ESG: When a Trend Becomes the Norm

E is for 'Emissions?'

THE ROAD TO 2030

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The Road to 2030 | ESG: When a Trend Becomes the Norm

E IS FOR 'EMISSIONS?'

Financing the Transition to a Lower Carbon World

2019. The year in which Gucci, Google, Gilead and General Electric all made headlines for continuing to accelerate their decarbonization efforts. Net inflows into ESG managed products in the U.S. were nearly triple those for *all of 2018* – by the end of the third quarter. IHS Markit launched a global carbon index. And, maybe less important, but closest to home for many of us – plastic straws disappeared in cafes and cafeterias across the U.S.

The green*er* era is upon us. It doesn't need to be a complete overnight revolution to be a global, consequential and significant *evolution* for the next decade. And this evolution needs to be financed.

The drivers of this change aren't just environmentalists and policy makers. Employees are increasingly seeking 401(k) options that more closely align with their employers' values – as in the case of the Northeast Clean Energy Council.[1] Customers demand products that are more sustainable, along all points of the supply chain. Every sector has been impacted by the shifting ground that requires weighting costs, benefits, incentives, passed regulation, and *pending* regulation around carbon.

In the coming years, it's likely "ESG concerns" won't be an optional aspect of investing – they will be vital to investing. This long coming shift is like the increasing use of factors in investment and risk processes, and to more holistically understand portfolio exposures. Investors will regularly incorporate the environmental/sustainability, social or governance concerns as a critical part of various investment analyses and risk management processes.

But a common question has been: what about standardization? Without a coherent, global lexicon and understanding of what, exactly, determines the ESG nature of an investment, or even a company's actions, it is difficult to benchmark or establish a center of gravity in the same way that exists in other corners of finance. That, however, is changing. Some corners of ESG investing *already* lend themselves to standardization and more quantitative approaches – perhaps more straightforwardly than previously thought.

> While some corners of ESG investing are less standardized and harder to quantify, others lend themselves to deep and thorough quantitative analyses. **E is for 'Emissions'** explores the implications of one of the most significant global megatrends of the next decade: the transition to a lower carbon world. We explore the current state of play and consider the considerable potential impacts across financial markets.

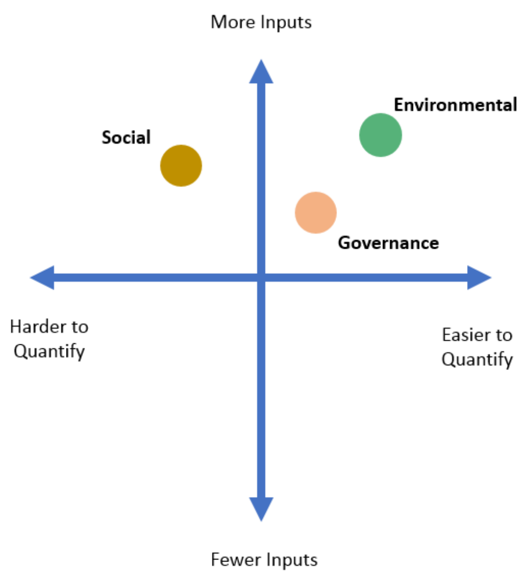
This piece does not claim decarbonization will happen overnight. But the actions of customers, investors, allocators and policy makers alike – coupled with generational transitions and growing availability of accurate data – are converging in a single direction. One creating a new generation of winners and losers, and considerable opportunity for those focused on the space.

Shannon Murphy
Equities Content
Shannon.murphy@jefferies.com
+1.212.336.1139

Lily Calcagnini
Equities Content
lcalcagnini@jefferies.com
+1.212.323.7596

IN PRACTICE: QUANTIFIABILITY AND NUMBER OF INPUTS FOR ‘E,’ ‘S,’ & ‘G’ INVESTING

Each of the pillars of ESG investing has numerous – if not hundreds – of subdimensions and potential inputs.[2] These inputs also can vary across companies, regions or even time.



Millennials, who reportedly have trillions in current and projected spending power, rank sustainability as a much higher factor for informing purchases than previous generations.[3] But as much has been written about the consumer pivot to sustainability and other environmental concerns (see also, Jefferies Invisible Forces podcast episode *You Are What You Buy*) - there are a few themes hiding in plain sight that may facilitate more quantitative approaches and investment forecasting than other qualitative ones.

