



# Columbia Center on Sustainable Investment

A JOINT CENTER OF COLUMBIA LAW SCHOOL AND THE EARTH INSTITUTE, COLUMBIA UNIVERSITY

CCSI Briefing Note

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## Key Points

1

There is an increasing acceptance of the investment merits of investing with Environment, Social, and Governance (ESG) considerations across large parts of the investment industry.

2

The next era of ESG investing will witness an increase in the complexity and nuance of incorporating ESG factors into investment processes. This paper focuses on ten specific areas that we believe will be at the center of the next era of ESG investing.

3

ESG investing will require a major change in the orientation of the financial sector as a whole. This includes regulation and behavior of financial actors.

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## Sustainable Investing: What’s On the Horizon

### I. Introduction: The Backdrop of Sustainable Investing

Over the past fifteen years, environmental, social and governance (ESG) investing, known more broadly as sustainable investing, has moved from an outlier to a mainstay of the investment management industry. Although there are many definitions of ESG/sustainable investing, one commonly accepted definition is, “the consideration of ESG factors alongside financial factors in the investment decision-making process.”<sup>i</sup> Exemplifying the trend of the rise of ESG investing is the Principles for Responsible Investment (PRI), which since its 2006 founding has amassed more than 2200 signatories, with \$80 trillion of combined assets, to be aligned, or in the process of aligning, with broad concepts of sustainable investing.<sup>ii</sup> With this

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increase in popularity, many conjectures and concepts about sustainable investing have become increasingly established and accepted by a substantial portion of the investment management industry.

These concepts include:

- 1) The intentional integration of ESG factors into investment processes may have investment merits from both a risk mitigation and return-enhancement perspective.<sup>iii</sup>
- 2) There are many ways investors can express their views on sustainability in a portfolio, including investment approaches such as socially responsible investing (SRI), ESG-integration, impact and thematic investments and financial instruments like green bonds and ESG exchange-traded funds (ETFs).<sup>iv</sup>
- 3) ESG data is incomplete and non-standard, but it is improving every day. There is very little correlation between ESG ratings providers<sup>v</sup>, and investors need to evaluate the merits of each data provider in relation to their ESG framework
- 4) Active ownership by equity and fixed income investors – through active engagement with corporate management and boards and shareholder resolutions - has the potential to become a critical aspect of driving behavior change in companies and issuers.

As these concepts become more integrated across the investment management industry, we have an opportunity to think about where sustainable investing needs to go to fulfill its promise – the promise being a financial system that is more aware and resilient to long-term environment, social and governance risks and opportunities than it currently is today. In the next section, we offer a look at ten trends that we believe will shape the future state of ESG investing.

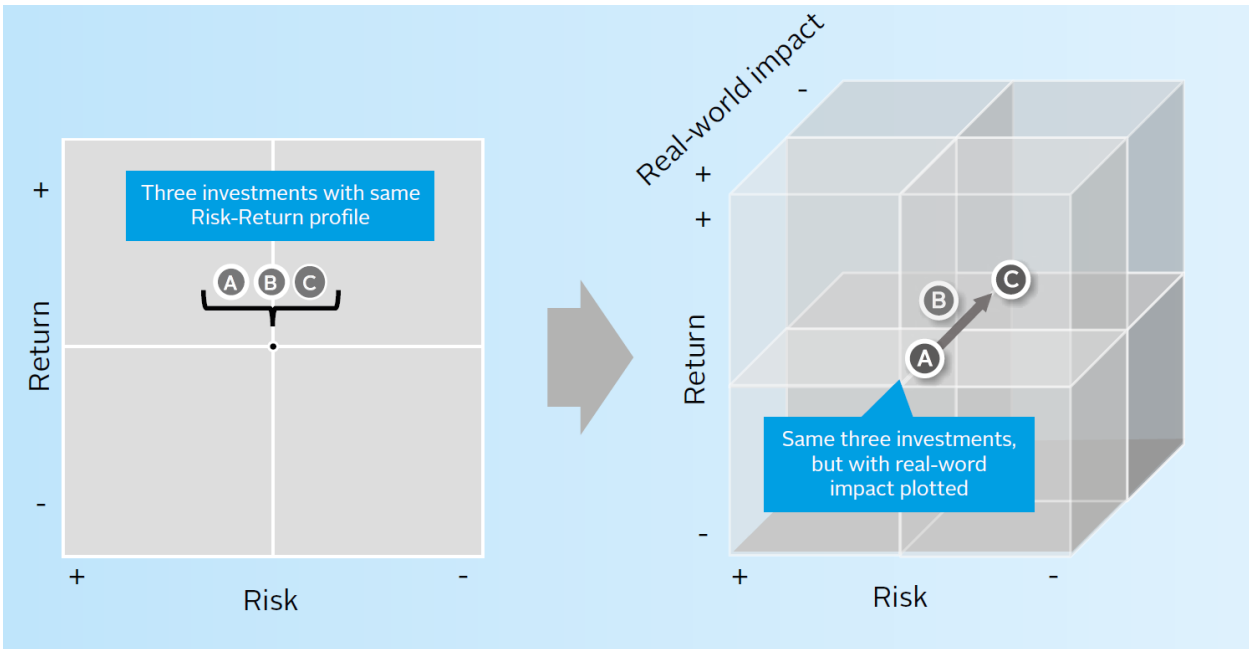
## II. Key Elements of What May Be on the Horizon

