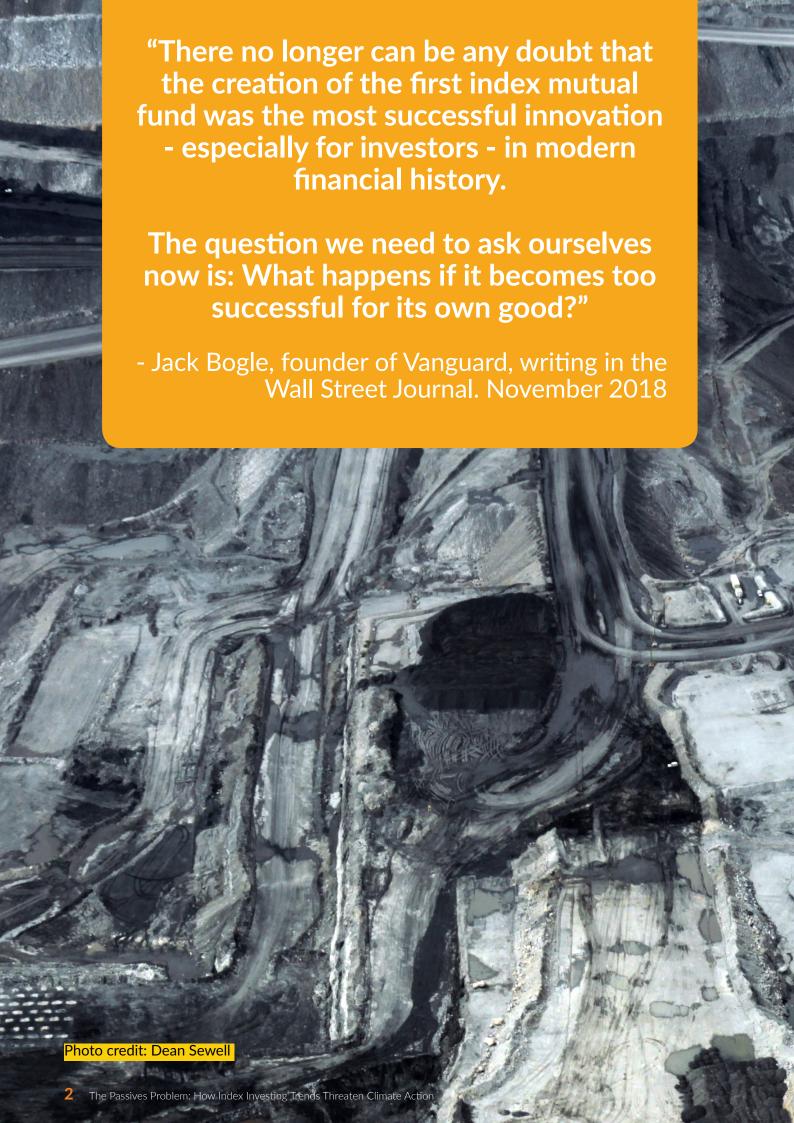


## The Passives Problem and Paris Goals:

How Index Investing Trends
Threaten Climate Action







## **Executive Summary**

1976, Vanguard founder Jack Bogle launched the first mutual fund to passively follow the S&P 500. His innovation showed promise: it offered reduced risk, low fees, broad diversification, and stable and strong returns over a long-term horizon as compared to "stock picking" through active investment. Initially it caught on slowly – it took a decade for Vanguard's benchmark index to cross the \$1 billion in assets under management mark. Since then, passive investing has exploded. In 2019, passive equity investments eclipsed active equity investments in the U.S. – a trend that's unfolding globally as well.

But the wave of passive investing (defined as equity index investing or other strategies where the underlying product tracks an index or theme) has come with a destructive side. It is setting our economy on autopilot and pumping capital into carbon-intensive companies, thereby feeding the climate crisis. Additionally, asset managers are becoming increasingly concentrated and powerful.

By the time Jack Bogle died in 2019, he was sounding alarms about the dangers of passive investing – he warned that the trend threatened U.S. national interest. And the problem is only getting worse.

