

# **State Street Global Advisors: ESG Investing & Stewardship**

**Christopher C. McKnett**

August 23, 2016

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**STATE STREET**  
**GLOBAL ADVISORS.**

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The material contained in this presentation is current as of the presentation date, unless otherwise indicated.

# SSGA Brief Overview

# A Leading Provider of Financial Services

## State Street

### State Street Global Advisors

A Global Leader in  
Asset Management

### State Street Global Services

A Global Leader in  
Asset Servicing

### State Street Global Markets

A Global Leader in  
Research & Trading

### State Street Global Exchange

A Global Leader in  
Utilization & Management

**State Street Global Advisors partners with many of the world's largest, most sophisticated investors and financial professionals to help them reach their goals through a rigorous, research-driven investment process spanning both indexing and active disciplines**

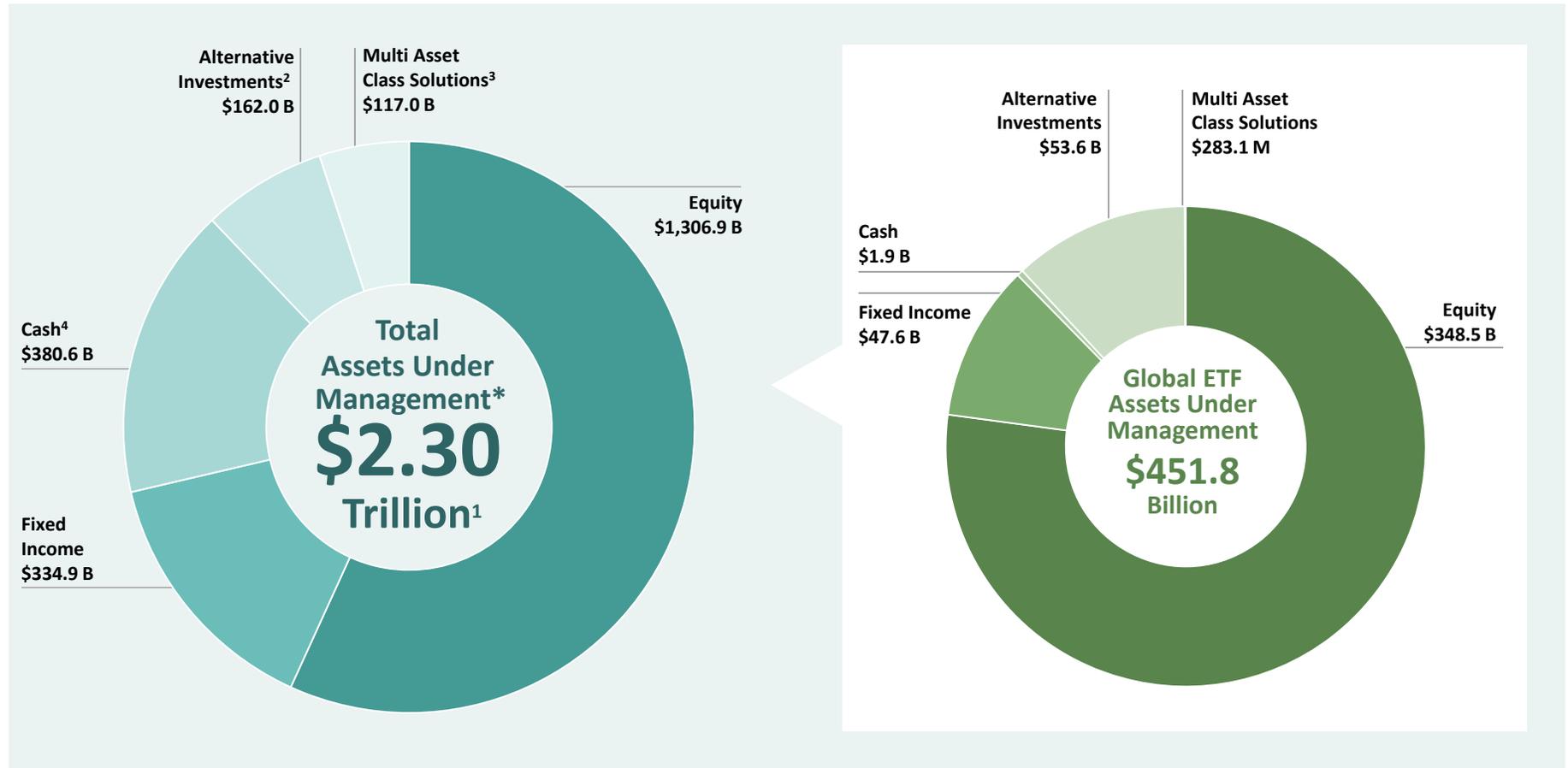
- The investment management arm of State Street Corporation, one of the world's leading providers of financial services to institutional investors, with a heritage dating back over two centuries
- Entrusted with over \$2.30 trillion\* in assets worldwide
- Clients include governmental entities, corporations, endowments and foundations, third party asset gatherers, multi employer plans, pension funds and sovereign wealth funds
- ETF industry pioneer and a leader since 1993 with \$419.5 billion\* in global AUM

