Incorporating ESG to Promote Sustainable Value:

The next frontier for institutional investors



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It's an honor to be here with you today for a number of reasons.

First, as an asset manager, it has been our pleasure to work with many of you over the years.

Secondly, as one of the largest managers of pension fund assets in the world, we salute Australia's superannuation programs. The Australian system is world-leading in terms of creating a robust, national framework for promoting greater savings for retirement.

We are greatly concerned with the global shortfall in retirement savings as markets continue to deliver muted returns and advances in longevity mean individuals will have to finance longer life spans.

Expanding access to workplace-based retirement savings programs has been an important focus for us, especially in the US, where nearly half of all workers still have no access to such programs.

Last year we presented a proposal to the US Congress for expanding access as well as lowering the costs for small businesses to offer plans in order to begin to address this serious gap.

We have been pleased to see the level of bipartisan support our plan has received, and we look forward to building on that momentum in the coming year.

But more relevant to my topic today, you have also been models in the way you have directly engaged with the companies you're invested in, to focus your capital on the long term

Working with boards to forge recognition of mutual interests and the impact that environmental, social and governance, or ESG, issues have on long-term shareholder returns. We also applaud the best practices that have been enshrined in the Governance Guidelines created by the Australian Council of Superannuation Investors as well as in the ASX Corporate Governance Principles and Recommendations.

And we have observed how that engagement has steadily evolved from the "G" of governance to encompass both the environmental and social sustainability issues that I'd like to focus on today.

New reporting requirements are also deepening engagement across ESG issues in Australia.

That is most notable in the ASX's requirement since 2014 for listed companies to disclose material environmental and social risks, as well as the management of those risks, on a "comply or explain" basis.

Which brings me to the subject of my talk today. I'd like to explore three areas:

- First, why we think ESG impacts need to be considered by corporate boards as well as by institutional investors as an input for analyzing both risks and opportunities.
- Secondly, why that journey toward integrating ESG is still so challenging for many companies, asset manager and asset owners alike.
- And finally, how asset owners like yourselves and asset managers like us can work together to help advance this next frontier in investing around the world.



SSGA's Asset Stewardship Philosophy and ESG Focus

So, first I would like to touch on our asset stewardship philosophy and why we are focusing on ESG issues.

As one of the largest investment managers as well as one the largest index managers in the world, working on behalf of millions of investors, we bring a unique perspective to these issues.

Our asset stewardship philosophy is based on a simple premise: our clients need long-term return streams to achieve their investment goals, whether it is saving for retirement, funding research and innovation or building the infrastructure of tomorrow.

As active stewards, we represent the interests of our clients, who are the actual owners of the assets that we manage. Our fiduciary responsibility is to ensure that we are maximizing the probability of attractive, long-term returns on our clients' behalf.

That mission drives our engagement with our portfolio companies and our commitment to sharing our views on the risks and opportunities that we believe will affect returns over the long run.

Unlike active managers, we can't walk away from a company. For as long as it is in the index, we own it. As Jack Bogle once said: if you're an active manager and you don't like what a company is doing, you sell it; if you're an index manager, you try to fix it.

It is precisely that long-term ownership, together with our size and global scale, that enhances our perspective and influence with our portfolio companies. As global investors, we bring a unique, top-down vantage point across industries and countries.

While we have engaged with companies across a full range of ESG issues for many years, our overarching focus is on ensuring effective, independent board leadership. For us, this is the threshold requirement for long-term value creation.

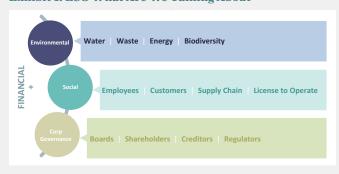
A strong, effective board committed to the long term and independent of management is far more likely to lead to attractive results than any particular guidance or rules we or others may promulgate. It is also possibly one of the most effective counterweights to the many short-term pressures markets and other forces exert on company management.

Each year our asset stewardship team identifies specific areas that impact value over the long term and issues guidance to our portfolio companies on how we think about addressing those areas, and what our expectations around their actions will be.

Active, transparent engagement, rather than passive inaction or adversarial interaction, is the hallmark of our approach. Through this patient and consistent engagement, using both our voice and our vote, we seek to promote positive change.

Since we have already issued extensive guidance on board governance over the last few years, this year we have decided to focus on environmental and social sustainability, which we know encompasses a broad range of different issues.

