 31 May 2021 compared with the fund average of 7.3%. Relative to the overall fund, Duke Energy has *not* demonstrated long-term capital appreciation nor income potential, which is the stated investment objective of the fund.

Fossil fuel exposure erodes investment returns.

Duke Energy derives 27% of its revenues from thermal coal power.[37] The investment

[34] Based on fossil-free funds screen.
[35] Vanguard Wellington Fund Summary. Prospectus. Dated 29 March 2021. p. 1.
[36] Ibid. p. 2.
[37] Duke Energy. How Energy Works. Accessed 31 May 2021.

erosion related to fossil fuel exposure and climate risk is clear. Fossil fuel exposure erodes investment returns. Active portfolios can easily mitigate this climate risk by filtering out and divesting fossil fuel exposure, particularly those which generate revenue from thermal coal.

Vanguard's actively managed fixed income funds lack transparency. It is therefore more difficult to discern climate risk in these funds.

Assets in Vanguard's actively managed fixed income funds amounted to ~US$470 billion at 31 May 2021.[38] The vast proportion (>99%) of these assets are in mutual funds.

There is little transparency into the composition of Vanguard's actively managed fixed income funds.[39] Quarterly portfolio composition reports are available for each fund, however, not in a format IEEFA would deem to be manageable. Due to the large number of bond holdings in each of these funds, IEEFA believes there is insufficient detail to enable users to make any meaningful analysis into fund exposures.

Looking into Vanguard's largest actively managed fixed income fund, for example the **Vanguard Intermediate-Term Tax Exempt fund (VWITX)**[40], portfolio composition files are only made available to the National Securities Clearing Corporation which then disseminates it to authorized market participants only. Portfolio Composition Files, or PCFs, which identify the basket of securities or bonds in a fund, are *not* made available to investors, let alone a public audience.

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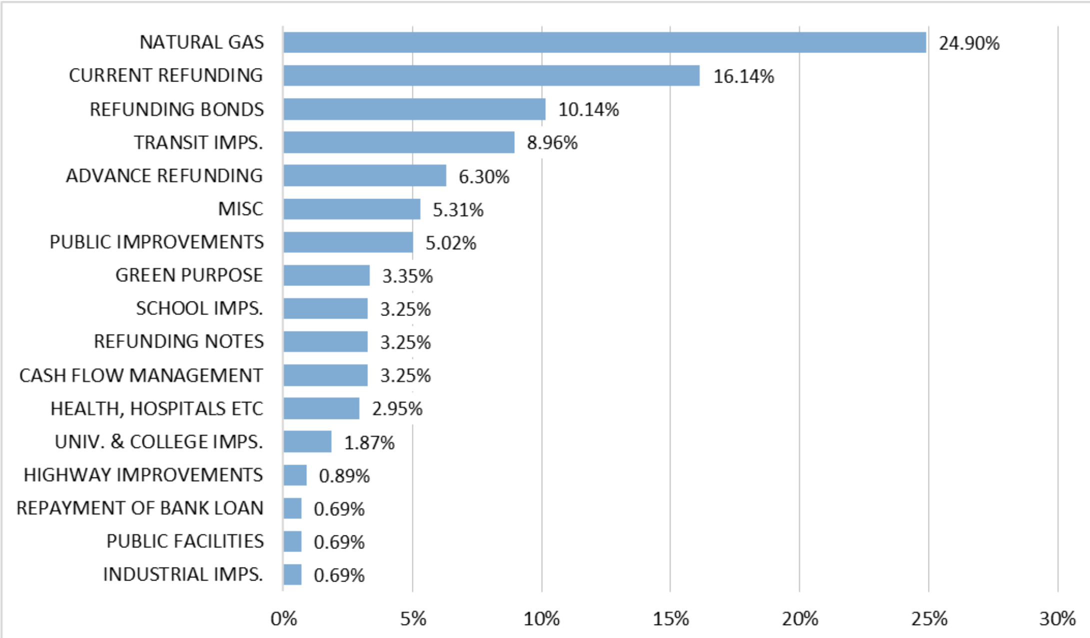
[38] Source: Bloomberg, IEEFA Calculations.
[39] The SEC requires that mutual funds report fund holdings within 60 days of quarter end. This is available for Vanguard funds however within these Quarterly filings for Vanguard's mutual funds provide only bond names, no unique identifier is provided to enable users to meaningful assess the composition of actively managed bond portfolios. Bloomberg provides a screen shot of mutual fund composition however this is not downloadable.
[40] SEC. Vanguard Municipal Bonds Prospectus. 2015.

Figure 4: Natural Gas Is a Large Source of Revenue for VWITX



Source: Bloomberg, IEEFA Calculations, 10% of AuM analyzed.

For outside market participants, including investors in the fund, disclosure of portfolio holdings is at Vanguard's discretion, and must be approved by a principal of the firm.[41]

Vanguard defends the lack of disclosure and transparency in the funds' holdings by arguing that offering the portfolio composition would be immaterial to investment decisions. In the statement of additional information which accompanies the SEC filings for the **Vanguard Municipal Bond** fund, it states "in most cases, the PCF for any ETF fund would be immaterial and would not convey any advantage to the recipient in making an investment decision concerning the ETF fund".[42] Even Vanguard investors are prevented from accessing basic information about a fund's exposure to climate risk.

Vanguard investors are prevented from accessing basic information about a fund's exposure to climate risk.

Vanguard may argue that this lack of transparency provides some protection for investors. "Index front running", which involves hedge funds and speculators

[41] Vanguard Municipal Bond Funds. Statement of Additional Information. February 26, 2021. P.B-38-B-40.
[42] Ibid.

trading ahead of index changes and fund movements, may ultimately disadvantage Vanguard investors if a fund has to buy or sell or adds or deletes at artificially high or low prices.[43] These funds however, do not even provide high-level sector exposure, only basic insight into credit-ratings, state or municipal exposure. Any thorough assessment of climate risk, and ultimately investment risk of these products is *not* at all possible.

Similarly, a full analysis into the potential aggregate fossil fuel exposure in Vanguard's actively managed fixed income funds is unfeasible.

In order to model the potential fossil fuel exposure in these portfolios, IEEFA sampled the top 100 holdings in the **Vanguard Intermediate-Term Tax-Exempt Fund (VFITX)**.[44] Within this particular fund, 25% of the bonds sampled were classified as municipals financing natural gas projects. This indicates there is likely substantial hidden climate risk in most of Vanguard's actively managed fixed income funds.

Morningstar provides some metrics on fossil fuel involvement in a few scattered Vanguard fixed income funds. Morningstar defines fossil fuel involvement as the portfolios' asset-weighted percentage exposure to companies, averaged over the trailing 12 months, in the following subindustries: Thermal Coal Extraction, Thermal Coal Power Generation, Oil & Gas Production, Oil & Gas Power Generation, and Oil and Gas Products and Services. Morningstar fossil fuel exposure and carbon risk data is available for 7 of the 22 actively managed fixed income funds. Across the funds for which Morningstar data is available, average holdings with fossil fuel exposure is 6.1% (see Appendix).

Given the lack of transparency in Vanguard's actively managed fixed income portfolios, the true extent of fossil fuel exposure in these funds is indeterminable. Where bond information is disclosed, fossil fuel exposure is significant. While Quarterly Portfolio Composition Files are required to be produced and filed with the SEC, the lack of transparency offered to investors and the public raises questions over what is being concealed.

The true extent of fossil fuel exposure in these funds is indeterminable.

IEEFA's analysis into the bond data which is available suggests that average fossil fuel holdings across active fixed income funds is 5-6%. As an active mandate, funds have total discretion over bond holdings. Unlike equity funds, the fossil fuel-exposed bonds within Vanguard's fixed income funds may *not* have sufficient liquidity to divest with any urgency. **Vanguard could pro-actively reduce their fossil fuel exposure in these instruments however by letting maturing fossil fuel bonds roll off, and by reducing liquid holdings on a prudent but high priority basis.**

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[43] Bloomberg. The Hugely Profitable, Wholly Legal Way to Game the Stock Market. 7 July 2015.
[44] Top 100 Holdings of the VFITX were manually downloaded from Bloomberg.

Vanguard's Passive Funds and Fossil Fuel Exposure

Vanguard's flagship business is its passive or index investment products. Some ~US$5.8 trillion is invested in Vanguard's passive instruments, predominately in ETFs and mutual funds (Table 1).[45]

Passive, or index investments, relate to funds whose strategy is to replicate the composition and returns of a representative index, such as the S&P 500, FTSE 100, or Japan's Nikkei. There is no stock picking within the fund, rather the fund buys or sells securities (or bonds) only when there is a change in the underlying index. For instance, Tesla's inclusion in the S&P 500 in December 2020 meant that index funds which were benchmarked to the S&P 500 needed to purchase Tesla within the fund. There is no discretion; passive investments are simply programmed to mirror the holdings in the underlying index.

IEEFA estimates that approximately 75% of Vanguard's passive funds are equity investments. The remainder are bond, money market, and blended assets.

Fossil fuel exposure in passive equity investments is much easier to determine as full transparency is provided into the underlying index. Both Morningstar and Fossil Free Funds provide an in-depth analysis into all of Vanguard's U.S.-listed passive funds.

Referring to the data aggregated by Fossil Free Funds, IEEFA has established that Vanguard's passive equity funds contain over US$227bn of fossil fuel exposure. An analysis of Morningstar data suggests fossil fuel exposure is even higher at around US$265bn. Regardless of the data source, **Vanguard's passive equity funds contain between US$227 – US$265bn in fossil fuel exposure** (Table 4).

[45] Vanguard manages various 529 funds and separately managed accounts. It is not clear whether Vanguard includes these funds within the AuM figures.