### 1) Risk/reward/impact will become the norm of portfolio and investment analysis

The risk-reward tradeoff is a central tenet of modern portfolio theory. Going forward, we believe investors will increasingly need to contend with an understanding of the externalities and real-economy impacts of all of their investments. As part of this, the risk-reward framework will expand to include a third dimension – impact –that will evaluate the real-economy impact of an investment on the physical environment (i.e., natural capital) and social structures and conditions (i.e., human and social capital), as well as longer-term transformations that are needed for sustainable development and low-carbon energy transitions. The incorporation of impact-assessments is already happening today, with a small number of investors – namely asset owners in

Northern Europe - quantifying the impact of their investments on the real economy, using improved ESG data sets that have only recently become available. In the future, we believe this will graduate from a minor aspect of portfolio construction, asset allocation, and investor decision-making to a standardized one.

**Exhibit 1: The Evolution of Risk and Return**



Source: *The SDG Investment Case Report*. 2017. Accessed December 10, 2018. <https://www.unpri.org/download?ac=5301>.

**2) Climate change modeling will become part of investors macro processes**

Climate change, and its impacts on governments and corporations, will become a central concern for long-term investors, requiring them to engage in a focused way with the various types of climate risk – physical risk, transition risk, and liability risk, as outlined by the Bank of England and other major financial institutions.<sup>vi</sup> As these risks drive dramatic policy and technological change, investors will have to evaluate their potential impact on portfolios.

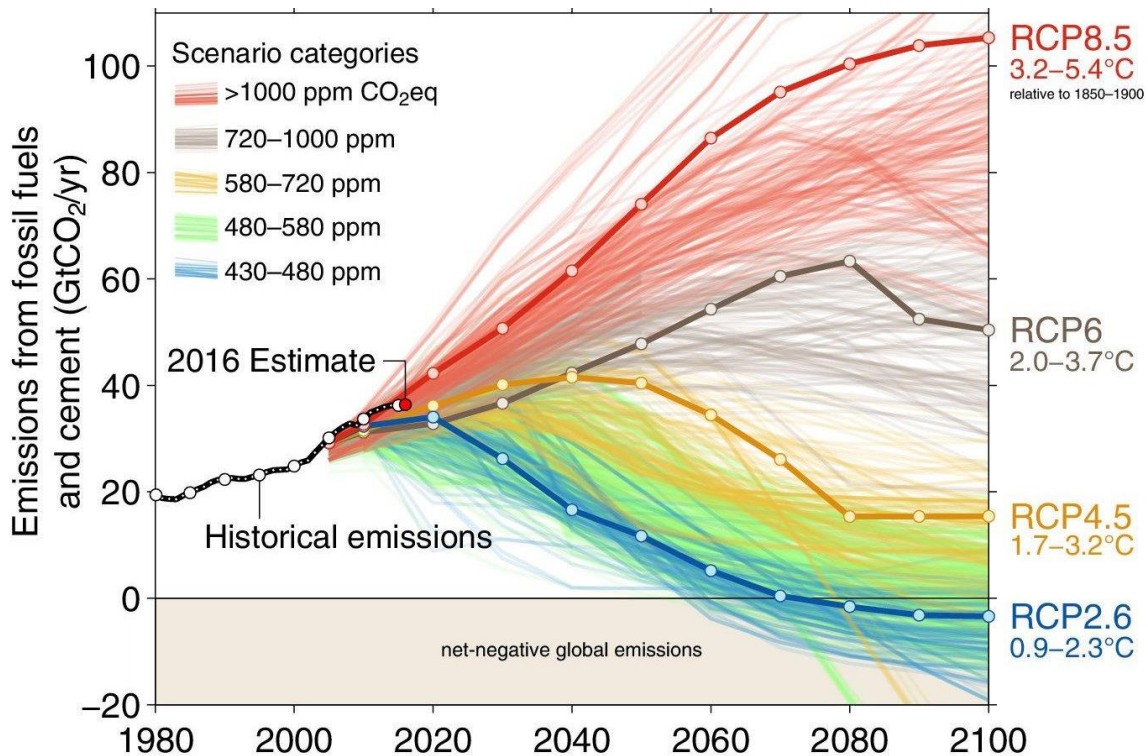
We have already witnessed strong institutional demand for low-carbon portfolios. The NYS Common Fund, for example, has committed \$10 billion to sustainable investments, including low-carbon portfolios.<sup>vii</sup> Meanwhile, the Japanese Government Pension Investment Fund (GPIF), the world’s largest pension fund, has allocated \$10.6 billion to low carbon investments,<sup>viii</sup> and Zurich Insurance has allocated \$2 billion to green bond strategies<sup>ix</sup>. In each of these cases, the goal has been to protect their long-term portfolio from climate-related risks.