Exhibit 1: ESG What Are We Talking About



As summarized in Exhibit 1, ESG includes a broad array of topics, posing both risk and opportunity to companies.

- Climate change impacts
- · Water and waste management
- · Supply chain management
- · Safety issues
- · Workplace diversity
- · Talent development and effectiveness
- · As well as many more

Just last week I sent a letter to the lead directors and chairpersons of major listed companies in the US, UK and Australia, setting out why we think it is important for boards to consider the impact of environmental and social sustainability issues on their long-term strategy and performance.

While none of us can state definitively what "the answer" is for a particular company — and we know that different industries will face different issues — we are certain that over time these areas pose both risks and opportunities for long-term returns.

Therefore, as stewards, we are convinced that these sustainability issues, where relevant, must be part of effective board leadership and oversight of long-term strategy.

In this, we believe we share the same views of many of you in this room, who are similarly focused on promoting sustainable, long-term returns from the companies you're invested in. And we see the evidence that these issues are becoming more important all the time.

Corporate scandals of the last few years, such as those around automotive emissions, food safety or labor issues emphasize the need for companies to assess the impact of ESG risks.

Moreover, as illustrated in Exhibit 2, of the top 10 global risks the World Economic Forum has identified in terms of their likelihood and impact, 70% were associated with environmental and social risks.

Top 5 Global Risks in Terms of Likelihood 2008 2011 2012 2013 2014 2017 Top 5 Global Risks in Terms of Impact 2010 2011 2007 2008 2009 2013 2014 2015 2nd 3rd 4th 5th Economic Environmental Geopolitical Societal

Exhibit 2: Evolving Global Risk Landscape (World Economic Forum heatmap)

Source: Global Risks Report 2017, 12th Edition. © World Economic Forum® 2017 — All rights reserved.

It is not surprising, perhaps, that climate impacts feature largely here.

I'm sure many of you saw that scientists reported last week that in 2016 the planet set a new high temperature record for the third year in a row. So the question of all of us is, if we acknowledge the materiality of these issues for long-term results as asset stewards, how do we incorporate them across the totality of our investment strategies?

As a signatory to the United Nations-supported PRI since May 2012, we have committed to incorporating ESG issues into our investment analysis and decision-making processes. This is outlined in exhibit 3.

Exhibit 3: Principles for Responsible Investing



And that is the journey that we, like many other asset managers and asset owners, are currently on. And I'm sure Fiona Reynolds, who is with us here today, can confirm that.

Evolution of ESG Investing

We at SSGA have been managing ESG assets for more than 30 years and currently has \$176 billion dollars in ESG assets under management as of December 31, 2016.

During that time, approaches to ESG investing have evolved in several important ways as illustrated in Exhibit 4.

Exhibit 4: Evolution of ESG Investing

| | Values | Impact | Integrated |
|--|---|--|---|
| | First Generation | Second Generation | Third Generation |
| Objective(s) | Avoid investments in companies that are incompatible with mission or values | Finance positive impacts through capital allocation Balance ESG factors or thematic exposure with fundamental/risk factors | Harness ESG information to improve the investment outcome |
| Primary Technique(s) | Exclusionary screening | Positive selection to preference desired exposures Optimize to gain exposure to ESG theme or minimize ESG risk | Incorporate ESG research into valuatio Integrate ESG signal into alpha/factor model or portfolio construction |
| Styles | Active Smart Beta Passive | Active Smart Beta Passive | Active Smart Beta |
| Financial to Non- financial balance | Non-financial Financial | Non-financial Financial | Non-financial |

Source: SSGA. This illustration is intended to distinguish the relative primacy of investor motivations and not the expected or actual performance results of any investment. The information contained above is for illustrative purposes only. It is not intended as investment advice.

Initially, much of ESG investing, or what was then commonly called socially responsible investing, or SRI, included values-based investors who wanted to screen out specific investments that were not compatible with their missions and goals.

Those exclusionary screens often included so-called "sin" stocks like alcohol, tobacco, gun makers or casinos. Investors were prepared to give up on risk-adjusted returns in order to align their investments with their ethical values.

Then we saw the emergence of a second wave of positive screening.

This approach incorporates ESG themes into investment decisions by way of tilting a portfolio toward companies with the ESG attributes investors wanted exposure to. The objective is to deploy capital to create and reinforce positive impact and in most cases with the aim of achieving market-like returns.

The proprietary gender diversity index we created last year and the ETF vehicle that tracks it, which was the second most successful ETF launched in the US in 2016 in terms of assets, is an illustration of this impact approach.