Table 4: Vanguard's Passive Equity Funds Contain US$227bn - US$265bn of Fossil Fuel Exposure

Fund	Bloomberg Ticker	Total Assets US$m	Fossil Free Funds Grade	Fossil Fuel Exposure %	Fossil Fuel Assets	Morningstar Fossil Fuel Involvement	Implied Exposure US$ AUM, Morningstar
Total Stock Market ETF	VTI	1,224,233.47	D	5.90%	60,744.07	6.43%	78,718.21
S&P 500 ETF	VOO	739,447.10	D	6.60%	40,701.37	7.17%	53,018.36
Total International Stock ETF	VXUS	405,627.67	D	8.25%	33,312.52	9.12%	36,993.24
Growth ETF	VUG	204,368.07	B	0.36%	495.48	0.57%	1,164.90
Mid-Cap ETF	VO	151,258.10	D	8.18%	10,429.36	8.82%	13,340.96
Small-Cap ETF	VB	135,217.65	C	4.42%	4,668.37	3.63%	4,908.40
Value ETF	VTV	126,406.37	F	13.64%	12,729.69	14.79%	18,695.50
FTSE Emerging Markets ETF	VWO	115,279.07	D	8.87%	8,304.85	8.04%	9,268.44
FTSE Developed Markets ETF	VEA	101,642.18	D	8.07%	10,537.02	9.44%	9,595.02
Extended Market Index Admiral Shares	VEXAX	93,668.76	B	2.83%	2,499.62	2.69%	2,519.69
Real Estate ETF	VNQ	74,825.80	A	0.00%	-	1.71%	1,279.52
Dividend Appreciation ETF	VIG	72,167.03	C	3.91%	2,439.41	3.76%	2,713.48
Health Care ETF	VHT	64,430.37	A	0.00%	-	0.00%	-
FTSE All-World ex-US ETF	VEU	54,066.21	D	7.94%	3,573.39	9.34%	5,049.78
High Dividend Yield ETF	VYM	48,590.92	F	14.32%	5,500.32	14.74%	7,162.30
Small-Cap Value ETF	VBR	48,192.60	D	7.09%	2,393.54	5.75%	2,771.07
Information Technology ETF	VGT	43,714.79	A	0.00%	-	0.00%	-
Large-Cap ETF	VV	36,694.25	D	6.20%	1,942.88	6.90%	2,531.90
Small-Cap Growth ETF	VBK	36,162.15	B	1.23%	387.96	1.28%	462.88
Mid-Cap Value ETF	VOE	27,202.93	F	15.58%	3,172.10	8.82%	2,399.30
Mid-Cap Growth ETF	VOT	27,056.77	B	1.68%	333.27	3.11%	841.47
Total World Stock ETF	VT	21,300.43	D	6.95%	1,567.67	7.63%	1,625.22
FTSE Europe ETF	VGK	18,941.27	D	8.04%	1,525.46	9.55%	1,808.89
Extended Market ETF	VXF	16,606.73	B	2.83%	2,499.62	2.69%	446.72
Tax-Managed Capital Appreciation Admira	VTCLX	16,138.40	D	5.89%	796.73	6.36%	1,026.40
FTSE Social Index Admiral Shares	VFTAX	13,195.63	B	0.68%	67.74	0.85%	112.16
FTSE All-World ex-US Small-Cap ETF	VSS	11,531.30	D	5.88%	407.12	4.56%	525.83
Financials ETF	VFH	11,014.74	D	8.52%	621.07	8.71%	959.38
Mega Cap Growth ETF	MGK	10,492.54	B	0.09%	9.23	0.91%	95.48
Energy ETF	VDE	9,862.42	F	99.52%	3,500.01	97.35%	9,601.07
Tax-Managed Small-Cap Admiral Shares	VTMSX	9,248.41	C	3.67%	248.75	3.03%	280.23
FTSE Pacific ETF	VPL	8,786.52	D	6.26%	441.54	10.03%	881.29
Total World Stock Index Admiral Shares	VTWAX	8,507.85	D	6.95%	1,567.67	7.62%	648.30
Russell 1000 Growth ETF	VONG	6,216.66	B	0.09%	7.90	0.11%	6.84
European Stock Index Admiral Shares	VEUSX	6,128.69	D	8.04%	1,525.46	9.55%	585.29
Consumer Discretionary ETF	VCR	6,031.59	B	0.00%	0.23	0.00%	-
Global ex-U.S. Real Estate ETF	VNQI	5,963.07	A	0.00%	-	0.04%	2.39
Consumer Staples ETF	VDC	5,760.92	A	0.00%	-	0.00%	-
Industrials ETF	VIS	5,625.40	B	0.05%	2.00	2.50%	140.64
S&P 500 Growth ETF	VOOG	5,616.78	B	1.12%	51.17	1.38%	77.51
Russell 2000 ETF	VTWO	5,282.02	C	3.89%	121.54	2.83%	149.48
Russell 1000 Value ETF	VONV	4,875.33	F	12.39%	545.71	14.10%	687.42
Utilities ETF	VPU	4,739.74	F	93.31%	5,278.43	88.12%	4,176.66
ESG U.S. Stock ETF	ESGV	4,471.20	B	0.79%	20.76	0.95%	42.48
Mega Cap Value ETF	MGV	4,443.42	F	13.04%	453.99	14.38%	638.96
International Dividend Appreciation ETF	VIGI	3,987.54	C	3.63%	110.00	5.10%	203.36
Communication Services ETF	VOX	3,917.59	A	0.00%	-	0.00%	-
Mega Cap ETF	MGC	3,874.02	D	5.77%	193.08	6.51%	252.20
Materials ETF	VAW	3,850.08	B	0.55%	15.32	2.14%	82.39
International High Dividend Yield ETF	VYMI	2,983.63	F	17.37%	324.46	18.32%	546.60
Russell 1000 ETF	VONE	2,376.14	D	6.05%	247.14	6.72%	159.68

Fund	Bloomberg Ticker	Total Assets US$m	Fossil Free Funds Grade	Fossil Fuel Exposure %	Fossil Fuel Assets	Morningstar Fossil Fuel Involvement	Implied Exposure US$ AUM, Morningstar
S&P 500 Value ETF	VOOV	2,341.43	F	14.98%	243.67	15.51%	363.16
ESG International Stock ETF	VSGX	2,237.58	B	1.44%	21.54	1.68%	37.59
S&P Small-Cap 600 ETF	VIOO	1,678.79	C	3.89%	101.16	3.24%	54.39
S&P Mid-Cap 400 ETF	IVOO	1,438.30	C	4.23%	99.25	3.80%	54.66
S&P Small-Cap 600 Value ETF	VIOV	1,412.28	D	5.79%	39.87	4.82%	68.07
Russell 2000 Value ETF	VTWV	1,077.44	D	7.38%	39.11	4.93%	53.12
Russell 3000 ETF	VTHR	1,047.00	D	5.91%	108.10	6.46%	67.64
S&P Mid-Cap 400 Growth ETF	IVOG	913.33	B	1.65%	15.83	1.52%	13.88
S&P Mid-Cap 400 Value ETF	IVOV	836.41	D	7.43%	48.42	6.53%	54.62
Russell 2000 Growth ETF	VTWG	715.84	B	0.61%	6.22	0.64%	4.58
S&P Small-Cap 600 Growth ETF	VIOG	574.62	B	2.10%	7.50	1.77%	10.17
	Total Passive Equity Fossil Fuel Exposure				**227,045.68**		279,979.17
	% Fossil Fuel Exposure in Passive Portfolios				**5.82%**		

Sources: Vanguard Group, Bloomberg, Fossil Free Funds, Morningstar, AuM Data at 31 May 2021.

Across all of Vanguard's funds (active & passive), total fossil fuel investments are estimated to exceed US$290bn, representing around 6% of their total assets. **This number would squarely situate Vanguard as the world's largest investor in fossil fuels.**

Within Vanguard's top three funds alone, aggregate fossil fuel data exceeds US$130bn.

Table 5: Vanguard Funds Have the Most Fossil Fuel Exposure

	Aggregate Fossil Fuel Exposure US$bn	Fund Exposure
Vanguard	293	6%
Blackrock + iShares	126	7%
American Funds	121	7%
Fidelity	100	5%
State Street SPDRs	80	11%
Dimensional Fund Advisors	27	7%
Franklin Templeton	27	9%
T.Rowe Price	25	4%
Invesco	25	5%
TIAA + Nuveen	9	6%

Source: Fossil Free Funds. Data relates to all (active & passive) funds.

In defence of fossil fuel exposure in passive index products, index fund managers may argue that these securities were not selected by portfolio managers, and that these securities merely represent a holding in the underlying index for which the fund seeks to replicate.

Arguably, the popularity of index funds could be attributed to the ease of investment and the suitability to all investors, regardless of their financial prowess. **The 'average' Vanguard or retail investor may be unaware of the inherent risks in**

investing in index investment products. While fund fact sheets warn of past returns *not* being a predictor of financial performance, understanding the risks associated with investing in certain funds are equally important, particularly to investors with less sophisticated financial knowledge or expertise.

In the EU, disclosing how ESG factors are integrated at both an entity and product level are an industry requirement. Effective from March 2021, the Sustainable Finance Disclosure Regulation (SFDR) came into effect with the aim of making the sustainability profile of funds easier to understand for all investors.[46]

Climate risk is a material market attribute of Vanguard funds which on average have 6% fossil fuel exposure and have been demonstrated as having a long-term detrimental impact on investment returns. Public opinion polls performed by Gallup have also demonstrated that the majority of the U.S. population is in favor of policies and proposals which dramatically reduce the use of fossil fuels.[47]

Climate risk is a significant investment risk which may *not* be sought by all investors, and IEEFA believes this should be disclosed. **Passive fund managers also have a choice of products they offer to investors.**

Of the 62 passive equity funds available to Vanguard investors, only 10 (~15%) have low fossil fuel investment exposure or climate risk. Less than 10% of passive fixed income products (4 funds of the 37 fixed income products available) have low climate risk.

In the U.S., **Vanguard markets only five 'ESG' labelled funds to investors**. Vanguard's ESG products had US$20bn AuM at 31 May 2021, only 0.29% of Vanguard's total.