Environmental concerns arguably have the largest number of rich data sets – in which the data *actually answers* the question you’re asking. Regulatory requirements and long time pressures from climate activists have resulted in a larger trove of historically available data than other corners of ESG. As issuers and policy makers become more focused on transparency and sophistication of reporting around climate issues, an increasingly robust body of evidence emerges.

Governance issues are largely and publicly reported – but they can also be somewhat murkier in sending directional signals as to underlying company performance. And social topics are among the most difficult to quantify, with considerable variability in how to measure issues across human, labor and supply chain dimensions.

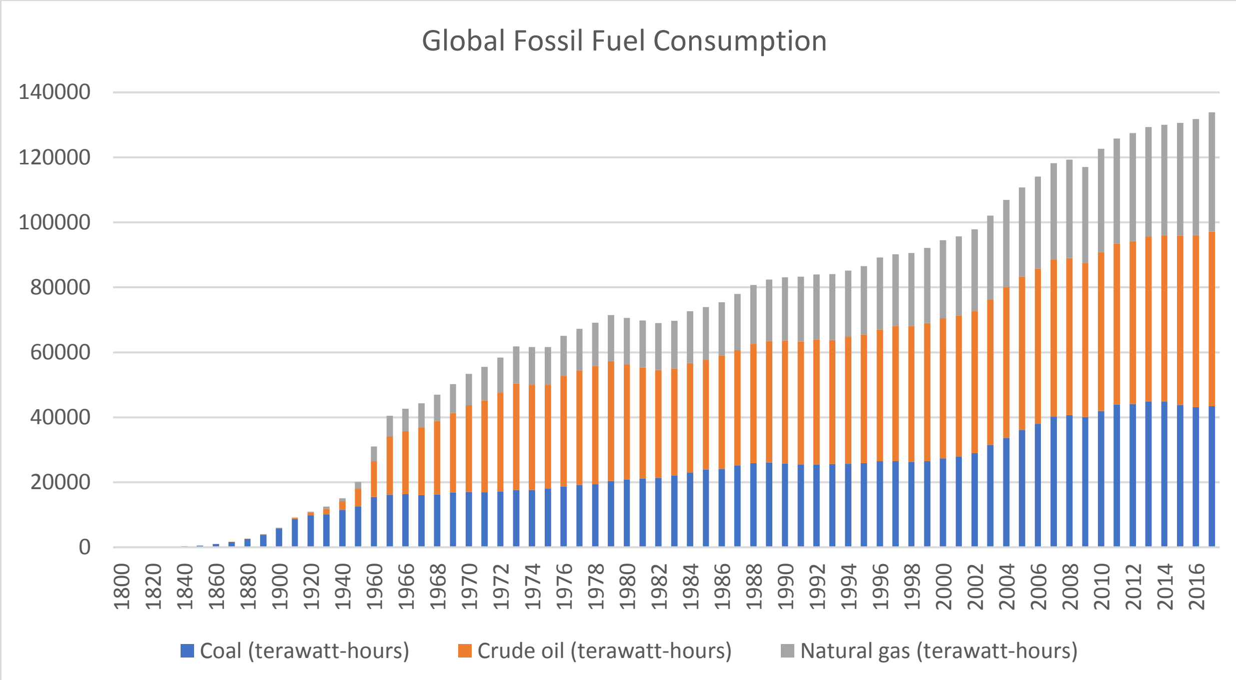
This piece argues that an unmistakable shift is underway in the fossil fuel driven economic development and expansion of the last century. **This shift is not – at least as of today – absolutist** and focused on a march to zero emissions. **What *is* undeniable is that issuers, countries and individuals are reorienting patterns in favor of a less carbonized world, and this has significant repercussions for investment opportunities across the globe.**

What is undeniable is that issuers, countries and individuals are reorienting patterns in favor of a lower carbon world, and that this has significant implications for investment opportunities across the globe.