This approach enables targeted investments in companies with the highest levels of senior leadership gender diversity in their sectors.

The inspiration for this targeted gender diversity investment approach developed in collaboration with one of our largest US institutional investors around workplace diversity and inclusion.

It also leverages the large and growing body of research linking high levels of senior leadership gender diversity with better corporate performance. Moreover, it aligns with our focus on gender diversity at the board level in our asset stewardship program.

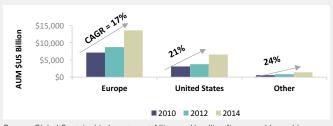
The third and most recent evolution involves harnessing ESG information and integrating it into the investment process and risk and framework to improve the investment outcomes -- either in terms of generating incremental return or better managing risk. In fact, our Australian active equity strategies, which explicitly integrate a governance factor, are a good example of this approach.

We expect that over time more institutional investors will want to integrate ESG at the total portfolio or overall plan level across all asset classes. This is hard work.

We are already engaged in discussions with clients about this plan-level perspective at which the appropriate mix of ESG investment insights, analytics and stewardship is a key consideration.

Exhibit 5a: ESG State of the Market

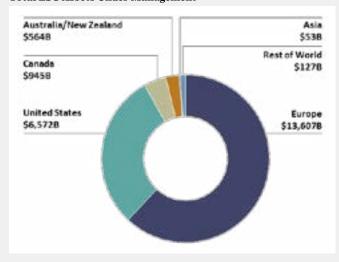
Global ESG



Source: Global Sustainable Investment Alliance. Headline figure ≠ addressable market for asset management. Percentages shown are CAGR. Other includes Canada, Australia, New Zealand, certain Asian markets and a 1% RoW multiplier of identified assets.

Exhibit 5b: ESG State of the Market

Total ESG Assets Under Management¹



¹As of March 31, 2016, updated annually. Sources: Global Sustainable Investment Alliance, Responsible Investment Association Australasia, SSGA. underlying asset figures are as of various dates and in some cases assume currency adjustments to USD. Figures do not account for subsequent asset flows or market effects post date of publication to March 2016. Rest of World is calculated using a 1% multiple of the sum of other reported assets.

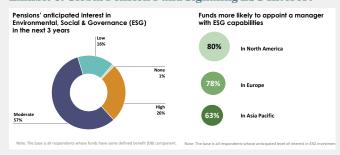
Not surprisingly, it has been increasing investor demand that has driven the growth and evolution of ESG investing thus far. Because of the lack of a universal definition of what constitutes ESG assets, it is difficult to get a precise measurement of the size of the market. However, the upward trajectory is clear.

We have seen some estimates that put global ESG assets under management as high as \$22 trillion dollars, with the largest aggregate allocations in Europe and the US.

Interest in the integration is growing. In just the last two years, the number of US public pension plans that integrate ESG factors into their investment decisions has nearly doubled. Moreover, a survey of more than 400 global pension fund executives that State Street conducted last year showed that 83% anticipated a moderate or high degree of interest in ESG issues in the next three years.

This data is illustrated in Exhibit 6.

Exhibit 6: Global Pension Fund Signaling ESG Interest



Source: Pensions With Purpose, February 2016. www.statestreet.com//content/dam/statestreet/documents/Articles/pensionswithpurpose/PwPEnhancedResearchDeck.pdf. State Street survey of 400 senior executives in the pension fund industry conducted by Longitude Research in October — November 2015. Respondents included representative of public and private pension or retirement systems, and superannuation funds across 20 countries.

As I mentioned before, it has been large asset owners like yourselves here in Australia as well as your counterparts in northern Europe and Canada that have really been in the forefront of ESG investing.

Not surprisingly, the investment management industry has responded to this growing interest in uneven ways. Nearly 1,000 (996 to be precise) investment managers have signed the PRI. Sadly, some of those managers have used their signatory status as merely a marketing tool or as an exercise in "checking the box."

It is not surprising then that an overwhelming number of PRI signatories are now calling for differentiating between members who are at an advanced stage of ESG integration and those that are lagging.

Consultants are beginning to press managers to articulate how they are integrating ESG into their investment process.

Integrating ESG Into Investment Management

So why, given all of this activity, given growing client interest and given our own conviction as asset stewards that ESG issues can impact returns over the long run, have so many asset managers and asset owners been slow to integrate ESG explicitly and fully into their investment processes?