Table 6: All of Vanguard's ESG Offerings Contain Fossil Fuel Exposure

Fund Name	Type	Ticker	Assets (US$m)	Fossil Fuel Grade	% Fossil Fuels	US$m in Fossil Fuels
FTSE Social Index	Mutual	VFTAX	13,195.63	B	0.63%	68.28
ESG US Stock ETF	ETF	ESGV	4,554.98	B	0.76%	24.06
ESG International Stock ETF	ETF	VSGX	2,292.85	B	1.39%	22.36
Global ESG Select Stock Fund	Mutual	VEIGX	548.57	B	1.48%	4.53
ESG U.S. Corporate Bond ETF	ETF	VCEB	168.68	-	-	-

Total Assets in ESG Funds (US$m)	20,760.71
Total $m in Fossil Fuel Investments Within ESG Funds	119.23
% Fossil Fuels in ESG Funds	**0.57%**
% Vanguard Assets in ESG Funds	0.29%

Sources: Vanguard Group, Bloomberg, Fossil Free Funds.

[46] ESMA. ESAS Issue Recommendations On The Application Of The Regulation On Sustainability-Related Disclosures. 25 February 2021.
[47] Gallup. Most Americans Support Reducing Fossil Fuel Use. 22 March 2019.

Aside from the **Vanguard Global ESG Select Stock Fund (VEIGX)**, Vanguard's ESG funds apply an exclusionary screen which excludes or underweights certain sectors, countries and securities. The funds therefore do *not* proactively include companies with higher ESG ratings but rather only excludes companies which may be controversial or have low relative ESG ratings in their respective country or sector.

Vanguard's largest ESG fund, the **Vanguard FTSE Social Index (VFTAX)** is based on the FTSE4Good Index and is "screened for certain environmental, social and corporate governance (ESG) criteria by the Index Sponsor, which is independent of Vanguard".[48] Digging deeper into the FTSE4Good index methodology, ESG data and ultimately company selection is derived on a sector relative basis rather than individual company merits. Therefore companies with positive sustainability goals and community initiatives (and which also meet the general guidelines of ethical investments) may *not* be included in these indexes by virtue of how data is collected.

Amongst the Vanguard ESG investment products on offer, there are no green or clean energy funds. An assessment of Fossil Free Funds' data also reveals that all of the Vanguard ESG funds on offer still retain some element of fossil fuel exposure.

Vanguard's enormous success is largely attributable to being able to offer aggressively low-cost products to investors. Competing on fees ultimately means keeping business costs low. Offering a limited subsection of funds may be one means to contain costs. On the flipside, Vanguard has been in operation for nearly 45 years and there is undoubtedly a high degree of customer loyalty to Vanguard, something the company should value.

All of the Vanguard ESG funds on offer still retain some element of fossil fuel exposure.

Providing customers with the option to invest in a wider variety of socially responsible products at low fees (albeit slightly higher than Vanguard's average) could be an option. Preferably, ESG funds could be the default alternative. This would avoid situations where customers incidentally invest in fossil fuels. As this report has demonstrated (and will be further discussed around the VTI fund), fossil fuels have underperformed the wider market for a decade[49] and created a performance drag on many funds. Only offering funds which exclude exposure to these companies could be Vanguard's default offering.

The performance drag of fossil fuels has been substantial.

In theory, passive funds are designed to replicate an underlying index and there is no discretionary stock selection. Other than changing Vanguard's fund benchmark, it

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[48] Vanguard. Vanguard FTSE Social Index Fund Investor Shares (VFTSX).
[49] IEEFA. Fossil Fuel Investments: Looking Backwards May Prove Costly to Investors in Today's Market - Money Managers Need to Recognize Poor Performance and Offer Fossil-Free Options. February 2019.

is interesting to question whether fossil fuel exposure can be removed from Vanguard's passive funds.

As it turns out, it is entirely possible to remove certain companies from Vanguard's passive funds and it is relatively simple.

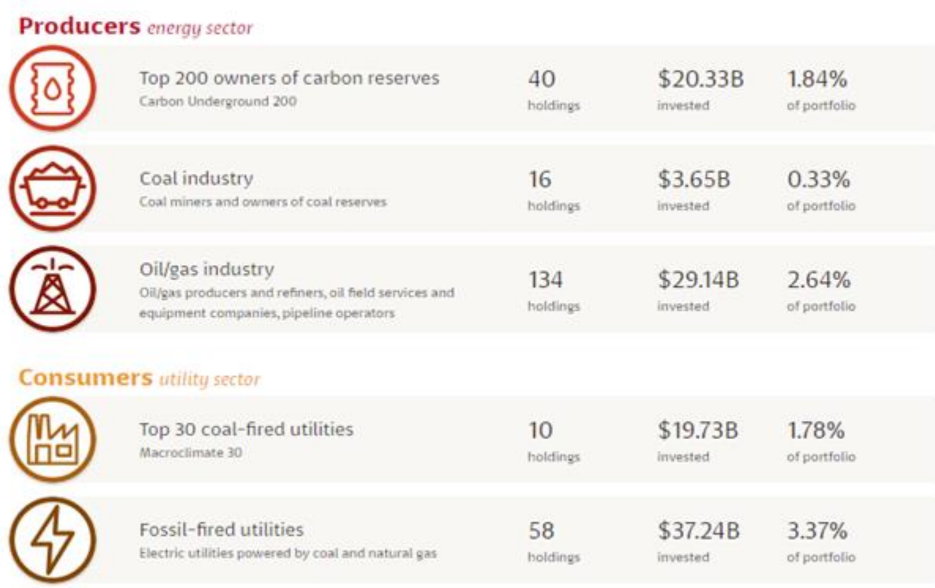
It is entirely possible to remove certain companies from Vanguard's passive funds.

Take for instance, Vanguard's largest fund, and incidentally the world's largest fund, the **Vanguard Total Stock Market Index Fund (VTI)**. The VTI had US$1.2 trillion in AuM as of 31 May 2021[50] and is available to investors as an ETF or Mutual Fund.

The VTI is benchmarked[51] to the CRSP U.S. Total Market Index. The CRSP[52] suite of indexes were developed by the Chicago Business School, in conjunction with Vanguard. It is fair to assume that Vanguard had a strong voice in the construction of the initial index and that Vanguard continues to have a strong influence over ongoing index maintenance.

Referring to Morningstar and Fossil Free Fund data (Appendix), the VTI had approximately US$68bn to US$75bn in fossil fuel exposure as of 31 May 2021. Fossil fuel exposure therefore represents around 6% of assets in the fund.

Figure 5: VTI Has US$68 billion in Fossil Fuel Exposure



Producers *energy sector*			
Top 200 owners of carbon reserves Carbon Underground 200	40 holdings	$20.33B invested	1.84% of portfolio
Coal industry Coal miners and owners of coal reserves	16 holdings	$3.65B invested	0.33% of portfolio
Oil/gas industry Oil/gas producers and refiners, oil field services and equipment companies, pipeline operators	134 holdings	$29.14B invested	2.64% of portfolio
Consumers *utility sector*			
Top 30 coal-fired utilities Macroclimate 30	10 holdings	$19.73B invested	1.78% of portfolio
Fossil-fired utilities Electric utilities powered by coal and natural gas	58 holdings	$37.24B invested	3.37% of portfolio

Source: Fossil Free Funds.

[50] Includes assets under management in the ETF (VTI) and Mutual Fund (VTSAX).
[51] Vanguard. Vanguard Total Stock Market ETF (VTI).
[52] CRSP.

VTI's fund's prospectus contains two statements which demonstrate that removing certain companies from the fund is allowable and straightforward:

> *"The Fund's board of trustees, which oversees each Fund's management, may change investment strategies or policies in the interests of shareholders without a shareholder vote, unless those strategies or policies are designated as fundamental. Under normal circumstances, each fund will invest at least 80% of its assets in the stocks which make up its target index. A fund may change its 80% policy only upon 60 days notice to shareholders."*

And:

> *"The Fund invests by sampling the index, meaning that it holds a broadly diversified collection of securities that, in aggregate, approximates the full index in terms of key characteristics."*

Vanguard may change the investment strategy of the fund with only board approval.

The principal investment strategy of the VTI fund is further detailed in the prospectus: "The Fund employs an indexing investment approach designed to track the performance of the CRSP US Total Market Index… The Fund invests by sampling the Index…".[53]

Vanguard may change the investment strategy of the fund with only board approval.

Excluding a small subset of the fund, for instance the 6% fossil fuel exposure, is unlikely to be deemed a fundamental change within the parameters defined by the prospectus. The fund uses a sampling approach, therefore any companies which do not represent the funds' overall performance and dividend yield may be removed.

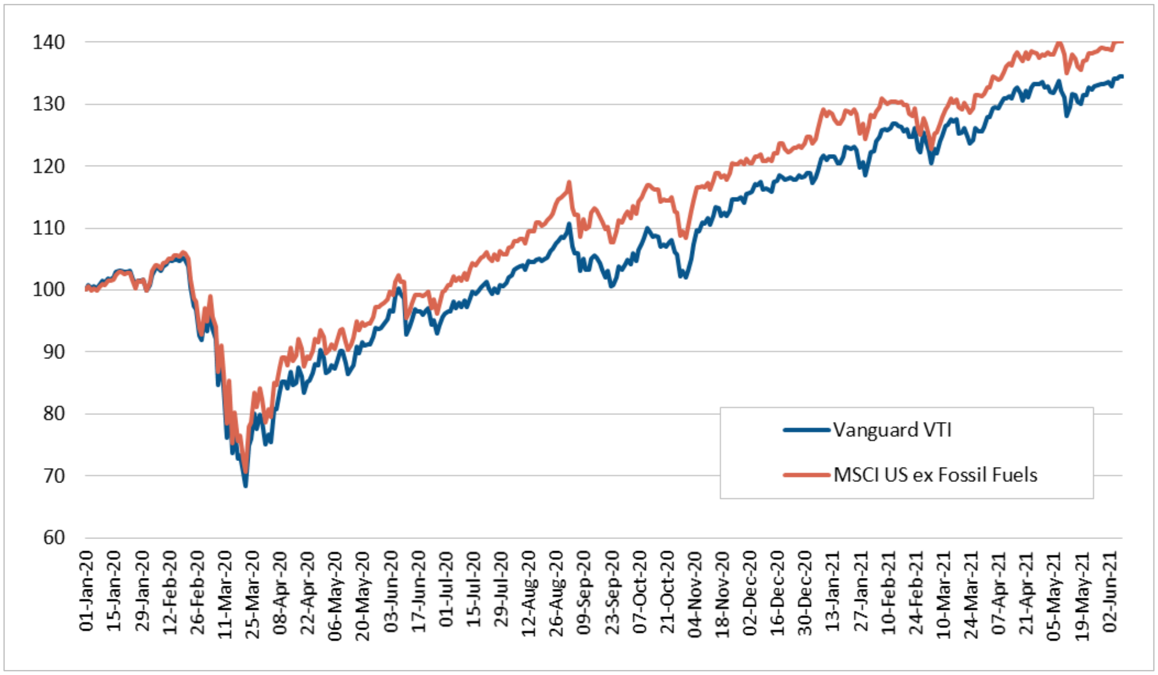
One could easily argue that removing fossil fuels is *not* a fundamental nor material change. The tracking error of the VTI fund versus a comparable index which removes fossil fuel exposure would be a suitable proxy for determining if such a change is material. The MSCI USA ex Fossil Fuels Index (MXUSSXNU) is a suitable comparison as it captures the performance of the large and mid cap stocks in the U.S. equity markets while excluding companies that own oil, gas and coal reserves.[54]