“Climate sustainability and resilience have moved to the forefront, becoming two of the hottest trends in the investment industry.”
The Financial Times

CLIMATE, CARBON AND EMISSIONS

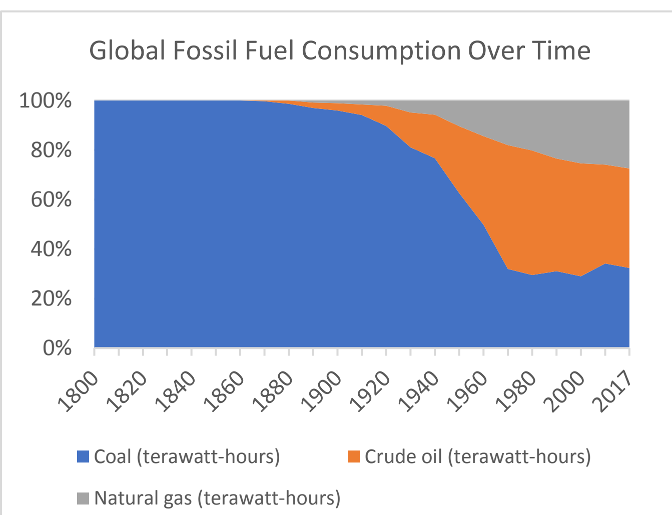
Economic development and expansion of the last century and in the postindustrial era has largely relied on fossil fuels to power that growth.[4]



But scientists have more recently coalesced behind the belief that climate change, as driven by the emissions of greenhouse gases largely arising from the combustion of fossil fuels, is a real and pressing threat to humanity and the global economy. As a result, scientists, policy makers, companies and individuals have turned their focus to mitigating climate change by moderating greenhouse gas emissions.

While fossil fuels have had an undeniable impact in delivering economic benefits as countries have innovated, grown and expanded – these benefits are not without costs.[5] And players across the global economy are grappling with how to balance the benefits and opportunities fossil fuels provide, with the challenges and drawbacks that are related to their broad use.

Environmental protection and research has a long history – but concerns specifically focused on the drawbacks of greenhouse gas emissions accelerated in the 1990s.[6] In 2016, more than 190 representatives with the United Nations Framework Convention on Climate Change voted to ratify what has since become known as the Paris Agreement on Climate Change (Accord de Paris) to address greenhouse gas emissions mitigation, adaptation and finance.



Have we shifted the balance of our fossil fuel consumption? Clearly, per the left chart.[7] But considerable work remains to bring down greenhouse gas emissions across the board.

The Paris Agreement was among the world's first comprehensive climate agreements - but has not been without controversy. As of this paper's writing, the United States government officially notified the United Nations that it would leave the agreement, the first day possible. **But a large and growing number of U.S. companies (among them: Wal-Mart, Microsoft and Salesforce) have reiterated their support for the Paris Agreement and support for climate action**.

What remains true is **the growing momentum by a diverse group of constituencies that are facilitating the move to a *lower carbon economy***. Whether or not the global economy reaches the Paris Agreement's stated goal of limiting global warming to 2ºC above preindustrial temperatures**, there is considerable evidence revealing a widespread and consequential shift across industries to mitigate their CO_2 emission footprints.**

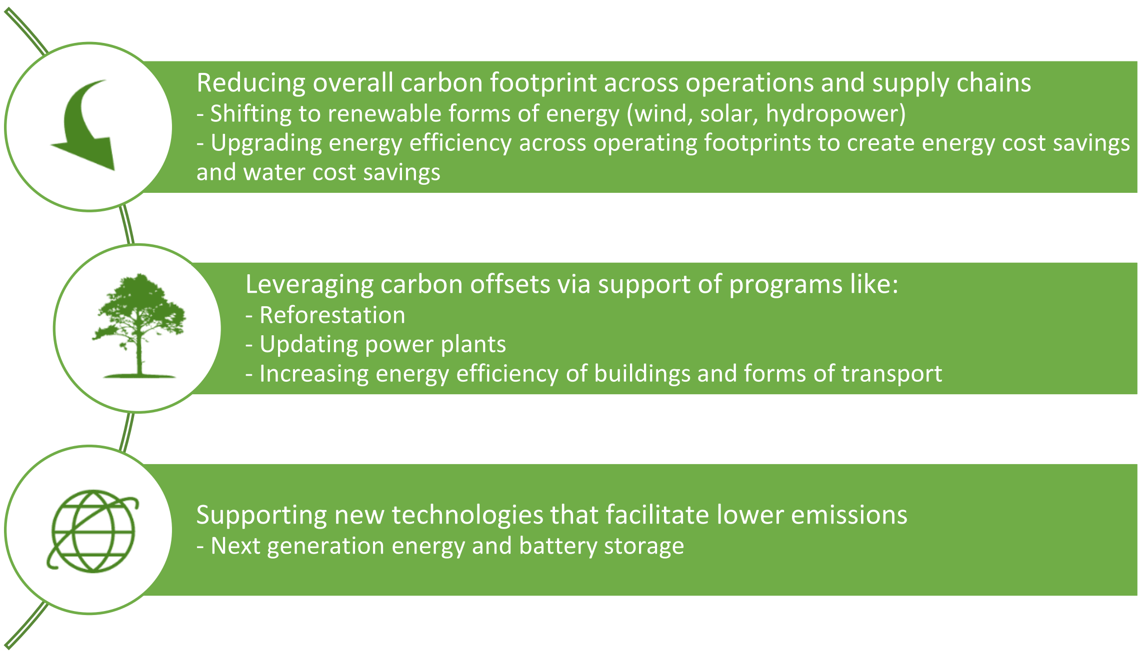
This transition has real financial consequences and creates a new set of winners and losers.