Since the Paris climate agreement, the world's fifteen largest asset managers have increased thermal coal holdings by 20 percent, largely due to the rise of passive investing. If we are to have any real chance of shifting the direction of the global economy to align with Paris climate goals, we must address the problem of passive investing.

The key features of the problem are:

- Passive investing can artificially raise the valuations of carbon-intensive companies. Because it tracks entire indices (like the S&P 500) or themes, passive investing bakes in significant new capital flows for listed coal, oil and gas and agribusiness companies. That is why the <u>largest</u> firms offering passive investments are also the largest investors in carbon-intensive companies. These companies include <u>fossil fuel</u> reserve holders, <u>deforestation drivers</u> (palm, pulp, paper, soy, cattle, rubber), and downstream sectors like auto manufacturers and utilities. Despite market underperformance passive investment capital can create an 'index effect', allowing these companies to maintain artificially high valuations, creating a negative feedback loop and continued carbon pollution.
- Passive investing limits shareholder action on climate. The Big Three asset managers collectively vote on average 25 percent of the shares of S&P 500 companies while holding at least 5 percent in the vast majority of publicly listed companies. While passive investing is not the sole reason for market consolidation within the asset management industry, this consolidation, combined with passive products, leads these companies to own more and more of the market and wield ever greater control over companies via their shareholder power - a power that is often not aligned with climate goals. Empirical evidence shows that conflicts of interest inherent in the asset management industry often distort investment managers' stewardship incentives.



- Passive investing blunts asset owner pressure for change. Passive investing is rearranging power in the financial system away from asset owners to asset managers. The average asset owner is now so small relative to the total AUM of the largest asset managers that they have little control over allocation strategies. As a result, asset owners seeking change in their investment strategies, particularly on ESG issues, are often frustrated by a lack of action from their asset managers. Managers offering passive products routinely make the case that they cannot screen out companies like oil and gas in the index-tracking funds they sell. In fact, both index rules and the acceptance of tracking errors allow for funds to make small to moderate deviations from indices. This incorrect assumption makes it very difficult for asset managers to offer mainstream, screened climate-friendly products, and for investors to access them.
- Passive investing increases systemic financial risk from climate change. The index investing trend exacerbates the risk to investors from climate change. A growing number of financial experts are worried that we could face a climate 'Minsky' moment driven by rapid re-pricing of fossil fuel assets and associated losses as the world gets serious about addressing climate change. As active

investment exits the fossil fuel industry due to these warnings, passive investors are becoming the "holders of last resort" ensuring that these losses will be borne overwhelmingly by average investors, savers, pensioners, and retirees.

While there may be a sense of futility in the financial sector and even within the climate community when it comes to the passive investing problem, there are in fact a number of potential solutions that have not yet been fully explored. One of the most promising is the introduction of default fossil-free investments that would be offered to all clients by the world's largest asset managers; investors would have to intentionally direct their manager to opt out of these climatefriendly funds. Other technical solutions include establishing a standard definition for ESG, and updating or regulating the indices that funds track. Ultimately, any successful approach to the passive investing problem will also need to shift mindsets within the financial sector and address industry inertia.



### **Background: The Passive Investment Wave**

Warren Buffett made a famous bet. He bet \$1 million that an investment in a passively managed index fund that tracked the whole market would generate a higher return than a basket of actively managed funds that bought and sold stocks to outperform the market. A decade later the results were in: Buffet's passive investments had outperformed the actively managed funds by almost 5 percent compounded annually. His bet reflected a broader market shift that had been building for decades with significant unintended consequences for the climate: the Passive Investment Wave.

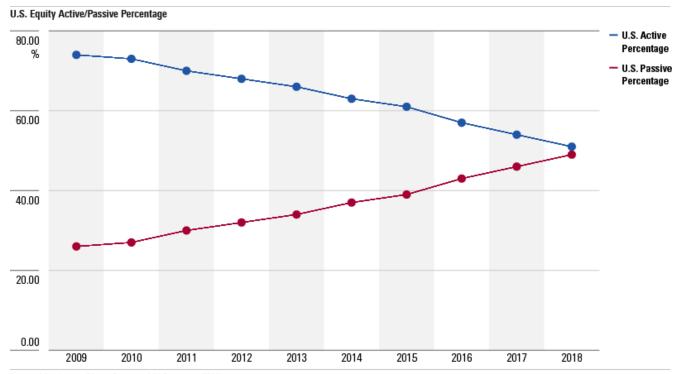
### Passive investment is rapidly gaining market share