I think we need to be honest about some of the serious and legitimate challenges.

First, there is the issue of time horizons. Many ESG issues are by their very nature long term. So it is more challenging for an active manager with a shorter time horizon to factor these "slower-burn" issues into risk and return calculations.

Moreover, the regulatory regimes in some countries, including my own, made it more challenging for managers to integrate ESG.

However, in 2015, the US Department of Labor finally clarified earlier guidance suggesting that investment managers might be violating their fiduciary responsibility if they incorporated ESG considerations.

The new guidance went a long way toward removing the chilling effect. It said that fiduciaries could consider so-called "collateral impacts" of their investments, so long as they were not knowingly reducing risk-adjusted returns in doing so.

It further stated that fiduciaries of private sector retirement plans "need not treat commercially reasonable investments as inherently suspect or in need of special scrutiny merely because they take into consideration environmental, social or other such factors."

A third important headwind has been a lack of standardized scores or ratings for ESG performance or quality, which really

reflects how early we are in this approach as an investment discipline.

At the moment we have a wide variety of ESG ratings that in the best of cases go back to the early 2000's.

By contrast, think about the data we have around the Fama-French factors that seek to explain many of the drivers of investment risk and return, and which we apply to our factor-based investment strategies. That database has a history going back to 1926. As an industry we have a long way to go on this front

Finally, the research is still divided on whether incorporating ESG issues into the investment process will in fact enhance or constrain risk-adjusted returns over different time horizons.

For example, just last year, the California Public Employees' Retirement System, or CalPERS, the largest public pension fund in the US, learned that exiting the tobacco sector may have cost participants as much as \$3 billion in potential investment gains over the previous decade and a half.

Indeed, I have been at serious-minded industry conferences, where it has been suggested that a barbell portfolio with sin stocks on one end and ESG investments on the other might be the best approach, if maximizing risk-adjusted returns is the main investment objective.

So as an industry, we need to do far more research into how these issues affect risk and return over different time horizons and develop better ways of measuring their impact.

At SSGA, we are making ESG a priority in our research agenda to better understand those relationships, and we are doubling our resources across our entire ESG business over the next year.

Ensuring ESG Is Incorporated Into Governance and Business Strategy of Portfolio Companies

It is important to emphasize that a big part of advancing our understanding of ESG investing involves getting more companies to report on how they are considering and acting upon ESG impacts on their operations and strategy.

That is one of the reasons we decided to make environmental and social sustainability the focus of our asset stewardship engagement in 2017.

Here, asset stewardship can be a powerful force for achieving transparency around the data asset managers will need to begin analyzing companies according to their ESG profile.

Since 2013 we have had more than 2,000 engagements on ESG issues with over 1,200 companies in our global portfolio on a variety of issues.

For example, a sector project focused on oil and gas companies explored how companies are navigating the challenges of falling crude oil prices, geopolitical risks in Russia, Africa and the Middle East, as well as the ongoing debate around climate change, stranded assets and emission reductions.

Talks with a Taiwanese packaged food company centered on monitoring food safety within its supply chain.

Meetings with a garment sector company raised ways that labor supply chains and fire safety standards can be improved.

After a multiyear engagement with various companies on environmental standards, we saw significant improvements in the quality and transparency of reporting around hydraulic fracturing processes as well as water and waste management practices.

As we have engaged with companies on these issues over the years, we have seen the good, the bad, and the ugly of how companies are — or are not — considering ESG impacts.

In many cases, we have seen impressive examples of how companies are proactively using sustainability issues to drive growth and innovation for the future by investing in new products, businesses or capabilities.

But we've also seen examples of companies that are completely disregarding ESG issues.

As we have written and spoken out about these issues, boards have asked us for guidance on how they might incorporate a sustainability lens into their long-term strategy.

Exhibit 7: SSGA's Voting Record on Key Environment-Related Proposals



Source: SSGA's Corporate Governance Team.

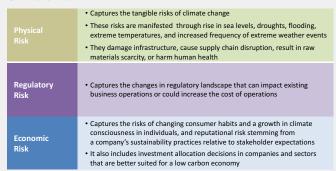
This was especially true after our votes in 2016 supporting shareholder resolutions on climate change initiatives set us apart in the industry.

Since 2014, climate change has been a priority engagement issue for us because of its potential to impact long-term results.

Whatever your view is on climate change, it is at the very least a potential risk we think companies need to assess as they would any potentially significant business risk.