As of June 30, 2016.

\* AUM reflects approx. \$40.33 billion (as of June 30, 2016) with respect to which State Street Global Markets, LLC (SSGM) serves as marketing agent; SSGM and State Street Global Advisors are affiliated.

# A Trusted Partner

Active, enhanced, fundamental, passive, pure alpha and multi-asset class solutions



\* As of June 30, 2016.

<sup>1</sup> AUM reflects approx. \$40.33 billion (as of June 30, 2016) with respect to which State Street Global Markets, LLC (SSGM) serves as marketing agent; SSGM and State Street Global Advisors are affiliated.

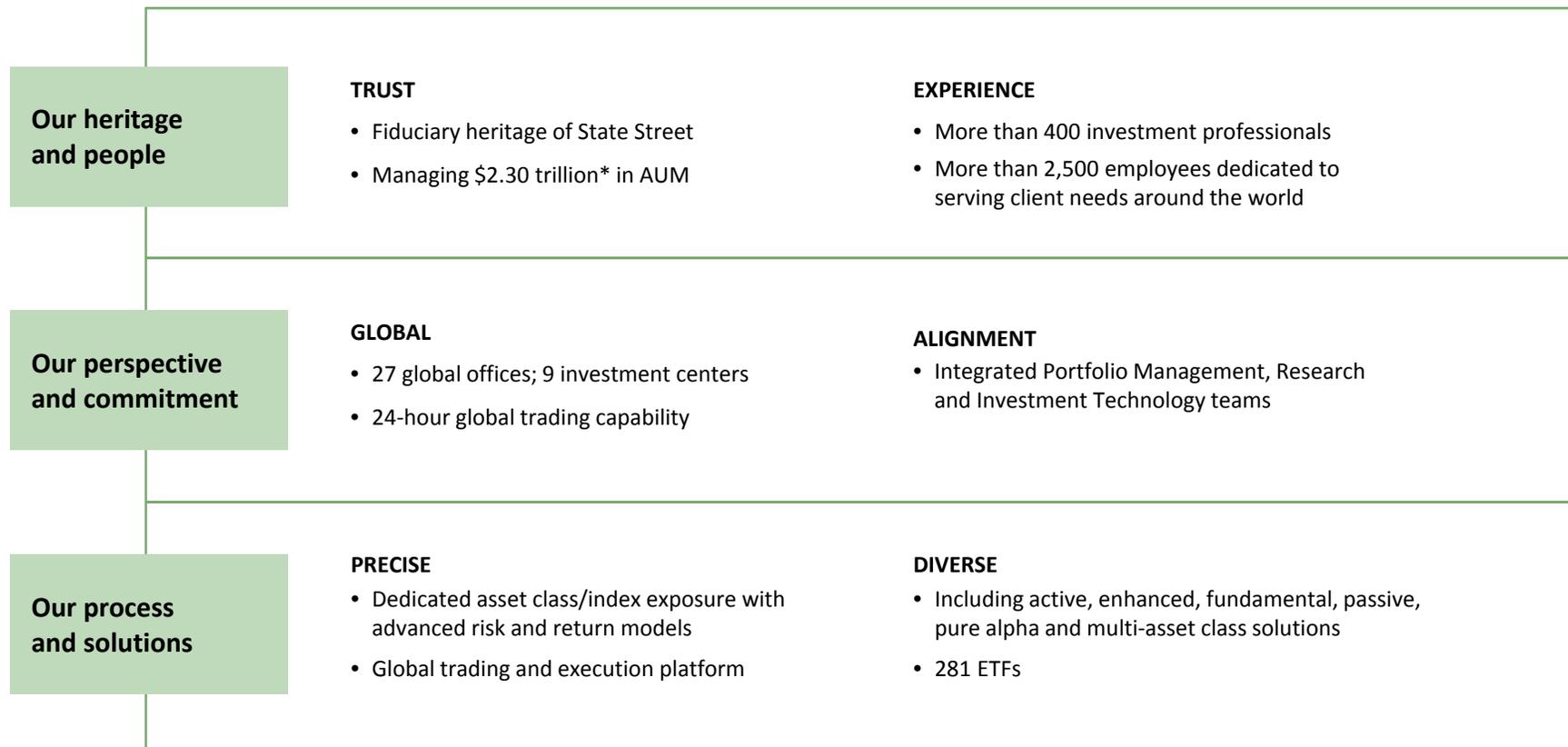
<sup>2</sup> Includes Commodities, Currency, Global Multi Strategy, Hedge Fund of Funds, Managed Futures, Private Equity and Real Estate.