The rise of passive investing has been driven by the idea that it reduces and diversifies risk, lowers fees, and provides stable and strong long-term returns as compared to active management or "stock picking" which in aggregate struggles to generate returns that justify the increased fees and concentration risk. While this drove slow and steady growth initially, it was the

financial crisis of 2008, and the regulations that followed, that supercharged the passive wave as investors became increasingly wary of risk and flocked to passive investing strategies. In 2019, passive equity investments surpassed active investments in the U.S., and they are rapidly gaining market share.

The trend is global. European equity markets are now approximately 33 percent passive and Asian equity markets about 50 percent passive. In China, passive equities are growing faster than any sector, currently at around ten percent of the market, with estimates that this number will double within the next five years. This trend extends beyond the equity market. In 2017, growth in passive fixed income products totalled 30 percent of the market in the U.S.; 18 percent in Europe; and 10 percent in Asia.

To put that in perspective, before the financial crisis, exchange-traded funds (ETFs) and other index investments only accounted for \$700 billion in assets under management (AUM). Since the crisis, they have grown more than five times – to \$5 trillion in 2018. And ETFs have become highly concentrated, with just 20 funds attracting more than 50 percent of capital inflows in 2017.



Source: Morningstar Direct. Data as of 31 December 2018.

## Asset managers are increasingly concentrated and powerful

As passive equity investing has risen, so have the asset management firms which offer these products. By the end of 2017, the global AUM by the world's largest firms totalled \$93.5 trillion. The top six companies alone manage around \$22 trillion. But the concentration is even more stark among the Big Three (BlackRock, Vanguard, StateStreet) who alone have quadrupled their ownership in S&P 500 companies over the past two decades. Each of the Big Three now manages 5 percent or more of the shares in a vast number of public companies, and they collectively cast an average of about 25 percent of shareholder votes in those same companies.

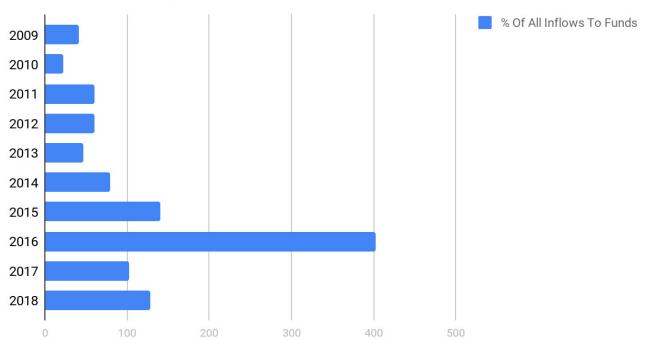
With the rising popularity of passive investing, in particular the explosion of ETF products, more and more capital is flowing to carbonintensive industries via mainstream investment products offered by asset managers. Recent analysis has found that the world's 15 largest asset managers have increased their holdings in thermal coal by an average of 20 percent since the Paris Agreement, in large part due to passive investing. Meanwhile, the capital that flows from their passive investments can enhance the equity valuations of the world's largest fossil fuel companies, which have spent \$1 billion to

lobby against climate action just since the Paris agreement was signed in 2016.

Tellingly, by the time Jack Bogle died at the beginning of 2019 it had become increasingly clear that he felt there was a looming problem with passive investing, saying that the trend threatened the national interest. The debate on the efficacy of index investment has significant repercussions for how we tackle climate change.

While the father of passive investing was worried, few others seem to be paying attention. Today, there is little knowledge amongst the general public – let alone the climate community – of the looming threat from this trend. As a result, passive investing is relatively unregulated compared to its peers in the financial sector. Despite efforts by some asset owners to increase investments in active strategies or manage funds in-house, the passive trend is likely to continue. If the next two decades mirror the past ten years, the Big Three asset managers alone will own over 33 percent of S&P 500 equity and could vote 40 percent of S&P 500 companies' shares.