WHAT DOES DECARBONIZATION MEAN IN PRACTICE?

Momentum towards a lower carbon economy relies on a variety of actions by companies, investors, and individuals. As a first order of magnitude, actors (whether firms or individuals) can lower their current carbon footprint by: i) reducing overall footprint by shifting or ceasing certain actions to lower emissions going forward, ii) purchasing carbon offsets to mitigate carbon in existence, or iii) leveraging or investing in new technologies that facilitate cleaner energy.

They can be then rolled out across secondary or even tertiary groups like supply chains, counterparties and even employees' secondary actions (like commuting).

Examples of Primary Action to Lower Carbon Emissions



Additional near term catalysts exist for continued acceleration of a transition to lower carbon economies. The EU recently passed the **EU Action Plan on Sustainable Finance**, prompting the global law firm White & Case to note, "The Commission intends to **establish an EU framework that puts environmental, social and governance ("ESG") considerations at the heart of the financial system** to help transform Europe's economy into a greener, more resilient and circular system."[8]

This piece does not assert the global economy will reach any specific emission level on a specific date. But the move to a lower carbon economy is an undeniable – and perhaps more importantly for the investment community – *measurable* trend.

In contrast with other corners of ESG investing, targeting focus, research and measurement of the move to a lower carbon world is **definable and quantifiable**. There are broadly accepted ways to think through what it means to measure and minimize a company's or supply chain's carbon footprint. So where human rights and social issues may have nuances across economies and cultures that make those issues harder to precisely measure, quantify and invest in, **the transition to a lower carbon world is more homogenous**. It is not perfect, but opportunities are often unearthed as trends crystalize and come into focus. And, as with many other issues, markets can be quite efficient at solving problems. Indeed, other shifts, including **an increase in companies setting internal carbon prices** (by 2016, more than 1,200 companies did so), allows firms to determine which investments will involve risk down the road, as carbon pricing programs are increasingly implemented across the globe.[9]

What actions are being taken, and how is this reflected in different sectors?

Examples of Action Transitioning to a Lower Carbon World

Action	Corporate investments in renewable energy	Carbon Trading[1]	Carbon Offsets	Building Efficiencies
Implications	Spurring billions in new investments in renewable infrastructure	Carbon has become "commoditized" and the markets (there are multiple) in which to trade credits and offsets are growing and evolving	A smaller but growing solution for carbon that cannot be eliminated; resulting in reforestation projects, shifts to cleaner cooking, etc.	Buildings are some of the largest CO_2 emitters - optimizing heating, cooling, water, and lighting
Corporate Examples	• **Google's** signing of power purchase agreements (PPAs) which were part of "the biggest corporate purchase of renewable energy in history." • **Rio Tinto** looking to increase its exposure to "new age commodities and battery materials," and ESG-focused investment	• IHS Markit's new Global Carbon Index • European Union Allowance programme • California Carbon Allowance • Regional Greenhouse Gas Initiative	**Gucci** working to offset carbon it can't eliminate across its supply chain by focusing on emissions reduction programs that protect forests and critical ecosystems that can act as carbon traps	**Bloomberg LPs** European headquarters named one of the world's most sustainable buildings, with integrated solutions across heating, cooling, water and lighting
Examples of Investment Opportunities	• Identify established and emerging providers of renewables – particularly those well aligned with corporates actively transitioning to renewable footprint	• The $82 billion global market for carbon credits is poised to grow considerably, as China and some Latin American countries get ready to launch their own emissions trading schemes • Because the number of available permits decreases over time, resources shift to technologies that make high carbon producing firms more efficient. It will pay to identify and invest in these technologies	• Real asset purchasing (namely, land) that over the long term will benefit from increasing focus on reforestation efforts	• Companies producing technologies for lighting, heating and cooling like sensors that adjust indoor airflow in response to how many people are in the building • REITs or other real estate and infrastructure investments that favor energy efficient footprints