With rising demand, cutting-edge data providers are stepping up to the plate to enable the use of climate modeling as a part of a long-term asset allocation framework. One such example is Entelligent’s Smart Climate Approach, which

provides a predictive company-level carbon dataset with climate forecasting as a key starting input<sup>x</sup>. Other data providers, such as the Rhodium Group’s Climate Impact Lab,<sup>xi</sup> offers a robust lens into potential physical losses brought about by climate change which can be incorporated into investors’ long-term outlooks and allocations.

We anticipate, therefore, that quantitative and qualitative climate modeling will become a part of asset allocators’ macro processes. We believe that this will become even more important in the years to come, because of the significant divergence of outcomes of the business-as-usual scenario versus one that is in line with the Paris Climate Agreement. We envision investment committees developing long-term climate change forecasts that include degrees of warming, carbon policy, technological shifts, and learning curves, and revising these forecasts on an annual basis as a part of their investing frameworks.

**Exhibit 2. International Panel for Climate Change (IPCC) Scenarios**



Source: *Global Carbon Budget 2016*. Report. November 14, 2016. Accessed December 10, 2018.

**3) Engagement and active ownership focus will expand from a focus on corporations to include a focus on public policy**

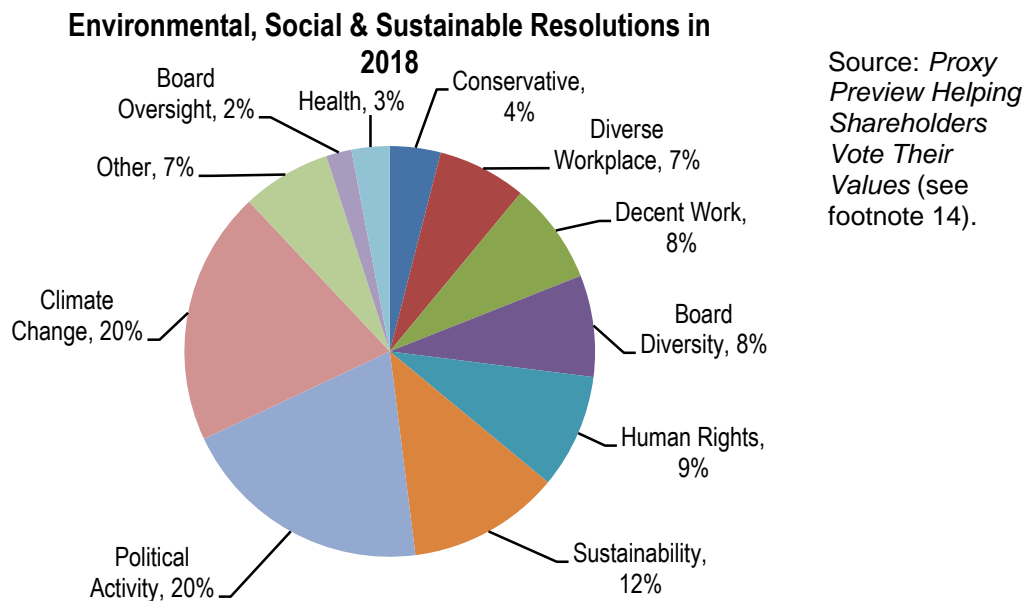
We’ve seen a significant increase in shareholder engagement with companies on ESG issues in recent years. For example, in the United States, 429 shareholder proposals on ESG issues were filed as of February 2018, with close to a doubling of climate change related resolutions compared to 2013. Meanwhile, these

proxies are gathering more and more support – during proxy seasons of 2012 through 2015, only three shareholder proposals opposed by management on environmental and social issues received more than 50% support, in contrast to eighteen proposals that did so in 2016 through 2018.<sup>xii</sup>

We believe this trend will continue in the coming years, and anticipate that it will expand to include a focus on public policy. Despite the US government announcing its intention to withdraw from the Paris Climate Agreement, The Investor Agenda formed in 2018 represents more than \$32 trillion in assets that have agreed to pursue investments and engage with both corporations and policy makers on Paris Climate Accord goals. Clients and beneficiaries of asset managers and owners will encourage active engagement with governments, at all levels, to ensure that public policy reflects investors’ underlying ESG concerns.<sup>xiii</sup> We believe that a focus on public policy, in addition to corporations, is needed, given the interconnected nature of public policy and corporate behavior for issues related to sustainability.