Big 3 Asset Managers Fund Inflow



Source: The Specter of the Giant Three, Harvard Law

## The Problem with Passive Investing

the passive investing wave when it comes to climate: 1) It can artificially raise the valuations of carbon-intensive companies; 2) It limits shareholder action on climate; 3) It blunts asset owner pressure for change; 4) It increases systemic financial risk from climate change.

## Passive investing can artificially raise the valuation of carbon-intensive companies

As early as 2011 scientific analysis showed that up to <u>80 percent</u> of listed fossil fuel reserves were unburnable given the current global carbon budget. Things have only gotten worse since that analysis – including the approach to investment. Despite the Paris Agreement, holdings of thermal coal by the fifteen largest asset managers have increased by 20 percent. BlackRock, the world's largest asset manager, now boasts the largest absolute holdings in thermal coal, and the most coal-dense portfolios of any asset management firm.

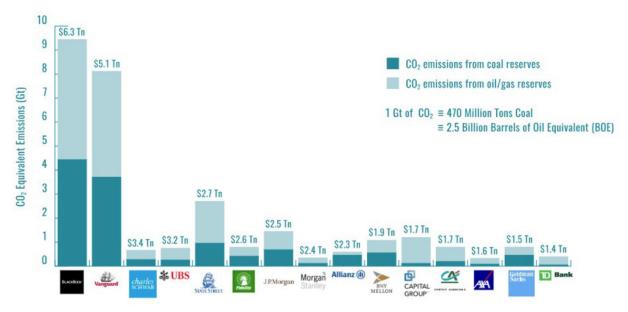
This investment in fossil fuel companies, many of which have <u>underperformed against the market benchmark</u> for years, makes it difficult for investors to bet against a major megatrend. For

instance, General Electric (GE), which bet heavily on fossil fuel for power generation <u>lost investors</u> \$193 billion in just three years, \$19 billion for <u>BlackRock alone</u>. Passive investors have borne these losses because GE is a publicly listed entity included in most mainstream indices. And yet despite the loss, BlackRock continues to remain one of the biggest shareholders in GE. This is not an isolated case. <u>A recent study</u> reports that BlackRock's fossil fuel-heavy strategy has lost investors \$90 billion over the past decade, mostly through large cap passive products.

Worse, as they're continually included in indices, fossil fuel companies enjoy inflated stock prices and valuations, thanks to "the index effect." This means that despite market underperformance and increased turbulence in the future, these companies continue to maintain artificially high valuations. This negative feedback loop pours equity and debt capital into fossil companies who are using portions of this money as CapEx while collectively burning through our planet's remaining carbon budget at a dangerous rate.

#### **Asset Managers and Fossil Fuels**

A focus on the largest asset manager groups



Asset Management Group (AUM as of 06/2018 Above Bars)

Influence Map: Who Owns the World's Fossil Fuels Report 2018

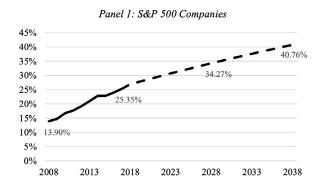


#### Passive investing limits shareholder action on climate

Despite the increased risk posed by fossil fuel investments, <u>short-term disincentives</u> prevent these large asset managers from engaging in adequate stewardship that might lead to climate action.

These managers hold significant (greater than 5 percent) equity stakes in most publicly traded companies (including the majority of fossil fuel companies). Their stakes offer access to senior management and boards – something asset managers prize. They're disinclined to vote against management and risk losing that access – which makes it difficult to take a stand on climate. In fact, in the rare cases where companies like Vanguard or BlackRock have voted against management on shareholder resolutions or board votes, it has been about a lack of access.

Figure 3. Expected Future Growth—Big Three Combined Voting Stake



Source: Specter of the Giant Three, Harvard Law

The concentration in the asset management sector also means that the top managers all have fossil fuel companies as large clients. There is a disincentive to lose out on the tens of millions of dollars in yearly fees by voting against management; the most recent analysis from 50/50 Climate (now Majority Action) showed a correlation between asset managers with more fossil fuel clients and poor shareholder voting records.