The correlation between the VTI vs. the MSCI USA ex Fossil Fuels Index is very strong at (R^2= 97.3%). Similar to the observations IEEFA discovered in Vanguard's active funds, fossil fuels appear to have a significant performance drag on VTI's

[53] Vanguard. Vanguard Total Stock Market ETF Summary Prospectus. 29 April 2021.
[54] MSCI USA ex Fossil Fuel Index includes large and mid-cap stocks.

investment returns. **Specifically, since January 2020 VTI has underperformed the comparable MSCI ex Fossil Fuels Index by 5.6%.**

Figure 6: Fossil Fuels Created 5.6% Performance Drag on VTI



Note: R^2 = 97.3%
Source: Bloomberg, MSCI Indexes. Data from 1 Jan 2020 to 31 May 2021.

This demonstrates that the companies with fossil fuel exposure contained in the index do not represent the broader investment characteristics (i.e. returns) of the index or VTI fund. Further, and more importantly, **fossil fuels have destroyed a significant amount of value for VTI investors.**

A similar representation of erosion of investment returns emerges from an analysis of Vanguard's flagship international fund – the **Vanguard International Stock Fund ETF (VXUS)**. Fossil fuels have accounted for 1% in lost alpha in the fund since January 2020.

While removing fossil fuels would be allowable within the fund mandate, a preferable public relations strategy may be a more formal approach of officially changing benchmarks. Flagging to investors and the broader public that Vanguard is a socially responsible company that acts consistent with its commitments (such as to the United Nations-convened Net-Zero Asset Owner Alliance), and that Vanguard funds refuse to invest in companies which contribute to climate destruction would send a deep message of corporate and ethical responsibility.

In a draft study prepared for the New York City Comptroller, BlackRock also concluded tha it experienced no negative financial impacts from their partial divestment of fossil fuels, rather there was a modest improvement in these fund returns.[55]

Given Vanguard's relationship with its benchmark providers, CRSP and FTSE Russell, a benchmark transition to comparable lower emission index alternatives would be reasonably uncomplicated. While index or benchmark changes to comparable indices which exclude fossil fuels may require additional data and analysis, these costs are typically borne by the index provider, not Vanguard, and should not affect the overall fees charged to customers. In fact, considering the lost alpha which has resulted from holding fossil fuels over the last ten years, Vanguard investors would ultimately be financially advantaged long term.

Vanguard's Passive Shareholder Impact

Divesting companies with fossil fuel exposure would send a strong public message that Vanguard does *not* wish to invest in industries that are environmentally destructive. As this report has demonstrated, fossil fuel-related investments have also underperformed for the better part of a decade, therefore divestment has the added benefit of enhancing investor returns, particularly as BlackRock has clearly identified[56] there remains significant unpriced carbon risk in global financial markets.

At present, Vanguard does *not* have a coal exit policy and has made its' position on divestment clear:

> *"The funds are unlikely to support proposals requiring companies to make specific operational changes, such as phasing out a business or product; we generally view such proposals as overly prescriptive."*[57]

In public interviews, Vanguard's Chief Executive Officer[58] and other representatives[59] have repeatedly insisted that they prefer to engage with companies rather than telling them what to do.

Various academic studies into the governance patterns of large index funds have demonstrated that **Vanguard has a relatively passive attitude towards corporate governance**. The number of company engagements conducted by Vanguard is also relatively inadequate considering the number of companies Vanguard owns. Its rivals have completed over 4 times as many engagements in the last calendar year alone. This is discussed later in the report.

Vanguard controls over 9.6% of every large cap company in the U.S. and has enormous power to influence the direction of companies it owns. Academic

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[55] Tom Sanzillo. IEEFA: Major investment advisors Blackrock and Meketa provide a fiduciary path through the energy transition. March 22, 2021.
[56] BlackRock. Climate change – turning investment risk into opportunity. 23 February 2021.
[57] Vanguard Investment Stewardship Insights. June 2020. ISCLRG_062020.pdf (vanguard.com)
[58] Financial Times. Vanguard pledges to slash emissions by 2030. 29 March 2021.
[59] National Observer. Vanguard refuses to sign up to climate commitment with BlackRock. 15 January 2020.

studies[60] however have repeatedly reported that **Vanguard has tended to vote with management over 90% of the time.**[61] These studies have also demonstrated that Vanguard and the other Big 3 indexers have tended to vote in a more pro-management way than other investment fund managers.

In studies focussed on ESG shareholder proposals, campaign group ShareAction assessed 102 climate proposals[62] and ranked 75 of the world's largest asset managers on their responsible investment practices. Vanguard voted in favor of just 15% of climate resolutions in the twelve months to August 2020. Further, on ShareAction's ranking of asset managers on the themes of responsible investment governance, climate change, biodiversity and human rights, Vanguard was rated amongst the worst performers (69 of 75 asset managers ranked) and awarded an E fail rating, the lowest possible.

Majority Action, another independent shareholder campaign group, also assessed asset manager voting and determined that BlackRock and Vanguard "voted overwhelmingly against the climate-critical resolutions reviewed" across S&P 500 shareholder proposals in 2020.[63]

The significance of good corporate governance cannot be understated. Taking an active role in voting and management decisions establishes accountability, transparency and responsibility to shareholders, and society as a whole. In the absense of any accountabilty and transparency to shareholders, management may only be incentivised to focus on short term goals, pursuing corporate activities which maximise short term profitability (ultimately maximising their annual performance bonus).

Index funds have strong incentives to under-invest in corporate governance and stewardship.

Index funds have strong incentives to under-invest in corporate governance and stewardship. Index fund managers are remunerated by a very small percentage of their assets, therefore any increase in the costs of stewardship may be borne by the fund manager. **Good corporate governance however has been demonstrated by numerous studies as having a positive correlation with shareholder returns.**[64]

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[60] Jan Fichtner, Eelke M. Heemskerk and Javier Garcia-Bernardo. Hidden power of the Big Three? Passive index funds, re-concentration of corporate ownership, and new financial risk. 2017.
[61] The seminal academic research into the Big 3 index funds, corporate governance and voting patterns was conducted by Harvard Professors, L. Bebchuk & S. Hirst. A compendium of their work is summarized in a February 2020 Working Paper: Index Funds and the Future of Corporate Governance: Theory, Evidence, and Policy by Lucian A. Bebchuk, Scott Hirst :: SSRN.
[62] ShareAction. Point of No Returns. June 2020.
[63] Majority Action. Climate in the Boardroom: How Asset Manager Voting Shaped Corporate Climate Action in 2020. September 2020.
[64] For instance: Kyere, Ausloos. Corporate governance and firm's financial performance in the United Kingdom. 23 July 2020.

Unlike its peers, Vanguard operates as a mutual fund therefore profit maximisation is not a concern. Keeping costs low by neglecting corporate governance ultimately impacts Vanguard investors financially in the form of lost alpha and dividends/ shareholder returns.

Vanguard's Mutual Fund Structure: Alignment of Investors and Vanguard's Interests

With over US$7.2 trillion in AuM as of 31 January 2021, Vanguard is the fastest growing asset manager with assets expected to exceed US$10 trillion by 2023 if current growth rates continue. The main reason for Vanguard's exponential growth is its low-fee, no-frills structure.

Vanguard is mutually owned by its investment funds, therefore is ultimately owned by the investors in these funds. The group therefore does *not* strive to maximise profits but rather seeks to constrain operating costs which allows it to pass along low fees to its customers. In contrast BlackRock and State Street, Vanguard's largest rivals, are publicly traded companies, therefore maximising profit is presumably their primary concern.

According to Vanguard, this unique mutual fund strucutre "aligns our interests with those of our investors and drives the culture, philosophy, and policies throughout the Vanguard organisation worldwide."[65]

Indeed, Vanguard's average management expense for its ETFs is 0.06%, well below the industry average of 0.24%.[66] It is hard to imagine that fees for Vanguard's products could be priced even lower yet the group continues to pursue aggressive growth.

This raises an interesting question regarding what Vanguard's objectives are, considering profit maximisation is *not* a concern and costs are already extremely low. One theory proposed by Harvard professors Bebchuk and Hirst is that individual business leaders within Vanguard aim to be successful by expanding the scale of their business.[67] Achieving further economies of scale seems to be a futile goal especially when costs charged to customers are already almost zero. It would be far better, in IEEFA's view, that as the ultimate example of a near universal owner,

Vanguard should demonstrate a long-term fiduciary duty to positive stewardship, transparency and governance.

[65] Investing with Vanguard.
[66] Vanguard. Expect high-quality, low-cost ETFs at Vanguard.
[67] ECGI. Index Funds and the Future of Corporate Governance: Theory, Evidence, and Policy. November 2019.

Vanguard should demonstrate a long term fiduciary duty to positive stewardship, transparency and governance to underpin sustainable economic growth.