It is important to note that we do not believe that investors today are anywhere close to what they need to be in terms of active engagement on critical ESG issues, including climate change. There is a need for “forceful stewardship” for both corporations as well as public policy officials.<sup>xiv</sup> Ultimately, we believe that investors will develop the same systematic, collaborative and, at times, forceful engagement with policy makers on ESG issues as they have with corporations, and that new companies and organizations will be created to intermediate and channel those concerns in an organized way.

**Exhibit 3. Breakdown of Environment, Social and Sustainability Resolutions in 2018**



#### **4) China's increased role in global investment markets will recalibrate perspectives on sustainable investing/ESG issues**

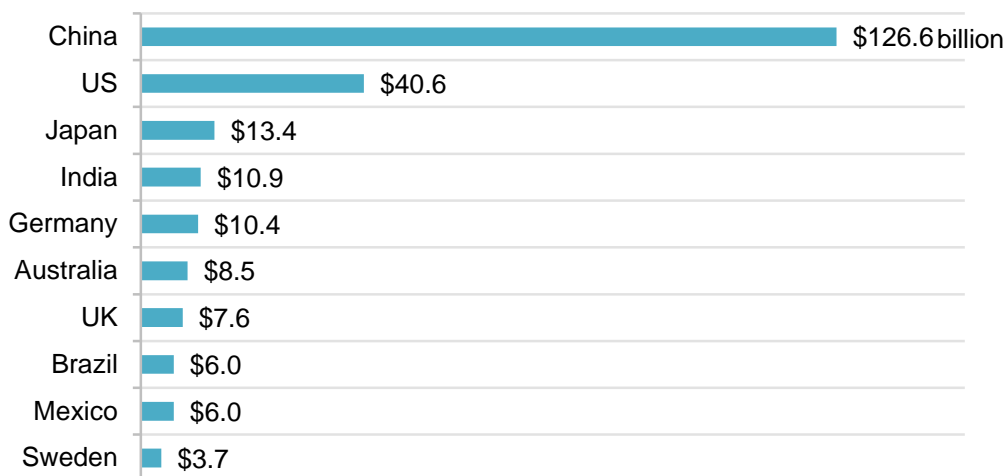
Despite its position as the world's largest economy, China's importance is only now starting to be understood by a broad set of investors and economic actors. Until recently largely an enclosed investment environment, Chinese policy became more inclusionary in 2018, opening up the country's \$6.4 Trillion stock market to a larger group foreign investors. This was most clearly evidenced by MSCI adding China's mainland equity market to their benchmark Emerging Market index, initially at a 2.5% inclusion on June 1 and then rising to 5.0% on September 3, estimated to attract roughly \$22 billion in inflows.<sup>xv</sup>

As China's prominence grows in the investment industry, as both as a source and destination of private capital, global investors seeking to engage with the opportunities there will have to recalibrate their approach to ESG investing. This may be the case for a few important reasons. First, China is a large investment market, which will only grow over time. The inclusion of *any* investment market, particularly one as large as that of China, will require a recalibration of generally accepted principles and worldviews. Second, a large percentage of China's equity market has direct government ownership. According to Ecstrat, an investment consultancy, 69% of the 222 companies that were included in MSCI's Emerging Market Index are owned by the Chinese state, at either the central or local level.<sup>xvi</sup> Third, China is becoming a leader in environmental efforts globally, while being the largest investor in coal and the largest carbon emitter as well. According to the International Energy Agency (IEA), China is poised to take over the EU to become the world's largest consumer of renewable energy by 2023<sup>xvii</sup>. This is no surprise, as the country invested \$126.6 billion in new renewable energy projects during 2017, dwarfing the next largest renewable energy investor, the U.S., at \$40.5 billion.<sup>xviii</sup> At the same time, China has over \$389 billion in coal-stranded assets, and is still building new coal-fired power plants every year.<sup>xix</sup>

China's approach toward economic management, corporate governance, environmental stewardship, and social policies are, to varying degrees, different than other financial capitals of the world, namely the United States and Europe, and all stakeholders will need to operate within the confines of China's ever-evolving political and business environment.