<sup>3</sup> Assets in Solutions are not counted in the underlying asset class.

<sup>4</sup> Includes securities lending collateral, cash, and money market.

# Our Advantage

Continual investment in our asset management and client service platform results in a client-focused, solutions-driven orientation

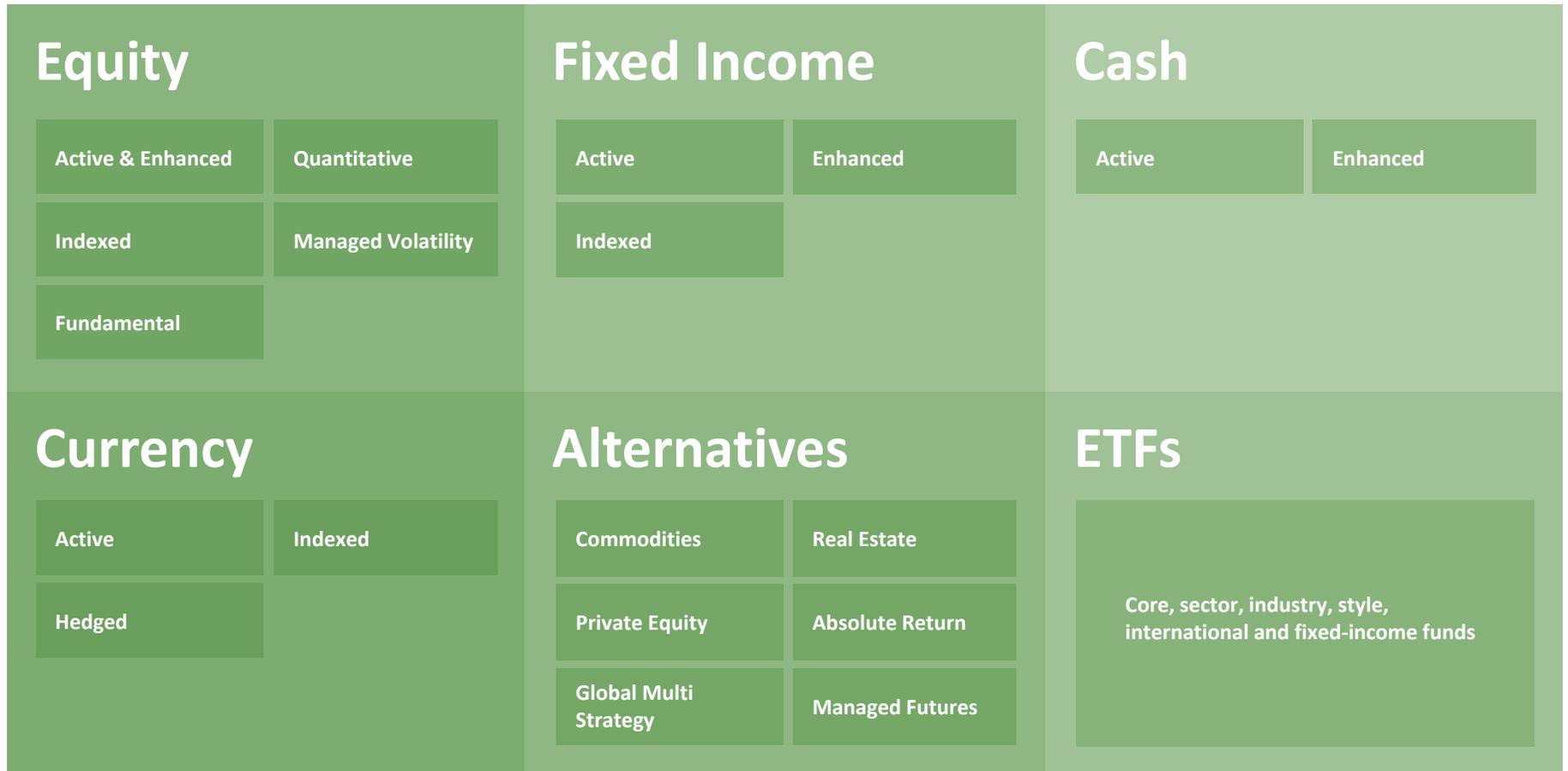


As of June 30, 2016.

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# A Broad Range of Investment Solutions & Products