Vanguard's unique mutual fund structure does offer enormous flexibility and potential to lead asset managers in matters of environment and corporate governance. Maximising risk-adjusted investor returns could be better achieved by divesting value-destructive fossil fuel exposure, enforcing good corporate governance by adequately assessing shareholder proposals, and effectively engaging with companies across a broad range of industries. Meanwhile, Vanguard has the scale and scope to continue to offer industry low cost products.

A comparison of the Big 3 indexers suggests that Vanguard is lagging its rivals.

Despite this unique opportunity to lead asset managers in environmentally and socially responsible investment, a comparison of the Big 3 indexers suggests that Vanguard is lagging its rivals and may be reluctant and unwilling to change course.

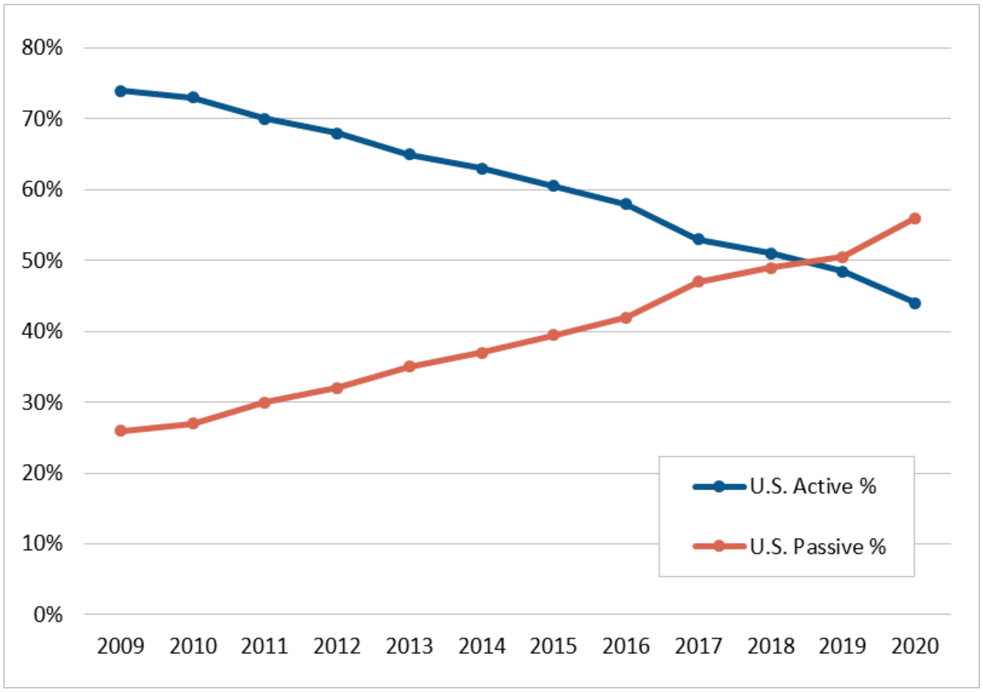
Benchmarking the Big 3 Indexers

The boom in indexing and passive investing accelerated after the global financial crisis in 2008-2009. Investors became increasingly wary of risk, and passive investment products which offered diversified exposure into one easy-to-access low-cost product became an appealing alternative to active management or "stock-picking."

As a result, there has been a substantial shift out of actively managed funds and into passive over the last ten years. By 2019, assets in passive equity instruments surpassed active investments,[68] with passive now representing approximately 56% of the total equity assets under management.[69]

[68] Bloomberg. End of Era: Passive Equity Funds Surpass Active in Epic Shift. 12 September 2019.
[69] Pensions & Investments. Review of active vs. passive over the past decade. 29 June 2020.

Figure 7: Passive Funds Now Far Exceed Active Investments



Source: Morningstar.

The Big 3 index funds – BlackRock, Vanguard and State Street - have been the main benefactors of this passive indexing boom. Over the last decade, more than 80% of the money flowing into investment funds have gone to the Big 3[70], with their collective AuM now exceeding US$20 trillion from less than US$7 trillion a decade ago.

Each of the Big 3 now manages 5% or more of the shares in the majority of public companies and they collectively cast an average of around 22% of the votes in S&P 500 names.

Of the world's top emitting fossil fuel companies (which are publicly listed), the Big 3 also exert outsized control.[71] IEEFA estimates that on average, **the Big 3 hold 12.7% of the top emitting global companies**, giving them tremendous shareholder power to influence voting and management decisions.

[70] MarketWatch. Three fund managers may soon control nearly half of all corporate voting power, researchers warn. 20 September 2019.

[71] A number of the Top 20 emitting global companies are privately held: Pemex, Kuwait Petroleum, and Sonatrach. U.S. sanctions restrict ownership of a number of these companies and several companies also have majority state-ownership.

Table 7: Big 3 Hold 12.7% of Top Emitting Global Companies

Rank	Company	Vanguard	Blackrock	State Street	Big 3 Ownership
1	Saudi Aramco	*Majority State-owned*			
2	Chevron Corporation	8.18%	6.58%	6.64%	21.40%
3	Gazprom	*Majority State-owned*			
4	ExxonMobil	8.13%	6.69%	5.71%	20.53%
5	National Iranian Oil Company	*U.S. Ownership Sanctions*			
6	BP	3.96%	6.37%	0.82%	11.15%
7	Royal Dutch Shell	5.97%	5.90%	0.78%	12.65%
8	Coal India	*Majority State-owned*			
9	Pemex	*Private Company*			
10	Petróleos de Venezuela	*U.S. Ownership Sanctions*			
11	China National Petroleum Co	*Private Company*			
12	Peabody Energy	3.28%	4.99%	1.76%	10.03%
13	ConocoPhillips	6.38%	6.34%	4.31%	17.03%
14	Abu Dhabi National Oil Company	*Majority State-owned*			
15	Kuwait Petroleum Corporation	*Private Company*			
16	Iraq National Oil Company	*U.S. Ownership Sanctions*			
17	Total SA	3.16%	11.22%	0.46%	14.84%
18	Sonatrach	*Private Company*			
19	BHP	5.92%	6.05%	0.54%	12.51%
20	Petrobras	5.01%	2.41%	0.08%	7.50%
	Average Big 3 Ownership				**12.76%**

Source: Bloomberg, Data at 31 May 2021.

There is no doubt that the Big 3 mega index fund managers have become amongst the most important players in, at least, corporate America. Their voting control provides them with an immense grasp on business and society with a commensurate opportunity to encourage more sustainable investments, a positive outcome of a more engaged stewardship, even leadership.

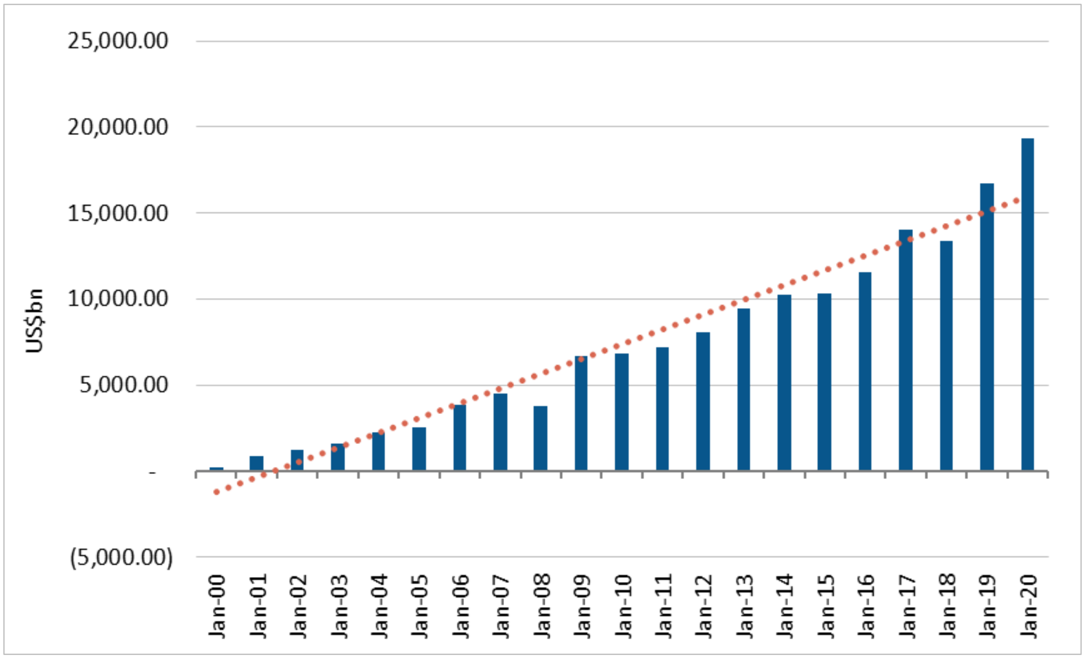
A recent Harvard Law study[72] suggested that the Big 3 could cast as many as 40% of the votes in the S&P 500 by 2040. In a separate study,[73] the authors argued that very shortly, **voting control in the majority of U.S. public companies will be controlled by just 12 management professionals in the Big 3** index funds. That is, a dozen people will have practical power over the majority of U.S. public companies.

The combined voting power of the Big 3 is so large, it already could swing the outcome of critical shareholder resolutions such as mergers, CEO successions, and of course, climate-related proposals. Despite this omnipotent role, **to date these**

[72] NBER. The Specter Of The Giant Three. June 2019.
[73] Harvard Law School. The Future of Corporate Governance Part I: The Problem of Twelve. 20 September 2018.

fund management giants have generally been reluctant to weigh in on climate-related actions.

Figure 8: Big 3 Assets Have Tripled in a Decade (US$bn)



Sources: Bloomberg, Blackrock, State Street Global Advisors, Pensions & Investments.

After drawing substantial criticism for their inaction, in 2019 BlackRock broke their climate silence and vowed[74] to divest coal assets from their active portfolios, and laid out a comprehensive plan to incorporate ESG and sustainable investing into all of BlackRock's portfolios. Since then, CEO Larry Fink has championed BlackRock as a leader in addressing climate change, going insofar in his 2021 annual letter[75] to warning CEO's of the world's largest carbon intensive companies to lift their game or risk being dumped by the world's largest fund manager.