#### Exhibit 4. China's Leadership in Renewable Energy Investing

### Renewable Investment Leaders, 2017



Source: "Global Trends in Renewable Energy Investment 2018" (see footnote 21).

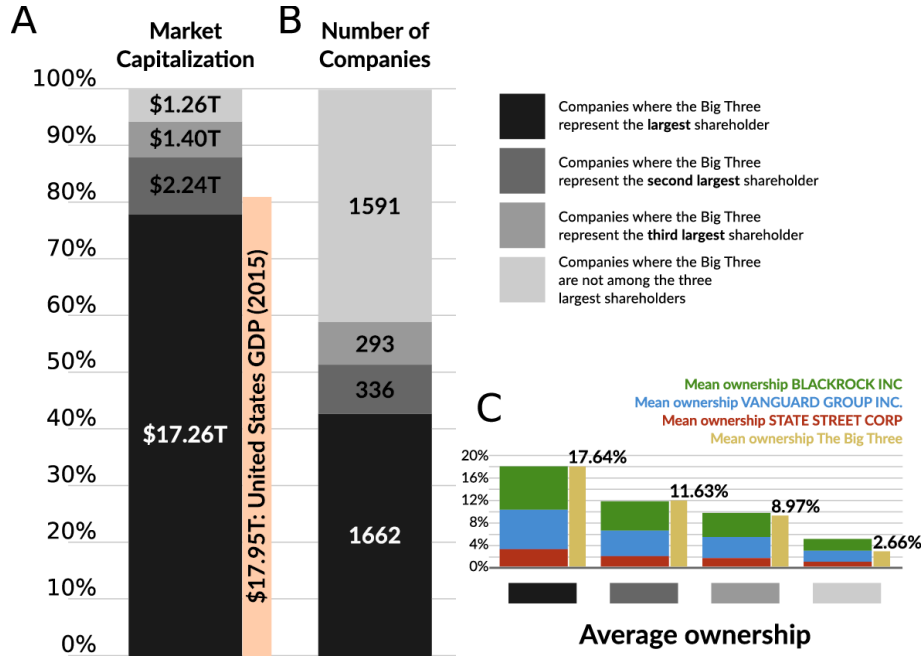
#### 5) Investors will have to contend with the systemic impact of concentrated ownership through passive investment giants and through increased monopolization of industries

Low-cost index investing has given a broader set of investors easy and cheap access to the long-term wealth accumulation potential of equity and fixed income markets. The challenge now is that a handful of investment managers may soon control a majority of most publicly listed companies in the world's largest equity markets. As of 2016, a combination of BlackRock, State Street and Vanguard was the largest owner in 438 out of 500 constituents of the S&P500 Index.<sup>xx</sup> This concentration of ownership could impact many aspects of financial markets, including creating incentives or deterrents for improving corporate governance and compromising the ability of small investors to impact corporate behavior and have their voices heard.<sup>xxi</sup>

The concentration of ownership is not just a factor that is afflicting the investment management industry. Over the past decades, the US economy has witness an increase in the monopolization of certain companies within major industries, including technology, consumer retail and banking.<sup>xxii</sup> The monopolization of various sectors of the economy could have a major implication in the long term sustainability and fairness of the private sector.

The issues of concentrated ownership of stock markets by a small group of investment managers, as well as the monopolization of sectors in the economy by a small group of companies, will force ESG-focused investors to think about broader questions of ownership, transparency and competition. Although these are not topics that are generally considered "ESG" topics, they are very important for the sustainability of the economy.

**Exhibit 5. Ownership Concentration of the “Big Three” of the US Stock Market**



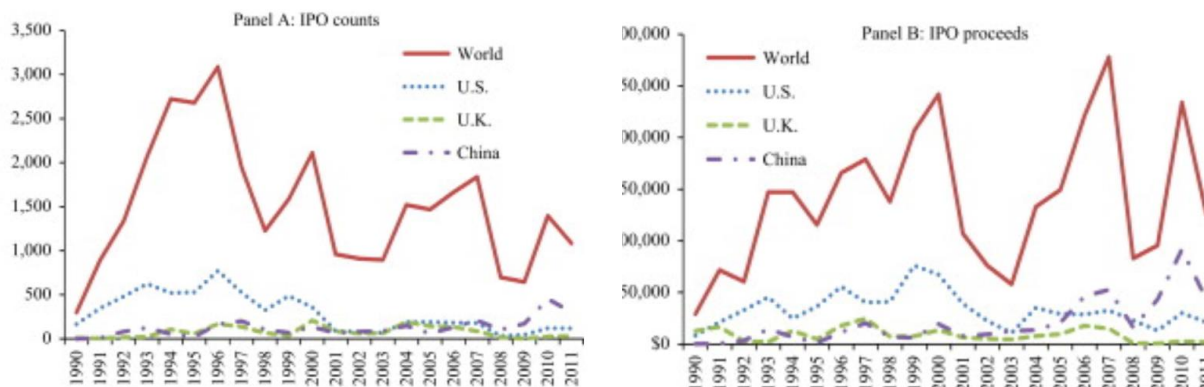
Source: Fichtner et al., 2017. "Hidden Power of the Big Three? Passive Index Funds, Re-concentration of Corporate Ownership, and New