Fossil fuel companies and the trade industries that represent them also fear the potential <u>voting block power</u> of these asset managers. This has given rise to well-funded industry astroturf groups, most notably the <u>Main Street Investors</u> coalition, which advocates against proxy voting and shareholder resolutions deemed "political."

Pressed on one side by industry groups aiming to maintain the status quo, and on the other side by a global call from investors, heads of state, and others who want to address climate change, asset managers can mistakenly draw a Goldilocks conclusion: they say they must take the "just right" approach between the two critiques. The result is that too often managers default to the status quo, which prevents action on climate.

## Passive investing blunts asset owner pressure for change

Passive investing is also rearranging power in the financial system – away from asset owners to asset managers. The average asset owner is now so small relative to the total AUM of the largest asset managers that they have little control over allocation strategies. At this point nothing short of collaborative pressure – from retail customers, large asset owners, regulators, legislators, civil society, and employees – is likely to force asset managers to change course.

As a result, asset owners seeking change in their investment strategies, particularly on ESG issues, are frustrated by a lack of action from their asset managers. Recent surveys show a significant number of pension plan managers (with \$2.43 trillion in assets) said index managers were not meeting their stewardship goals at all, while 23 percent said they were only meeting them 'to a limited extent.' That's largely because in the

grand scheme of things they are not big enough, well organized enough, or loud enough to force change.

That is highly problematic for climate change because investors are just now waking up to the power they can wield. For instance, the \$34 trillion Climate Action 100+ investor initiative was created to engage the 100 largest carbon emitting companies on the planet to reduce their emissions. Climate Action 100+ and many other individual investors are increasingly seeking climate policies from companies they own by being active stewards (see Glencore's commitment to cap coal production due to investor pressure).

Currently investor initiatives like Climate Action 100+ do not include the largest asset managers. And much of the power investors seek to wield through these coalitions on securing climate progress is either watered down by different engagement priorities from large passive-heavy asset managers, or simply ignored. The absence of the largest asset managers from Climate Action 100+ also means that when engagement fails and change is left to a shareholder or board of directors' vote, increasingly these votes are determined based on the shares voted by BlackRock, Vanguard, and State Street. In 2019, at least 16 critical climate resolutions would have received majority support of voting shareholders if BlackRock and Vanguard had voted in favor of them.

## Passive investing increases systemic financial risk from climate change

Passive investment poses significant risk to the entire financial system by fueling the rise of assets that will be stranded as the world gets serious about addressing climate change. Many studies have surfaced that examine the financial risk climate change poses to particular investments, including a detailed analysis from BlackRock earlier in 2019 focusing on the physical climate risk to three of their key asset classes. Yet very little discussion or action is happening among mainstream financial players about the risk from their investments. This is a much more difficult but needed conversation.

As lawsuits that seek to assign liability for climate related disasters work their way through the courts, these risks could further magnify. A growing number of financial experts like Mark Carney, the Governor of the Bank of England, are worried the financial system could face a 'Minsky' moment driven by rapid re-pricing of fossil fuel assets and losses experienced as a sudden shock.

As investors respond to increasing financial risk of climate change in their actively managed investments, we'll see a partial or accelerated exodus from fossil fuels; the Influence Map study shows that even larger managers are more lightly invested in fossil fuels in their active rather than passive holdings. This phenomenon creates a situation where passive investors are poised to



become the "holders of last resort" as it relates to fossil fuels investments, and it ensures that the fallout will be borne overwhelming by average investors, pensioners, and retirees, all of whom are significantly passively invested.