[1] Carbon trading and offsets are related but not coincident, and with actions varying across corporate actors, worth viewing independently

It is clear there are a diverse and growing universe of investment opportunities resulting from this transition to a lower carbon economy. It is an incremental and evolving landscape that – due to the fact it is in its earlier stages – means there is considerable upside in the years to come for those who get it right.

So a growing supply of investment opportunities exists – but is the demand there? Yes. **We believe that the growth of ESG and sustainable invesments and allocations will define the next decade, just as the rise of passive has characterized recent years.**

IT'S THE ALIGNMENT, STUPID....HOW MUCH MONEY IS AT STAKE?
ANTICIPATED POTENTIAL FLOWS TO ESG PRODUCTS

The next generation of ESG flows are expected to accelerate from a trickle to a deluge – across regions, products and vehicles.

$30.7
TRILLION

This next gen story **is one of alignment**. Asset owners and investors are increasingly asking: can my investments more closely align with my values? Are there opportunities for my portfolio to more closely reflect what is important to me?

Because of the dynamism and diversity of what different parties consider to be "ESG" or sustainable investing – we do not granularly define where *precisely* these assets will flow. But below we map out what may be possible in terms of increased asset flows to various products, strategies and vehicles.

We anticipate considerable growth in this space as a result of:

1. **Growth in Demand**
    a. Millennials' retirement savings grow and they seek products more in line with their values
    b. Other defined contribution plan participants start to seek greater optionality in portfolio construction
2. **Improvements in Data and Technology**
    a. Facilitates more granular and accurate understanding of lower carbon transition
    b. Accelerates diversification of product lines
3. **Continued headlines and focus on issues around sustainability**
    a. Focus on climate and other issues of sustainability escalates
4. **Potential future regulation focused on sustainability**
    a. With the EU and other policy making bodies considering new regulations around sustainable investing, it is likely focus on the space will continue to grow in coming years.

As of year end 2018, there were approximately $30 trillion dollars allocated to ESG or sustainable investments globally. Europe is typically viewed as farther ahead, with nearly $15 trillion allocated to ESG assets.[10] In the U.S., according to US SIF, in 2018, assets neared $12 trillion in aggregate. In Asia, allocations have lagged further, with less than $3 trillion invested to date.

The Case of the U.S.

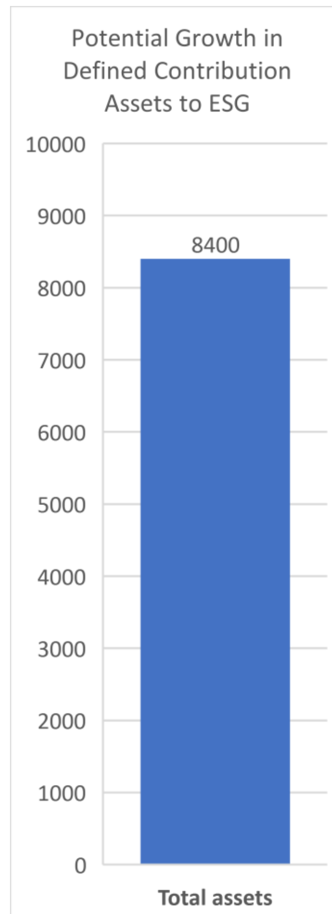
US SIF data showed that of the $12 trillion invested in ESG assets in 2018, 72% was held by institutional investors like pension funds, insurance companies and educational and foundation groups, while slightly more than 25% was managed on behalf of high-net-worth clients or individual investors.[11]