State Street has generally drawn less criticism than BlackRock or Vanguard on its climate efforts. Concerning voting records, State Street has fared much better than its counterparts. The company commenced engaging[76] with companies on climate-related issues from 2014 and was named by the United Nations Principles for Responsible Investment (PRI) as one of the select few asset managers with leading responsible investment practices.[77] State Street's assets are however dwarfed in size compared to BlackRock and Vanguard, and State Street does *not* appear to be benefiting from the same rate of extraordinary growth.

[74] BlackRock. Net zero: a fiduciary approach.
[75] BlackRock. Larry Fink's 2021 letter to CEOs. 2021.
[76] State Street. Climate Stewardship.
[77] PRI. Leaders' Group 2020.

Table 8: Benchmarking the Big 3 - Vanguard Lags Its Peers on Climate

	Vanguard	Blackrock	State Street
Fossil Fuel Exposure in Passive Equity (+ % AUM)	US$261bn (6.05%)	US$99 billion (6.78%)	US$59.6bn (8.84%)
Thermal Coal Exposure[1]	US$86bn	US$84bn	US$32bn
Passive Ownership in Top 200 Emitters	US$83bn	US$35bn	US$19.2bn
Coal Exit Policy	**None:** "The funds are unlikely to support proposals requiring companies to make specific operational changes, such as phasing out a business or product; we generally view such proposals as overly prescriptive"	**Weak:** Companies generating more than 25% of revenues from thermal coal removed from active portfolios.	**None**
Climate Action 100+	No	Yes	Yes
Net Zero Asset Managers Initiative	Yes 29 March 2021	Yes 29 March 2021	Yes 21 April 2021
Stewardship Priorities	i) Board composition; ii) Oversight of strategy and risk; iii) Executive compensation; iv) Shareholder rights	i) Board & workforce diversity; ii) understanding key stakeholders & interests; iii) alignment with the global goal of net zero GHG emissions by 2050	Systemic risks associated with climate change and a lack of racial and ethnic diversity at both the board and workforce levels
Investment Stewardship Team	35 (17,000 employees)	50+ (16,500 employees)	20 estimated (~40,000 employees)
Company Engagements	655	3000+	2400+
Climate-related Engagements	219*	1230	376
Voting Record - For Climate Resolutions	12.5%	8.33%	30%
Voting Record - Voting With Management	> 90%	> 90%	88.60%
ESG Team	1	*Unclear* *(Team operates in 5 regions)*	20 ESG & Asset Stewardship 18 ESG Investment, Marketing & Reporting (Part time)
ESG Fund Availability	5 Funds In the US (US$14bn AUM)	29 Funds in the US (US$48bn AUM)	8 Funds in the US (US$2bn in AUM)
Operational Flexibility (to Change Benchmarks, Voting Principles, Strategy)	**Easy.** Mutual Fund Structure means Vanguard has no shareholders; fund strategy/benchmark change only requires approval from board. Liquidity may be a constraint from exiting fixed income and less liquid equity porfolios. Majority of business in the U.S.	**Moderate** - Each iShares fund is tied to a specific index. Most funds engage in representative sampling and only need invest 80% of the value of net assets.	**Unclear**: Potentially difficult as vast majority of State Street ETFs have a specific sector or narrow market focus.

Sources: Urgewald, Vanguard Group, Blackrock, State Street, Net Zero Asset Managers Initiative, Climate Action 100+, Fossil Free Funds.

[1] Global Coal Exit List 2020, Urgewald, 25 February 2021.

** Vanguard engaged with 219 companies in carbon-intensive industries in 2020. It is unclear whether these were climate related engagements. (Vanguard Investment Stewardship report.)*

Vanguard, on the other hand, could be argued as having been largely idle with respect to climate. In March 2021, Vanguard became a signatory to the Net Asset Managers initiative[78] (as did BlackRock and State Street). However, as demonstrated by this report, it owns circa US$300bn in fossil fuel asset exposure, over double the amount of BlackRock (~US$126bn) on a smaller asset base. Studies into corporate governance practices have also suggested that Vanguard has voted overwhelmingly against climate-related proposals and perhaps most significantly, Vanguard does *not* yet have a policy to phase out thermal coal.

Climate Rhetoric and Coal Exit Policy

In January 2020, BlackRock announced it would divest from its actively managed portfolios its debt and equity exposures to any company which derives more than 25% of its revenues from thermal coal. BlackRock CEO Larry Fink pronounced that they were on the edge of "a fundamental reshaping of finance" and that BlackRock would champion climate risk disclosures requiring companies to adequately improve their financial disclosure around climate risks.[79]

One year later in the BlackRock 2021 annual letter to CEOs, BlackRock further raised the bar on companies and climate disclosures, insisiting that:

> *"Board of directors would be held accountable for managing the material risks posed by climate change."*

BlackRock also announced that they would be "increasingly disposed to vote against management when companies are not making sufficient progress on sustainability-related disclosures."[80]

Whether BlackRock's rhetoric translates to substantive action or remains largely greenwash will be revealed when the 2021 Investor Stewardship report is released. BlackRock are however starting to act and as a positive indication of their intentions, BlackRock updated their 2021 stewardship guidelines to incorporate "alignment with the global goal of net zero greenhouse gas (GHG) emissions by 2050"[81] as a primary expectation of the companies they own.

Neither State Street nor Vanguard have responded with a corresponding coal exit policy.

Five years after the Paris Agreement, neither State Street nor Vanguard have

[78] Net Zero Asset Managers Initiative. The Net Zero Asset Managers initiative grows to 87 investors managing $37 trillion, with the world's three largest asset managers now committing to net zero goal. 20 April 2021.
[79] BlackRock. A Fundamental Reshaping of Finance. 2021.
[80] BlackRock. Larry Fink's 2021 letter to CEOs. 2021.
[81] BlackRock. Our 2021 Stewardship Expectations: Global Principles and Market-level Voting Guidelines. 2020.

responded with a corresponding coal exit policy. Vanguard's official position on divestment may be inferred from their investment stewardship insights on climate change:

> *"The funds are unlikely to support proposals requiring companies to make specific operational changes, such as phasing out a business or product; we generally view such proposals as overly prescriptive."*[82]

Similarly, State Street has been silent on the divestment of thermal coal from their portfolios. In 2021, State Street did update their stewardship priorities to include a focus on the "systematic risks associated with climate change."[83]

Vanguard's stewardship priorities have remained unchanged.

Vanguard's stewardship priorities have remained unchanged. Neither climate, environment, nor ESG is represented as a primary pillar in their standards of good governance.

All three major index funds became signatories to the Net-Zero Asset Managers Initiative in early 2021. Amongst the goals of the initiative[84], the Big 3 are to:

- *Work in partnership with asset owner clients on decarbonization goals, consistent with an ambition to reach net zero emissions by 2050 or sooner across all AuM.*
- *Set an interim target for the proportion of assets to be managed in line with the attainment of net zero emissions by 2050 or sooner.*
- *Implement a stewardship and engagement strategy, with a clear escalation and voting policy, that is consistent with our ambition for all assets under management to achieve net zero emissions by 2050 or sooner.*

Considering these strong objectives, it would be reasonable to expect that each of the Big 3 index funds will make substantial strides in their voting record and company engagements by 2022.

Voting Record

Over the last year, BlackRock has doubled down on its commitment to addressing climate change. The sincerity of these statements may *not* properly be assessed until

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[82] Vanguard. Vanguard Investment Stewardship Insights: How Vanguard addresses climate risk. June 2020.
[83] State Street Global Advisors. CEO's Letter on SSGA 2021 Proxy Voting Agenda. 13 January 2021.
[84] Net Zero Asset Managers Initiative. The Net Zero Asset Managers initiative grows to 87 investors managing $37 trillion, with the world's three largest asset managers now committing to net zero goal. 20 April 2021.

BlackRock releases its investor stewardship report early next year.

Vanguard has slightly stepped up its rhetoric on climate action, suggesting in their proxy voting guidelines that they "carefully analyze every climate-related proposal."[85] However, several studies advise that they have generally voted against critical climate proposals, by and large voted with management, and continue to significantly trail their peers.

The 2020 Majority Action study Climate in the Boardroom scathingly suggested that both "BlackRock and Vanguard… undermine global investor efforts to promote responsible climate action in critical companies."[86] Of the Climate Action 100+ Key Resolutions in 2020, State Street supported only 3 of 12 proposals, and BlackRock supported 2 of 12 proposals. Vanguard voted against every single one. The study also demonstrated that BlackRock and Vanguard voted with management more often than their asset manager peers.

Vanguard voted against every single one of the Climate Action 100+ key resolutions in 2020.

Figure 9: Climate Action 100+ Key Resolutions in 2020

Sources: Climate Action 100+.

These findings were corroborated by ShareAction who found that BlackRock and Vanguard supported fewer than 15% of climate resolutions[87] and as a result, only 15 of 102 resolutions were supported by a majority of investors. An additional 17

[85] Vanguard. Vanguard Investment Stewardship Insights: How Vanguard addresses climate risk. June 2020.
[86] Majority Action. Climate in the Boardroom: How Asset Manager Voting Shaped Corporate Climate Action in 2020. September 2020.
[87] ShareAction. Point of No Returns. 2020.

resolutions would have reached the 50% threshold if one more of the Big 3 had supported the vote (BlackRock and Vanguard voted against all of these resolutions while State Street voted against 11 of the 17 resolutions).

BlackRock and Vanguard's voting record concerning climate-related proposals notably lagged other asset managers in 2020. BlackRock however has publicly and vocally committed to addressing climate change which will presumably be reflected in their voting record next year.

While the firm has asserted that climate change matters to Vanguard, proxy voting guidelines have been non-committal to how Vanguard will vote on climate-related proposals:

> *"We carefully analyze every climate-related proposal. At companies where climate matters present material risks, the funds are likely to support shareholder proposals that seek reasonable and effective disclosure of greenhouse gas emissions or other climate-related metrics…*
>
> *"The funds are unlikely to support proposals requiring companies to make specific operational changes, such as phasing out a business or product; we generally view such proposals as overly prescriptive."*[88]

Vanguard's voting guidelines are clear that it makes no binding commitment that it will vote in a certain way. Rather, vague terms are used around Vanguard being *likely* to support shareholder proposals which seek disclosures; however *unlikely* to support proposals requiring companies to make operational changes.