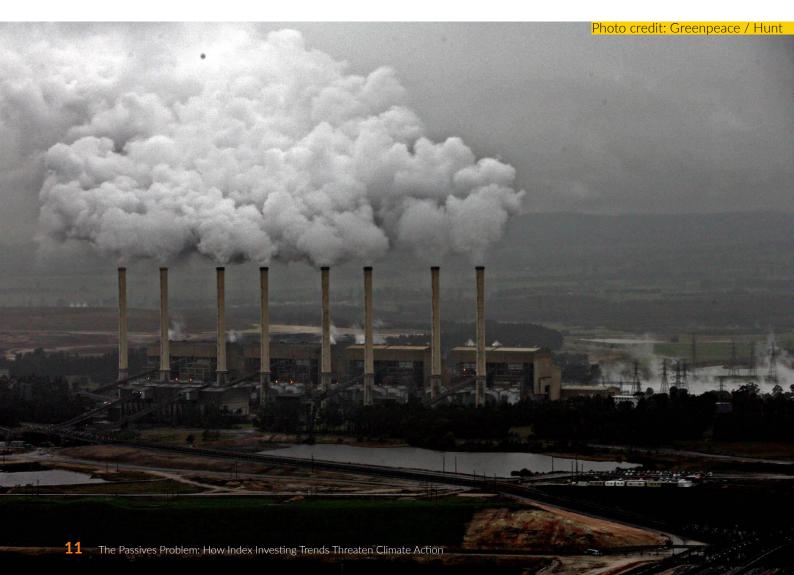
Helping avoid such a climate related financial shock, and the resulting financial crisis it would create, is the purview of central banks. At the Paris "One Planet Summit" in December 2017, eight central banks and supervisors created the Network for Greening the Financial System (NGFS) – a network of central banks and financial regulators (42 members and eight observers) around the world working to promote financial stability while addressing climate risk.

But even these institutions charged with addressing the problem are actively perpetuating it through passive investments of their own. Through quantitative easing (QE), central banks have been actively purchasing equities at an increasing rate. QE grew dramatically in response to the financial crisis of 2007/2008. As a result, central bank balance sheets expanded significantly. At the peak of its Asset Purchase

Program, the European Central Bank (ECB) injected 80 billion euros per month into the economy. Today, assets on the ECB balance sheet stand at 4.7 trillion Euros, a more than fourfold increase. Similarly, the Fed expanded its balance sheet from below \$1 trillion in December 2007 to just under \$4 trillion today.

Since they are tasked with regulating financial entities, central banks often exclude the financial sector from their asset purchases. This has the perverse effect of further concentrating their investments in <u>carbon exposed industries</u>, an outcome <u>pronounced in European quantitative easing programs</u>.

Ultimately, this means that if, or when, the next financial crisis occurs, many of these institutions will likely purchase significant fossil fuel equities, thanks to renewed rounds of QE – all because of their passive investment strategies. This despite the emergence of the NGFS and active concerns about the financial risk posed by climate. Central banks are attempting to mitigate risk with one hand, but are actively exacerbating it with the other.



## ESG alternatives alone won't solve the problem

One possible way to tackle the passives problem is through ESG (Environmental, Social, Governance) investment options that either screen out carbon-intensive companies or screen in climate-friendly companies. In a recent Morningstar poll, 72 percent of respondents indicated interest in ESG investments. As a result of this rising demand, 'green' options (including but not limited to ESG products) have grown dramatically, and now represent \$31 trillion.

Unfortunately, because of a lack of standardization, regulation, and enforcement, almost all of these options still include fossil fuels, along with dubious logging and agriculture companies. BlackRock's ESG products feature pure play coal companies like Peabody. Even with current best in class standards, without intervention, sustainable investing will further entrench fossil fuels.

This is slowly changing as European regulators concerned with greenwashing have introduced a Europe-wide classification system for ESG. In response, calls for increased oversight from lawmakers and regulators in the U.S. are growing; in 2019 the House hosted hearings

focused on establishing a single standard and common definition of 'sustainable.' However, the Trump administration signed an executive order in April 2019 calling into question the materiality of ESG considerations and climate related disclosure. This will likely will be challenged in court.

There are signs of change in Washington with the introduction of RISE Act legislation which would give federal employees a fossil-free investment option. However, neither the RISE act nor the proposed disclosure rules resolve the lingering issue of what defines 'sustainable' investment products or what kind of oversight and federal regulation is needed to standardize a common definition of these products. In fact, even with the disclosure rules the House has proposed, there isn't a clear metric for how asset managers and index providers define 'sustainable.'

Even if a common definition is reached, ESG options alone won't solve the passives problem. As long as they are an opt-in product rather than the default offering, they'll remain niche and boutique.