**6) Investors will adopt new approaches for evaluating ESG characteristics in private companies.**

A majority of the momentum in ESG investing to date has been in the public equity and fixed income universes. This is for a few reasons: a) these are the largest investment markets and b) public companies and governments are mandated to disclose certain information to investors.

In the future, we believe that private market investing will become a larger part of investors’ portfolios, both at the institutional and retail levels. This is because we see signs that fewer companies are going public than in the past and many public companies are deciding to go private. With this transition, the investment industry will need to develop new approaches to engage with private companies on ESG issues in the same way that they have with public companies. (There is already a strong set of standards having been developed for the real estate and infrastructure markets through GRESB.)<sup>xxiii</sup> This may include mandating public disclosure on ESG issues, from environmental impacts to corporate governance. Although public investors would not be able to invest directly in these private companies, it will become essential to understand how ESG considerations are taken into account in a larger set of the investment universe.

## Exhibit 6. Increasing size of private market will need to be integrated with sustainable finance



Source: Doidge, Craig, G. Andrew Karolyi, and René M. Stulz. "The U.S. Left Behind? Financial Globalization and the Rise of IPOs outside the U.S." *Journal of Financial Economics* 110, no. 3 (December 2013): 546-73. Accessed December 11, 2018. doi:10.1016/j.jfineco.2013.08.008.

### 7) Investments in fossil fuels will take on additional complexity as large oil and gas companies increase their investments in renewables

ESG investing will concentrate on environmental concerns broadly, and climate change specifically, as investors continue to contend with the harsh realities of climate change. Fossil fuel companies will continue to be the target of significant attention from ESG-focused investors, given their role in the exploration, production, and supply of fossil fuels for the global energy system. But we believe that investors will need to contend with a more complex set of questions about these companies as many expand and diversify their investments in renewable energy, including solar, wind, and biomass. For the most part, renewables still account for a small fraction of overall investments for large fossil fuel companies, but shown in Exhibit 4, big oil and gas majors have noted concentration risks and have taken steps to diversify their energy mix. ESG-oriented investors will need to develop a perspective on this issue, and clear frameworks and policies for understanding whether the increased investments by focus of fossil fuel companies in renewables are sufficient to achieve the broader climate goals set forth by the Paris Agreement of 2015.

## Exhibit 7. Select Oil and Gas Company Renewable Energy Investments

Oil/Gas Company	Selected Renewable Energy Investments
ExxonMobil <sup>xxiv</sup>	\$500 million JV with Synthetic Genomics to genetically engineer photosynthetic algae to produce renewable crude from sunlight and carbon dioxide
Royal Dutch Shell <sup>xxv</sup>	Purchased a 44% stake in solar developer Silicon Ranch for \$217 million
Chevron <sup>xxvi</sup>	Small investments in projects spanning wind, solar, and geothermal that can power a combined 113,000 U.S. homes
BP <sup>xxvii</sup>	Owns 1.4 gigawatts (GW) of American wind power and solar leader Lightsource BP; 50-50 JV with DowDuPont in next-generation renewable fuels
Total SA <sup>xxviii</sup>	Invested roughly \$160 million in 20 start-ups through subsidiary Total Energy Ventures, spanning solid-state lithium ion batteries, microbial fuel factories, and enhanced cellulosic sugar recovery. Owns 56% of solar panel manufacturer SunPower

Source: See footnotes 29-33.

### 8) The professional wealth management community will take a more active role in ESG integration

In the last few decades, we've seen a significant accumulation of wealth within certain segments of society. This is true in many regions around the world, including the United States, Europe, and Asia. In fact, the largest wealth management practices have more capital than some of the largest pension funds in the world. As a result, integrating ESG into wealth management practices will become increasingly important to ensure that capital markets as a whole become more proactive about incorporating ESG factors into their investment processes. The opportunity to ensure ESG-integration at the wealth management practice level presents itself with the upcoming wealth transfer between baby boomers and millennials, during which we expect to see roughly \$30 trillion change hands in North America alone<sup>xxix</sup>. We expect a new generation of investors to demand a systematic incorporation of ESG factors into investment practices, similar to how large asset owners (i.e. pension funds, insurance companies, endowments and foundations) have played a critical role to date in getting asset managers to engage more on ESG issues.