Defined Contribution Assets

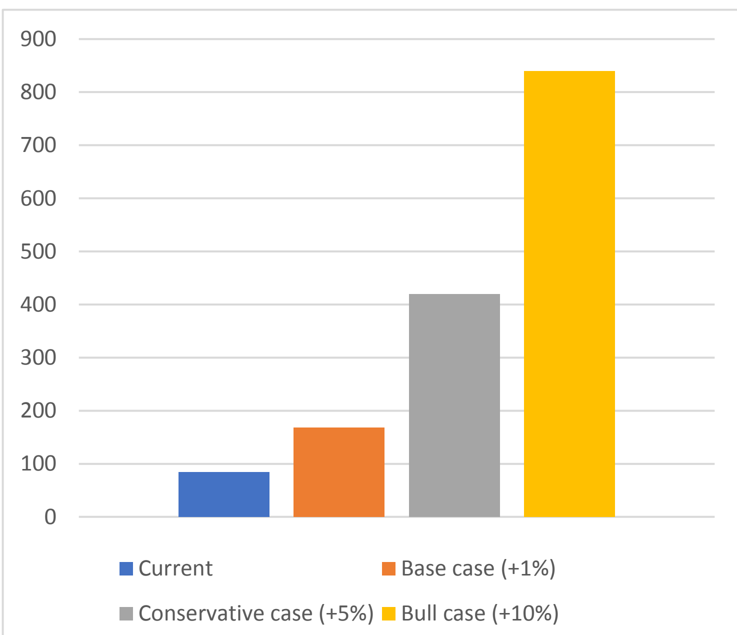
Potential Incremental $ Allocated to ESG Products in Defined Contribution Plans	
1% (Base case)	$84 billion
5% (Conservative case)	$420 billion
10% (Bull case)	$840 billion

Source: Jefferies

Let's start with just one corner of this – defined contribution retirement plans. There is approximately $8.4 trillion in defined contribution assets in the U.S.[12] Less than 1% of these assets are currently in ESG related products.[13] For each 1% increase will allocate an incremental $84 billion to this space. Given conservative estimates for millennials' (and others') appetite for more sustainable or values-aligned products, it is possible that 5 – 10% of these assets could move into the space, particularly accelerating as millennials dedicate more money to retirement.



Potential Growth in ESG Assets in Defined Contribution Plans

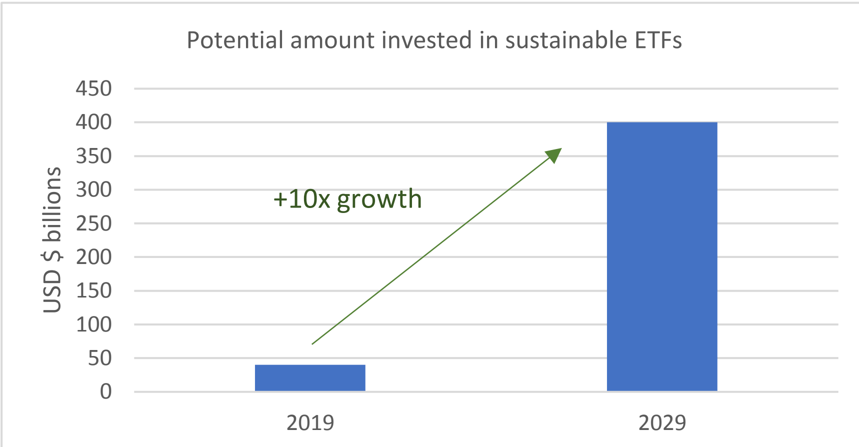


Nearly $1 trillion at stake

ESG and Sustainable ETFs

One of the main stories of the last decade has been in the explosion of passive and index products. But ESG investing through passives hasn't been as big a story. *Yet*.