#### **Barriers and Potential Solutions**

#### 1. Opting In vs. Opting Out

Even if a new index is created for passive investment products, a significant barrier remains. Products that asset managers provide as core, portfolio-building lead investment vehicles are the overwhelming majority of the funds clients eventually choose because they must opt-out if they don't want them. Sustainable options, which clients must ask for (opt-in) inevitably account for a small share of total fund volume. The power of opting in vs. opting out is well established in psychology, and is a proven strategy for change. For example, countries like France and Sweden that require people to opt out of organ donation enjoy 80 percent participation in their programs, while countries that require donors to sign up see less than 30 percent participation.

One possible solution is to make climate-friendly products the default choice. Mainstream asset managers would offer these as their standard, lead investment products. This would not necessarily require a total ban on fossil fuel investments. It would likely require some combination of self-indexing, pressure on third party index providers (like MSCI, FTSE, Morningstar) to create new indices, new investment products, and/or acceptance of greater tracking errors. This may also occur in phases - initial coal-free defaults, or one fossilfree default, building towards an entire suite of products that are climate-friendly (they exclude companies with a negative impact and include companies with a positive impact) across both equity and debt investment options.



#### 2. Standardized Definition of ESG Funds

Absent universal standards that are enforced by regulators, consumer demand for ESG products will have the unintended result of further entrenching fossil fuels. However, it is possible to solve for this. In Europe, regulators increasingly concerned about greenwashing have applied universal standards to ESGs. Now companies market the same products in Europe as they do in the U.S. - but without the fossil fuels. In fall of 2018 BlackRock, which has loose U.S. standards for ESG, marketed six new European ESG ETF products which explicitly and publicly excluded thermal coal and tar sands.

To address this problem, all ESG products worldwide would need to adhere to a common (legally enforceable or third party-certified) definition that would exclude not only pure play fossil fuel companies, but diversified companies that exceed certain limits (in the case of coal, for instance, greater than 30 percent of revenues from coal mining or coal power; greater than 10 GW of existing coal plant assets; or 20 MT of annual coal production). Such a global definition has not yet been created for oil and gas companies and would need to be in order to ensure not just pure play companies are excluded.

Some ETF providers, such as Etho Capital's ETHO ETF, are doing this right, creating climate-friendly products that both screen out carbon-intensive industries while screening in and heavily weighting investments in companies that are driving climate solutions. But because invested funds are sticky, and liquidity is one of the main attractions of ETFs, launching alternative low-carbon or fossil-free ESG ETFs and expecting consumers to make an active

decision to switch is a limited solution for the entirety of the passives problem. A more promising approach is to combine two strategies: raised-ambition ESG-screened funds and default climate-friendly options.

#### 3. Tracking Errors

Asset managers can't simply remove fossil fuels from their products, they say, because doing so would create undesirable tracking errors. Industry norms suggest that a portfolio that deviates from an underlying index by greater than one percent results in a tracking error which is unacceptable for many large passive investors. However, there is no regulation or fiduciary duty principle that requires tracking errors to remain at this level.

In fact, tracking errors are neither good nor bad - it just depends on one's investment approach. Several studies show that tracking errors from screening oil, gas, and consumable fuels range between .79 percent and 2.9 percent with similar - even superior - returns. MSCI analysis found tracking errors for their MSCI world index ranged from 0.3 percent to 1 percent based on the criteria applied to coal vs. all fossil fuels respectively. It is worth noting that many large asset owners, including CALPERS, CALSTRS, and the Norwegian Sovereign Wealth Fund already employ a coal-only screen and accept these tracking errors. One solution is to organize customer demand for coal-free, fossil-free products - regardless of their tracking errors and demonstrate to other big investors that this approach is viable.



#### 4. Changing the Index

Asset managers often point to the underlying index from a third party as the source of the problem. "We have to follow the index. We are legally bound to our customers" is a common refrain. However, asset managers wield the power in the system and could request new indices from index providers, or make their own, if they wanted to (as Vanguard and others already do). Many ETFs and other products are self-indexed by large asset managers and for those products asset managers could make deliberate decisions to eliminate fossil fuels because they have the power to make adjustments to the index.