## 9) Divergent approaches to regulation will further complicate ESG integration requirements

Although financial markets are global in nature, financial regulation is often done on a regional or national basis. Financial regulation with regards to ESG issues are therefore being driven in large part by national regulators who are reflecting national policies and cultural norms when it comes to the importance and approaches of ESG considerations. We believe that national-level regulation regarding ESG issues in economic and financial policy will likely diverge in approach, depth, clarity and strength in the years to come.

Some countries and regions will take a top-down approach, mandating asset owners and asset managers to more intentionally integrate ESG considerations into investment processes and be able to articulate and disclose these approaches. This will also include issues such as carbon taxing, mandating sustainability disclosure and other public policies that could accelerate ESG integration in the economy. Europe is heading in this direction, with the European Commission working through disclosure requirements for financial entities to inform on how their activities are impacting the planet or local environment.<sup>xxx</sup>

Meanwhile, other countries and regions will take a more bottom-up approach, allowing for individual entities – corporations, investors - to have much more flexibility and discretion in how they approach ESG issues. In a December 2017 survey of more than 500 top executives (vice president or above) at corporations with more than \$500 million in revenue, 72% of respondents said that business and environment objectives are more closely aligned now vs. five years ago.<sup>xxxi</sup> This divergence and increasingly complexity will mean that ESG-oriented investors will need to develop a much more nuanced and place-based understanding of regulation and approaches.

### Exhibit 9. European Commission: First Actions on Sustainable Finance

Objectives	What is it about?	Who will be affected and how?	What happens next?
<b>A unified EU classification system (“taxonomy”)</b>	Setting harmonized criteria to determine whether an economic activity is environmentally sustainable	Investors will know which economic activities are considered environmentally sustainable, which will facilitate investments in sustainable assets.	European Parliament and Council to agree on the proposal.  Specific activities will be identified in Delegated Acts to be adopted between end2019 and mid-2022, with entry into force six months after the adoption, e.g. for climate change, water and marine resources, circular economy.
<b>Clear guidance for</b>	More consistency	Asset managers,	Requirements will be

<b>investors</b>	and clarity on how ESG risks become part of investment decisions and advice to investors.	institutional investors, insurance distributors and investment advisors will have clear guidance on how to integrate ESG risks in their investment decision-making and advisory process.	specified through Delegated Acts to be adopted in 2019.
<b>More transparency</b>	Financial institutions will have to disclose how they integrate ESG risks in their investment decision-making and advisory process.  Asset managers and institutional investors offering products or services marketed as sustainable will have to disclose how they achieve their sustainability targets	Institutional investors, asset managers and investment advisors.  Asset managers and institutional investors offering products and services targeting sustainable investments.  Investors will be able to make informed investment decisions.	European Parliament and Council to agree on the proposal.  Delegated Acts will further specify presentation and content of the information
<b>Benchmarks</b>	'Low carbon' and 'positive carbon impact' benchmarks will make it possible to assess investment portfolios against climate targets.  Benchmarks providers will have to disclose how their methodology takes into account ESG factors.	Providers will have to respect minimum EU standards for methodologies when developing benchmarks.  Users of this type of benchmarks will be certain of their validity.	European Parliament and Council to agree on the proposal.  Delegated Acts will specify the minimum standards and the minimum content of the disclosure requirements.