Last year we created a framework to help boards capture and evaluate the different kinds of physical, regulatory and economic risks associated with climate change within specific sectors.

Exhibit 8: SSGA's Framework for Board Oversight of Climate Risk



Data Source: Climate Change Risk Oversight Framework For Directors, 14 March 2016.

We provided guidance for what we believe boards must do to effectively oversee a company's assessment of assessing climate risk and preparedness for addressing it.

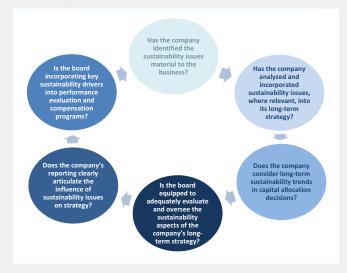
We have also sought to make sure that our voting record is consistent with the principles we have communicated to our portfolio companies.

While we make case-by-case decisions when voting proxies, we will support climate resolutions if we think companies' disclosure, practice and board governance structures are inadequate.

That was the rationale behind our climate resolution votes in 2016

In 2017 guidance builds upon that approach by proposing questions boards can use to begin incorporating a sustainability lens into their long-term strategy.

Exhibit 9: Addressing Sustainability Issues: Questions for Boards



These include questions:

- Whether the company considers long-term sustainability trends in its capital allocation decisions
- Whether the board has the right skill sets to evaluate and monitor sustainability issues
- Whether the board is incorporating key sustainability drivers into performance evaluation and compensation programs with specific KPIs

We will assess companies' approach to sustainability according to three criteria:

- Has the company identified material environmental and social sustainability issues relevant to its business?
- Has the company done the work to assess these thoroughly and, where necessary, incorporated the implications into their long-term strategy? And finally,
- Has the company adequately communicated its approach to sustainability issues and its influence on strategy?

We think getting more companies and boards to commit to focus on these three areas will lead to a dramatic improvement in how ESG issues are considered from a business perspective.

And it will also help generate the company data investment managers will need to make ESG a meaningful part of their investment process.

How Asset Managers and Asset Owners Can Partner to Achieve Common Goals

So what does the way ahead look like for ESG?

We think the argument in favor of considering ESG issues in financial analysis is straightforward, because these are risks and opportunities that could be overlooked by confining ourselves to traditional financial metrics.

The fact that integrating ESG into investment management processes is complex and difficult does not mean it should be dismissed.

Exhibit 10: Where Next for ESG?



Acceleration into other asset classes.



Impact investing by institutional investors increases.



Policy and regulation continues to unfold.



Asset owners ratchet up the pressure on asset managers.



ESG indexes, data and tools will proliferate but not all will be helpful.



More convergence on ESG scores/ratings, but true standards remain some ways off.

For us, ESG is not about forcing a particular set of values on investing. It is about understanding how these issues affect risk and return value for investors.

That is the starting point for acting accordingly across investment portfolios and pension plans.

As former US President John F. Kennedy once said: "There are risks and costs to a program of acting, but they are far less than the long-range risks and costs of comfortable inaction."

We think institutional investors — both asset owners like you and asset managers like us — have a crucial role to play in advancing this next frontier of ESG investing.

For your part, you have the capital and influence to test your portfolio companies on how they are incorporating sustainability into their strategy. You should also be challenging us as investment managers—holding our feet to the fire. Push us to articulate how we are integrating ESG into our investment process and which ESG themes and strategies may provide your plan with the greatest benefit.

Many of you do this already, and can provide an example to other institutional investors.

There is also the opportunity to further the research needed to take ESG investing to the next level by joining forces with other asset owners and asset managers to create industry bodies that can advance that understanding.

Think of it this way: According to McKinsey, global assets under management reached more than \$68 trillion dollars by the end of 2015. That is significant capital firepower to put behind advancing knowledge and impact.

Successful integration of ESG issues into corporate strategy can fundamentally change the way businesses think about what makes them successful. Sustainability issues are not going away, and we think integrating them will no longer be optional in the future.

As institutional investors, we can encourage the businesses we invest in either to be on the leading edge or behind the curve.

As one of the largest managers in the world, we feel a heightened fiduciary responsibility to the millions of individuals who entrust their financial futures with us through retirement plans, endowments and foundations, financial intermediaries, and sovereign institutions.

By being active stewards of the assets we hold, and focusing appropriately on ESG in the assets we manage, we can:

- · Enable economic prosperity.
- · Advance social progress.
- And create the future our investors want to invest in.

We look forward to working with you to help make that happen.

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