In terms of changing third party indices, there are an enormous number of individual indices that could be changed, but for greatest impact, it would be important to focus on the most popular and largest. Standard and Poor's and **FTSE** represent 18 of the 20 most popular benchmark indices for U.S. mutual funds and 15 of the 20 largest by assets under management. The S&P alone constitutes as much as 41 percent of total AUM tracking the U.S. market. There is regulatory precedent from Europe, where the European Securities and Markets Authority and the International Organization of Securities Commissions have introduced guidance and regulations to improve index governance and transparency so regulation is possible. Short of stripping fossil fuel companies entirely, even reclassifying oil companies as "non-renewable energy", as <u>FTSE did recently, can make a</u> difference.

While indices that exclude fossil fuels already exist, they are boutique (and subject to serious mistakes). There are multiple ways to grow and strengthen this approach as a solution to the passives problem. With the promise of significant capital, large asset managers and asset owners can push index providers to create new indices and it will be cost effective to do so; asset managers can also self-index. If costs are a barrier, one answer is to push the index to change its methodology which can and does happen over time. The methodology for the S&P 500 changed at least eight times between 2015 and 2018. Overall, indices tracking the

S&P changed twenty-two times within that same period. It is possible that, absent regulatory pressure, asset managers or owners could lobby index providers to change the index rules. However, indices don't adhere to common definitions so what is considered 'industry' or 'energy' could vary wildly and would need to be standardized.

#### 5. Market Concentration

Because the Big Three dominate the market, it is difficult for new entrants to disrupt them with competing climate-friendly products. The Big Three enjoy that power because of <u>economies</u> of scale, higher liquidity, and barriers to entry. However, should smaller upstarts demonstrate the popularity of climate-friendly products, large asset managers can easily and quickly replicate them and spread them widely across the market, as the pricing wars have shown. The situation also holds in the reverse: if one of the Big Three is disproportionately skewed towards fossil fuels, as BlackRock appears to be, there may be reluctance to admit or change that tilt. BlackRock had significantly more thermal coal intensity in its funds than any other top asset manager as analyzed by Influence Map, with the most coal-intensive portfolios situated in BlackRock's passively managed funds.

There could also be a push to regulate asset managers to promote more competition. In May of 2019, Harvard Law professors Lucian Bebchuk and Scott Hirst made a compelling case for regulation in the United States that would "prevent or deter investment fund managers from managing investment funds that cross certain thresholds in the aggregate, whether through fiat, tax penalties, or otherwise." This approach will be more or less feasible depending on who occupies the White House and Congress.

#### 6. Awareness and Consumer Demand

Despite the growth in demand for general sustainable investment options, asset managers often point to a lack of demand specifically for fossil-free funds. Absent that demand, they tend to follow broad market strategies in the products they offer. Meanwhile, few consumers understand that most investment options include fossil fuels – and those who do demand sustainable options incorrectly assume they are fossil-free. Customers can't reject what they don't know is there.

Even in the dedicated climate change community, there is little awareness that such a thing as a "passive investment problem" exists – let alone its significance. In order to generate consumer demand, pressure for change, and regulatory oversight, this problem must first be established through research, reports, and media coverage.

It is possible that demand among the general public, particularly in the U.S., might never be high enough to change this trajectory. Passive investors are by nature, passive. But targeted solutions – like engaging financial advisors as vectors, or establishing default fossil-free products – could help overcome this barrier.

#### 7. Fiduciary Duty

Many in the industry believe that it would violate their fiduciary duty to restrict fossil fuel companies from underlying indices or products. These concerns are reinforced by the current U.S. administration's effort to block consideration of sustainability under the guise of fiduciary duty. This uncertainty can hold back even the most progressive investors. These concerns would ultimately be addressed by regulatory guidance and legal challenges; establishing a precedent would show that fears of violating fiduciary duty are unfounded.

#### 8. Asset Manager Action

Asset managers, especially the Big Three, need to change their approach to shareholder engagement so that they drive action with key companies on supply chain emissions, corporate lobbying on climate, and Paris alignment investment. When time-bound engagement fails, managers will need to support climate resolution votes, board of director challenges, and ultimately divestment. To achieve these goals would require actively shifting asset managers' incentives, including publicly pressuring laggards, making regulatory changes, and organizing asset owners to speak out for more aggressive action.





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Gemasolar solar thermal power station, Spain. Photo credit: Markel Redondo/Greenpeace.



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