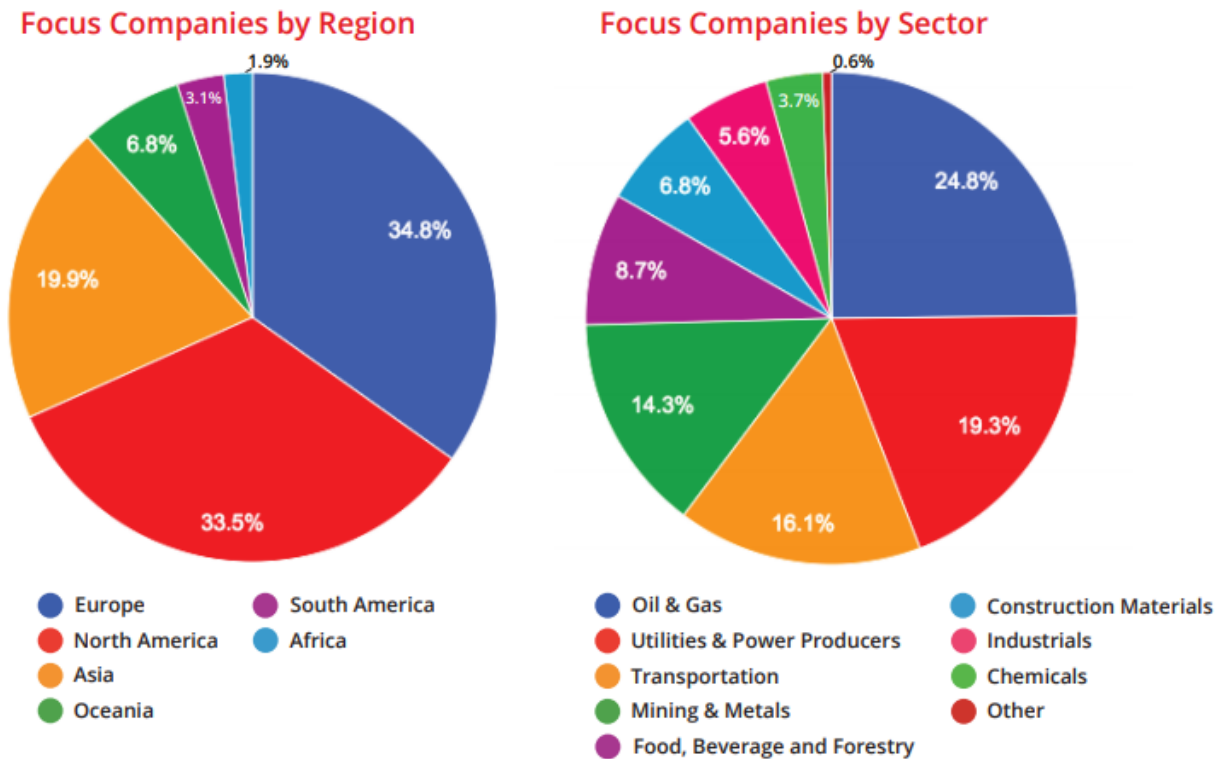
Source: *The European Commission Action Plan*. Report. July 2018. Accessed December 10, 2018. <https://www.unpri.org/download?ac=5173>.

### **10) Investors will see themselves more as collaborators than as competitors for systemwide challenges**

Investors are collaborating more and more on ESG-related issues because of a shared understanding that no investor on their own can have the influence that is needed for some of the broad system-level changes that are required. One such example of this is the Climate Action 100+ Initiative, where investors from around the world are combining their efforts, resources and collective voice to engage

with the largest carbon emitters and work with them to develop executive business strategies that are in line with the Paris Agreement.<sup>xxxii</sup> We see this pattern continuing in other areas of ESG, where the investment industry will come together and bring their collective size and scale in order to push for system-level changes in areas such as diversity, compensation, political and lobbying disclosures and other critical topics that are needed. This will mean asset owners and asset managers, although often times in competition with one another (especially asset managers), will take on more of a “co-opetion” approach, similar to technology companies in Silicon Valley.

**Exhibit 10. Climate Action 100+ Corporations – Different Regions and Sectors Represented with Powerful Runway to Enact Change**



Source: Climate Action 100+ (see footnote 38).

### III. The Road Ahead

The above is no way a prediction of what the ESG space will definitely come to, but rather a set of issues that we believe that the ESG space may engage with and adopt as the space evolves. We also note that some investors may already be moving in the direction described above, although we are quite confident that such movement is by no means universal and is much slower than what is needed. In general, we believe that the financial industry’s approach and efforts

to further integrate ESG considerations into how capital markets and its constituents will only increase in the future, and that the questions and approaches that investors will adopt in this space will become increasingly sophisticated since the first chapter of ESG-integration has successfully come to an end.

That said, we do not believe that any of these issues are simple or that they will happen without a significant amount of effort from asset owners, asset managers, regulators and the broader public. The financial industry has a significant ways to go to ensure that the worlds' savings is invested in a way that is aligned with broader sustainability of our environment and social conditions. The financial industry will need to approach these issues with even more seriousness of thinking, openness towards collaboration, and clarity of intention than has happened to date to move forward in a meaningful way.

## Notes

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<sup>vi</sup> "Climate Change: What Are the Risks to Financial Stability? | Bank of England KnowledgeBank." KnowledgeBank. Accessed December 10, 2018. <https://edu.bankofengland.co.uk/knowledgebank/climate-change-what-are-the-risks-to-financial-stability/>.

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*The Columbia Center on Sustainable Investment (CCSI), a joint center of Columbia Law School and the Earth Institute at Columbia University, is a leading research center and forum dedicated exclusively to the study, practice and discussion of sustainable international investment (SII) worldwide. Through research, advisory projects, multi-stakeholder dialogue and educational programs, CCSI constructs and implements an investment framework that promotes sustainable development, builds trusting relationships for long-term investments, and is easily adopted by governments, companies and civil society.*

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