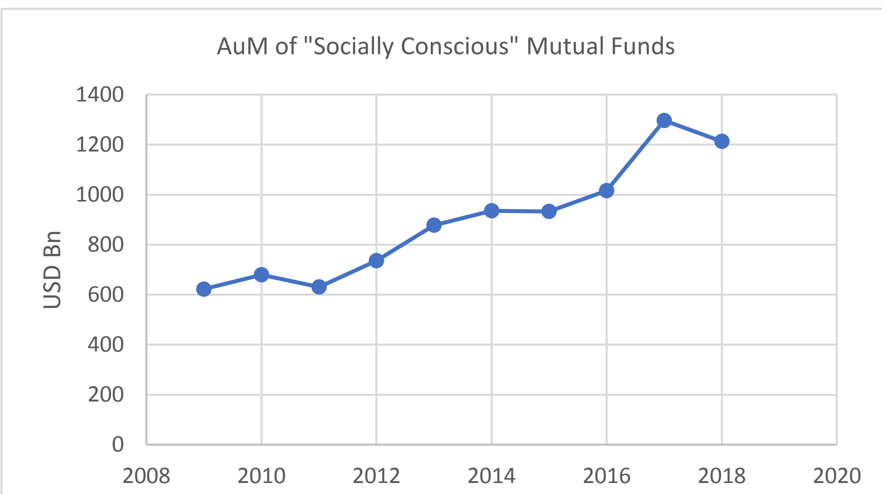
With even more room to grow here, the potential growth of "sustainable" or ESG ETFs lies largely in growing demand by investors. In fact, in their 3Q2019 earnings call, Blackrock reported, "Sustainable ETFs are a strategic segment that while relatively small today at $40 billion in industry AuM, we believe it can grow to $400 billion in the next decade."[14] All fixed income ETFs as of 2018 total around $550 billion, and ETFs focused on real estate have only reached $17 billion in AuM.



There are now around 70 sustainable ETFs, up from 25 in 2016.

Mutual Funds

Mutual funds have witnessed the considerable ESG and sustainability related flows to date, which have only continued to grow in recent years. In 2018, Morningstar reported that asset managers launched 382 "socially conscious" mutual funds and ETFs. The more than 3,000 funds in this space already collectively manage over $1.2 trillion, and despite a slight downtick in 2018, many expect these to continue to grow considerably in the coming years.[15]



Source: Morningstar

Alternatives Funds

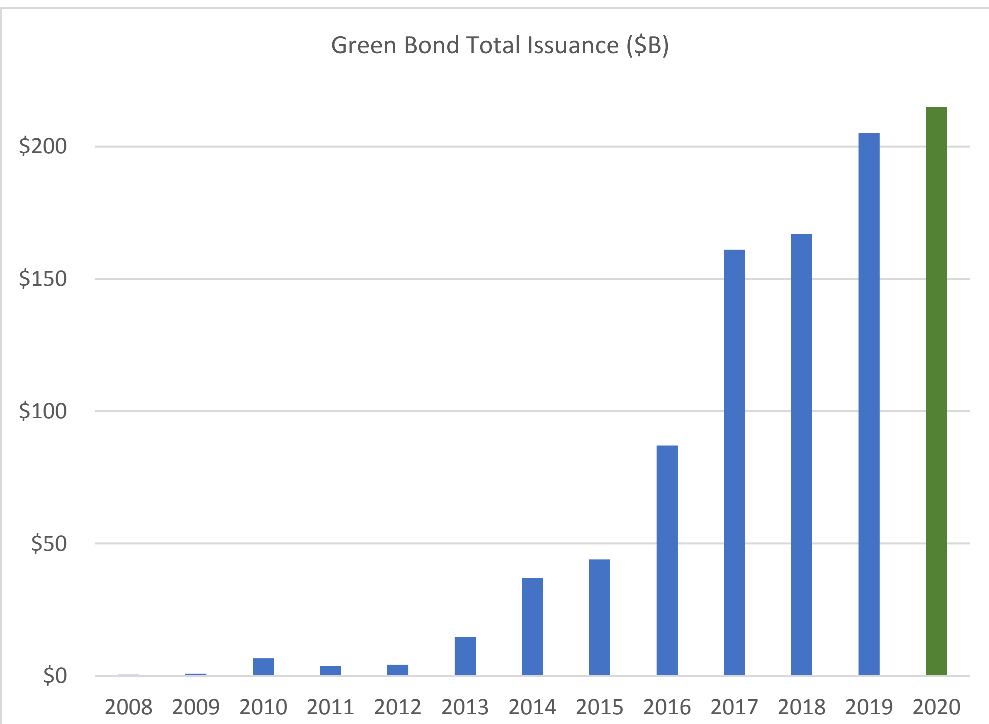
One of the more interesting corners in growth of ESG and sustainable investment products is in the alternatives space – whether hedge funds or even private equity. In recent years, a growing number of firms have publicly touted new ESG or sustainable products or incorporating ESG factors into their investment or risk management processes. Firms as diverse as ValueAct, Avenue, Third Point, Partner Fund, MAN Group, Grizzly Rock and Caxton have all commented on their focus on the topic.