Vanguard is potentially suggesting that only proposals which support climate disclosures may be supported, *not* those disclosures which proactively address climate change.

Investment Stewardship and Engagements

The Big 3 index funds all claim to be good stewards of the companies whose shares they own. Annual stewardship reports are produced by each fund boasting of successes in record company engagements, number of votes cast, and details of case studies where they have held management to account.

In reality, considering the sheer size of their AuM and the vast number of companies they own, these index fund giants spend negligible amounts on corporate governance.

[88] Vanguard. Vanguard Investment Stewardship Insights: How Vanguard addresses climate risk. June 2020.

Table 9: Stewardship Is Insufficiently Resourced in Each of the Big 3

	Vanguard	Blackrock	State Street
Stewardship Personnel	35	50	undisclosed
Portfolio Companies	12429	16200	19000
Proposals Voted On	168,305	153000	176680
Company Engagements	655	3000+	2400+
Assets Under Management (US$bn	7,500	9,000	3500
Stewardship Personnel Per Company	**355**	**324**	**-**
Votes Per Stewardship Employee	**4809**	**3060**	**-**

Sources: Blackrock, Vanguard Group, State Street Global Advisors.

BlackRock's global stewardship team comprises of 50 individuals who are responsible for voting on 153,000 proposals in ~16,000 companies. This amounts to 3,000 proposals per BlackRock employee.[89] Vanguard's stewardship team is even more under-resourced with 35 stewardship personnel responsible for voting on 168,000 proposals in 170 different countries. This translates to 4,800 shareholder proposals per Vanguard stewardship employee.[90]

The Big 3 have also stressed the central role of company engagements in their stewardship efforts. Over 2020, Vanguard reported significantly fewer engagements than it peers – reporting with 655 companies out of the 13,000 it partially owns (5.0%).[91] State Street, who holds less than half the AuM, engaged with over 2,400 (12.6%)[92] and BlackRock engaged with 3,000 (24%).[93] These findings indicate that Vanguard did *not* engage with at least 95% of the companies it owns.

Over 2020, Vanguard did *not* engage with at least 95% of the companies it owns.

A comprehensive 2019 Harvard Law study into the corporate governance activities of the Big 3 index funds attempted to quantify the amount of time and effort spent by each index fund manager on stewardship activities.[94] The authors found that the proportional amount spent on each US$1bn position in U.S. companies was just US$4,700 by BlackRock; US$2,147 by State Street and only US$1,895 by Vanguard. For each U.S. company held, Vanguard invests just US$476 in stewardship time

89 Blackrock. Investment Stewardship.
90 Pensions & Investments. Vanguard names investment stewardship head. 15 September 2020.
91 Vanguard. Investment Stewardship. December 31, 2020.
92 State Street Global Advisors. Asset Stewardship.
93 Blackrock. Investment Stewardship Annual Report. September 2020.
94 Lucian A. Bebchuk & Scott Hirst. Index Funds and the Future of Corporate Governance: Theory, Evidence & Policy. December 2019.

annually, representing 0.4x of one employee's day per year.

Vanguard's record of climate-related engagements is also unclear. Over 2020, BlackRock promoted that they had completed 1,230 climate-related engagements[95]; State Street reported having 376[96]. Vanguard did *not* report having any specific 'climate-related engagements' but stated in their investment stewardship report that they had engaged with 219 companies in 'carbon-intensive industries' over 2020.[97] No insight was provided as to what these engagements related to, how in depth they were, or whether management was challenged over its emissions, climate strategy or environmental record.

Vanguard's record of climate-related engagements is also unclear.

In Vanguard's engagement policy, climate or environment are *not* specifically referenced. Rather, oversight of strategy and risk is mentioned as one of Vanguard's key principles of stewardship and engagement.[98] Disclosure of company risks again appears to be the main focus of concern.

> *"Oversight of strategy and risk… We engage with boards regarding the oversight of material risks that have the potential to affect shareholder value over the long term—from business and operational risks to environmental and social risks. Companies should disclose material risks to shareholders, explain why those risks are material to their business, and disclose their approach to risk oversight. We have a responsibility to understand how business activities pose a material risk to the long-term value of our funds."*

ESG Commitment

Global inflows into ESG and sustainability funds soared in 2020.[99] Worldwide assets in sustainability funds hit a record high of US$1.6 trillion in December 2020, up almost one third from the previous quarter.[100]

In April 2021, BlackRock announced it was substantially expanding its range of ESG products and launched two behemoth sustainability ETFs. One of these, the

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[95] Blackrock. Investment Stewardship Annual Report. September 2020.
[96] State Street Global Advisors. Asset Stewardship.
[97] Vanguard. Investment Stewardship. 31 December 2020.
[98] Vanguard. Vanguard's engagement Policy.
[99] FT Adviser. ESG inflows quadruple in 2020. 5 November 2020.
[100] International Investment. Global assets in sustainable funds hit record high of $1.65trn: Morningstar. 29 January 2021.

BlackRock U.S. Carbon Transition Readiness ETF (Bloomberg: LCTU) attracted US$1.25bn in inflows on the first day of trading, the largest ever ETF launch.[101]

BlackRock's iShares unit now offers a sizeable range of ESG and sustainability-focused equity and fixed income ETFs. BlackRock is the dominant provider in the U.S. and EU for sustainable ETF options. In the U.S., iShares has a firm grasp on the market holding 43% of total assets. In the EU, iShares is also the largest provider of sustainable ETF assets managing US$18.4bn.

Vanguard has been slow to build out any form of ESG or sustainable product range. Only 5 ESG focused ETFs are available to Vanguard investors in the U.S. versus the dozens available at rival BlackRock and other firms.

ESG assets represent a mere fraction of Vanguard's total AuM. Total assets in Vanguard's ESG funds are only US$14bn or 0.29% of total assets. Vanguard's ESG assets are concentrated in the **FTSE Social Index Fund (VFTAX)** which employs an exclusionary screen for stocks in various industries however does *not* include a direct corporate governance screen.

Table 10: All of Vanguard's ESG Offerings Contain Fossil Fuel Exposure

Fund Name	Type	Ticker	Assets (US$m)	Fossil Fuel Grade	% Fossil Fuels	US$m in Fossil Fuels
FTSE Social Index	Mutual	VFTAX	13,195.63	B	0.63%	68.28
ESG US Stock ETF	ETF	ESGV	4,554.98	B	0.76%	24.06
ESG International Stock ETF	ETF	VSGX	2,292.85	B	1.39%	22.36
Global ESG Select Stock Fund	Mutual	VEIGX	548.57	B	1.48%	4.53
ESG U.S. Corporate Bond ETF	ETF	VCEB	168.68	-	-	-

Total Assets in ESG Funds (US$m)	20,760.71
Total $m in Fossil Fuel Investments Within ESG Funds	119.23
% Fossil Fuels in ESG Funds	**0.57%**
% Vanguard Assets in ESG Funds	0.29%

Sources: Vanguard Group, Bloomberg, Fossil Free Assets. Data at 31 May 2021.

As the trend for investing in more sustainable products accelerates, it is becoming increasingly difficult for investors to discern which products truly focus on sustainable investing from those which are simply 'greenwash'.

To facilitate a better assessment of ESG/sustainable funds and asset managers, Morningstar developed a sustainability rating system which analyses the ESG risk characteristics of a strategy's portfolio holdings.[102] Morningstar also recently developed a qualitative measure, the "Morningstar ESG Commitment Level" which analyses asset managers' commitment to ESG on a four-tier scale: Leader, Advanced, Basic and Low.

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[101] Bloomberg Green. Blackrock's Record-Breaking ESG Fund Looks Just Like a Big Tech ETF. 14 April 2021.
[102] Morningstar. Investing in a Sustainable Future.

In their first round of asset manager evaluations published in September 2020[103], Morningstar evaluated 40 global asset managers and 145 funds. All five of Vanguard's ESG funds received a Basic rating and Vanguard received an overall ESG commitment level of Low (the lowest ranking possible). Morningstar noted that:

> *"Vanguard's ESG strategies amount to a fraction of assets under management and most use negative screens… which do not differentiate the funds from their broader universes."*[104]

BlackRock funds fared slightly better on Morningstar's ratings, receiving an overall firm ESG commitment level rating of Basic. Morningstar was more optimistic on BlackRock's ESG efforts describing them as more a work in progress as the firm was well under way to meeting its goal of incorporating ESG into all of its actively managed assets.

On climate and ESG commitments, Vanguard appears to be lagging. Vanguard has no coal exit policy; its voting record and investor stewardship efforts indicate climate is not a priority. In contrast with BlackRock and State Street, it does *not* appear that proactively addressing climate change is a priority to Vanguard, as evidenced by the principles outlined in Vanguard's engagement and Investment Stewardship reports.

Is Better Regulation Required?

In 2021, each of the Big 3 index funds had voluntarily pledged to the Net-Zero Asset Managers initiative. This initiative commits fund managers to implementing a stewardship and engagement strategy consistent with all of their assets under management achieving net zero emissions by 2050.

Corporate governance practices which would enable achievement of this initiative's goals has *not* yet been demonstrated by any of the Big 3 index fund managers. Vanguard is arguably lagging on the criteria most relevant to climate goals.

Vanguard is arguably lagging on the criteria most relevant to climate goals.

As proxy voters for their clients, overall accountability to investors' interests by index funds also appears to be insufficient, however as academic literature has highlighted, index providers have powerful disincentives to vote against management, therefore they rarely challenge practices which undermine

[103] Morningstar. Sustainable Funds U.S. Landscape Report. 2020.
[104] Ibid.

shareholders' interests long-term.

Various policy proposals to address the voting control (and general passivity in voting) by large index funds have been proposed. Among the suggestions Harvard Professors Bebchuk and Hirst have encouraged policymakers to explore,[105] some of the options IEEFA believes regulators should consider are:

- **Investment in stewardship**: Policymakers could explore ways to invest more on stewardship. On average, index funds presently spend around 0.2% of the fees they receive on stewardship activities.

- **Charging stewardship costs to the index fund**: Index funds would no longer have to absorb the costs of stewardship.

- **Sharing outside research services**: Policymakers could facilitate pooling of investment research, having outside organizations undertake such research on behalf of multiple fund managers.

- **Mandating minimum stewardship expenses**: This would require index fund managers to invest an amount in stewardship that is above a specified minimum fraction of indexed assets under management.

- **Bringing transparency to private engagements:** Fund managers could provide details around each engagement, such as the number of engagements, which side initiated them, and what changes the index fund manager demanded.

Another possible means of regulating and managing risks posed by large index fund giants was recently raised by U.S. Senator Elizabeth Warren. In a Senate Banking, Housing and Urban Affairs Committee hearing in March 2021, Senator Warren called for companies such as BlackRock to be designated as a Systemically Important Financial Institution (SIFI). Senator Warren highlighted the risks associated with the non-bank sector and how the Financial Stability Oversight Council (FSOC) can work to address those risks.[106]

SIFI's are defined as institutions which are Too Big to Fail, therefore a firm that would pose a serious risk to the economy if it were to collapse. A SIFI designation imposes additional regulatory requirements and increased scrutiny, including oversight by the Federal Reserve (SIFIs) and the Financial Stability Board if the organization is deemed to be of global significance (Globally Significant Important Financial Institution (G-SIFI)).

A 2013 report from the U.S. Treasury Department's Office of Financial Research had concluded that asset management firms and the funds they run were "vulnerable to

[105] ESGI. Lucian A. Bebchuk & Scott Hirst. Index Funds and the Future of Corporate Governance: Theory, Evidence and Policy. November 2019.
[106] Elizabeth Warren. Warren to Yellen at hearing: How will you evaluate and Manage Risks posed by Blackrock and Other Financial Giants? 24 March 2021.

financial shocks" including:[107]

1. Herding behaviors

2. Redemption risk in collective investment vehicles, and

3. Leverage which can amplify asset price movements and increase the potential for fire sales.

The failure of large asset management firms could also be a source of risk to the broader economy, depending on its size and complexity.

To date, BlackRock (and to a lesser extent Vanguard) has successfully lobbied against classification as Too Big To Fail.[108] When the report published by the Office of Financial Research was published in 2013, BlackRock's global AuM were approximately US$3.8 trillion and Vanguard's US$2.2 trillion. BlackRock's AuM now exceed US$9 trillion and Vanguard's exceed US$7.2 trillion, meaning arguably, both are systemically important and capable of causing financial shockwaves globally if either company were to fail.

Overall, organizations classified as SIFI's or G-SIFIS are subject to higher transparency requirements, greater supervisory over risk management functions, risk governance and controls. Greater oversight may *not* solve all of the corporate governance issues and risks (especially climate's financial risks) associated with holding a significant part ownership in almost every company worldwide. Greater oversight should however provide greater transparency into the activities of these index giants and subsequently adequate accountability to the investors in their funds.

Conclusion: From Laggard to Climate Leader, Opportunities for Vanguard

Vanguard has disrupted the investment management world with its cheap range of index tracking funds. In just 45 years of operation, these low-cost funds have attracted over US$7.2 trillion and positioned Vanguard as the world's second largest asset manager.

Vanguard owns a majority stake in most companies in the U.S. and has immense power to shape management decisions. Academic studies have demonstrated that Vanguard prefers to take a passive approach towards corporate governance. In addition to their tendency to side with management on voting decisions, this passivity towards corporate governance has been evidenced by a relatively low investment in stewardship activities and sparse numbers of corporate engagements compared to their peers.

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[107] Office of Financial Research. Asset Management and Financial Stability. September 2013.
[108] Bloomberg. Blackrock, Vanguard Hail Regulatory Shift on Too-Big-to-Fail. 26 September 2013.

To date, Vanguard does *not* have a coal exit policy and has been non-committal towards how its' funds vote on climate-related shareholder proposals.

The moral hazard of inadequate stewardship is, of course, that Vanguard's portfolio of funds contains almost US$300bn in fossil fuel exposure with approximately $90bn in thermal coal. Investors will eventually need to confront the consequences of these fossil fuel shareholdings.

As this report has demonstrated, Vanguard funds, for example the **Vanguard Total Market Index** (US$1.2 trillion in AuM), have suffered substantial performance lags due to fossil fuel exposure. This may only be the beginning, as profound financial losses may result from extreme weather events and disasters including immense insurance losses and resulting stranded asset/bankruptcies. Profound shocks to the financial system as warned of by President Joe Biden in May 2021 could destabilize major sectors of the economy and cause a financial crisis more long-lasting than that observed between 2007-2009.[109]

As a mutual fund, Vanguard has a unique opportunity to become a highly impactful global financial leader in addressing climate risk. Vanguard's operations are *not* overburdened with bureaucracy and changes to the investment strategies of funds do *not* even require shareholder approval.

Vanguard could champion investor's best interest by applying a coal exit policy to all of its portfolios.

ESG or lower emission compliant index products could be Vanguard's default offering.

Vanguard's active funds have the flexibility to remove high fossil fuel exposures as soon as practical. Vanguard's largest passive funds – the **Vanguard Total Stock Market Index ETF (VTI)** and **Vanguard Total International Stock Market Index (VXUS)** do *not* appear to have any limitations which prevent Vanguard from immediately removing fossil fuel exposure. Changing the index benchmarks for passive funds to indices which remove fossil fuels may be a more preferable option.

Vanguard could champion investor's best interest by applying a coal exit policy to all of its portfolios.

Promoting that Vanguard's funds no longer invest in companies which contribute to climate destruction would send a deep message of corporate and ethical responsibility.

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[109] NY Times. Get Ready for Financial Shocks from Climate Change, Biden tells officials. 22 May 2021.

Committing to addressing climate change may also entail Vanguard adopting more decisive principles of investment stewardship. Supporting shareholder proposals which encourage disclosure of climate-related risks only moderately addresses the problem. Proactively voting on proposals which support greener operational strategies and business activities which lower emissions is a course of action more aligned with Vanguard's commitment to the Net-Zero Asset Manager initiatives.

It is also unclear from the company's literature of the extent to which Vanguard has engaged with companies on climate ("219 engagements with companies in carbon intensive industries"). In 2020, the overall number of company engagements conducted by Vanguard significantly trailed its peers (5% vs. 24% by BlackRock).

IEEFA suggests the following as recommendations for meeting Vanguard's commitments to the Net-Zero Asset Managers initiative:

- Commit to a coal exit policy which progressively phases out thermal coal from all portfolios, with a priority on any firms still expanding coal mine or coal power capacity.
- Adopt index benchmarks for all funds which limit exposure to fossil fuels.
- Adopt investment stewardship guidelines which prioritize addressing climate risk. This means not just disclosing climate risk, but supporting activities which address climate-related business risks.
- Provide transparency around company engagements, particularly those concerning climate, and time limited with consequences.

As a broader concern, more transparency and accountability to investors is clearly required. Investors need to be able to understand the risks associated with their portfolios and how their money is managed. This is a basic fiduciary duty of all asset managers in representing their clients' best interests.

As recent signatories of the Net-Zero Asset Manager initiative, Vanguard have committed to "implement a stewardship and engagement strategy, that is consistent with our ambitions for all assets under management to achieve net zero emissions by 2050 or sooner." Signatories are further expected to set interim targets for 2030 consistent with a fair share of 50% global reduction in CO2 emissions.

More transparency and accountability to investors is clearly required.

Against a 50% reduction in CO2 emissions by 2030, Vanguard has a long way to go.

Appendix: Fossil Fuel Exposure in Vanguard's Passive Fixed Income Funds

Fund	Mutual Ticker	Total Assets (US$m)	Fossil fuel Involvement %	Morningstar Carbon Risk Score
Intermediate-Term Tax-Exempt	VWITX	83,621.93	No metrics	No metrics
Wellesley Income	VWINX	63,560.54	10.72%	9.21
Intermediate-Term Investment-Grade	VFICX	36,026.02	7.52%	28.94
Limited-Term Tax-Exempt	VMLTX	35,512.11	No metrics	No metrics
Inflation-Protected Securities	VIPSX	34,697.32	No metrics	No metrics
High-Yield Corporate	VWEHX	28,439.33	6.38%	No metrics
GNMA	VFIIX	26,853.34	0.00%	0
Short-Term Tax-Exempt	VWSTX	22,106.39	No metrics	No metrics
Ultra-Short Bond ETF	VUBFX	18,632.29	7.01%	8.48
California Intermediate-Term Tax-Exempt	VCAIX	18,393.62	No metrics	No metrics
High-Yield Tax-Exempt	VWAHX	17,295.11	No metrics	No metrics
Long-Term Tax-Exempt	VWLTX	16,432.48	No metrics	No metrics
Short-Term Federal	VSGBX	8,273.67	0.00%	0
California Long-Term Tax-Exempt	VCITX	5,602.78	No metrics	No metrics
New York Long-Term Tax-Exempt	VNYTX	5,392.75	No metrics	No metrics
Core Bond	VCORX	4,514.50	4.47%	9.01
Pennsylvania Long-Term Tax-Exempt	VPAIX	4,393.79	No metrics	No metrics
New Jersey Long-Term Tax-Exempt	VNJTX	2,641.41	No metrics	No metrics
Massachusetts Tax-Exempt	VMATX	2,589.76	No metrics	No metrics
Emerging Markets Bond	VEMBX	2,112.60	8.10%	No metrics
Ohio Long-Term Tax-Exempt	VOHIX	1,638.96	No metrics	No metrics
Global Credit Bond	VGCIX	270.99	10.39%	No metrics
Average Fossil Fuel Exposure			**6.07%**	

Source: Vanguard Group, Bloomberg, Morningstar.

About IEEFA

The Institute for Energy Economics and Financial Analysis (IEEFA) examines issues related to energy markets, trends and policies. The Institute's mission is to accelerate the transition to a diverse, sustainable and profitable energy economy. www.ieefa.org

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