But these funds are tackling the topic in a variety of ways. Some incorporate various ESG factors into their investment theses, others use ESG inputs as a dimension of risk management. Still others are working to create sustainability related products or co-investments. And a small but growing number of firms are self-defined ESG hedge funds and approach the topic from a broad standpoint across the organization.

Fixed Income

Green bonds have exploded in popularity in recent years – many of which have focused on energy efficiency and the transition to a lower carbon world. This $680 billion market fund projects that positively affect the environment or climate. Globally, investors with trillions in managed assets have made public commitments to climate and responsible investing—of which green bonds can be a crucial part. In 2018, a record $167 billion in green bonds were issued, and 2019's tally through October tops $200 billion.

Could $250 billion be in the cards for 2020 and beyond? **Many are watching what central banks do – as they increasingly discuss incorporating sustainability into their portfolios, could buying green bonds be far behind?**



WHAT LIES AHEAD & HOW JEFFERIES CAN HELP

The demand for ESG products – particularly those focused on sustainability – is rising up investors' focus lists for the next decade. While together E, S and G are extremely broad topics addressing a wide variety of issues, there are **corners of this landscape that are measurable and investible**.

We consider the global march to a *lower* carbon world one of the most standardized and quantifiable dimensions of this.

- We estimate that **more than half of all tickers across diverse sectors may be impacted by this shift**
- The **demand for products** that are more closely aligned with asset owners' principles is growing
- Assets **owned** by those who **prioritize alignment** of values and investments **is growing**
    - Millennials alone **contribute more to savings and retirement accounts** (45% of millennials have a retirement account and 33% are actively contributing, versus 50% of Gen X-ers who have one and 36% who are actively saving).[16] Experts expect that as millennials continue to age, their savings will far surpass those of prior generations.
    - Just 1% of **defined contribution plans are currently in ESG assets** – we expect this to **grow exponentially**
    - Some providers **anticipate a 10x growth in sustainable ETFs** in the next decade
- This is joined by **continued sophistication for data and analytics,** allowing managers to **create more precise solutions** for clients AND **incorporate new inputs** into research and risk management processes
- Regulation **continues to favor incorporating sustainable and lower carbon** measures; the EU has proposed requiring building sustainability into research or investment processes
- **Central banks increasingly discuss sustainability** as an potential tool for "greening" the financial system
- **In short, the transition to a lower carbon world is an actionable and measurable corner of ESG to consider for investment**

Jefferies' Capital Intelligence team is well positioned to help clients think through the implications of the explosive growth of and interest in ESG related products. We believe the **key to this global megatrend** over the next decade will be focused on **sustainability and alignment**. It doesn't need to be the **lowest** carbon world – the comprehensive moves by a growing number of companies show that the march to a low*er carbon* world is meaningful.

FOOTNOTES

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[1] The New York Times, "Bit by Bit, Socially Conscious Investors are Influencing 401(k)s." September 27, 2019
[2] MSCI, S&P Global, Jefferies
[3] Accenture. "Who Are the Millennial Shoppers and What Do They Really Want?"
[4] Our World in Data, referencing Vaclav Smil and Energy Transitions: Global and National Perspectives. & BP Statistical Review of World Energy.
[5] Will We Ever Stop Using Fossil Fuels? http://home.uchicago.edu/~tcovert/webfiles/jep_fossil_fuels.pdf
[6] Ibid
[7] Energy Transitions: Global and National Perspectives. & BP Statistical Review of World Energy.
[8] White & Case. EU Sustainable Finance Regulation.
[9] Center for Climate and Energy Solutions. Numbers as of 2016.
[10] Global Sustainable Investment Alliance Review 2018
[11] Pensions & Investments, "Public funds taking the lead in spectacular boom of ESG." August 19, 2019
[12] Investment Company Institute
[13] Plan Sponsor Council of America, as cited by the New York Times
[14] Blackrock 3Q2019 earnings call
[15] Reuters. "Socially Conscious Mutual Fund Launches at Record High." February 6, 2019
[16] https://www.businessinsider.com/millennials-saving-for-retirement-nearly-surpasses-gen-x-2019-11