We offer broad-based market exposure in highly specialized active and passive strategies across the risk-return spectrum



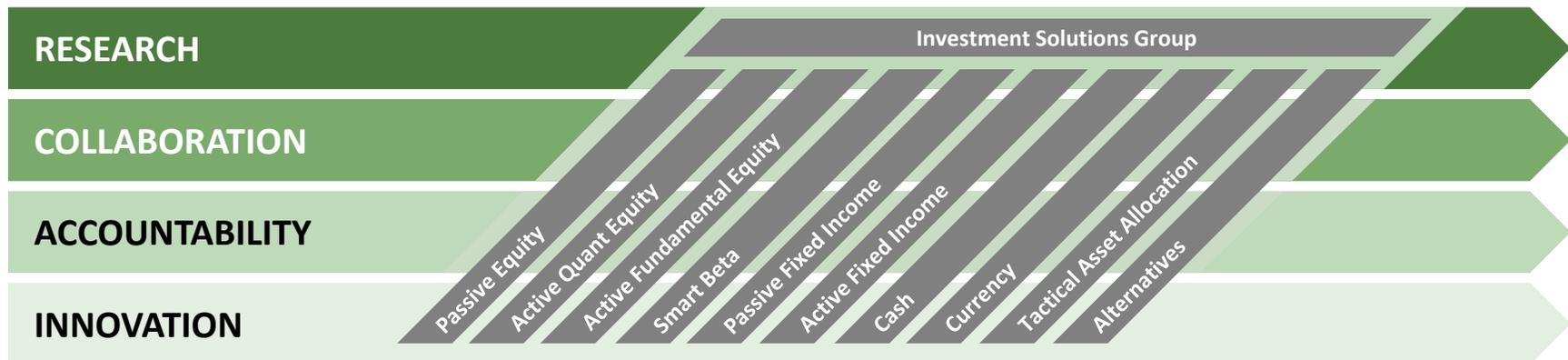
As of June 30, 2016.

# Our Investment Teams are Guided by Our Shared Values

**We believe successful investing requires clients to have access to a comprehensive suite of tools to help meet their objectives. As a leading manager of passive, smart beta, and active strategies we are positioned to co-design solutions aligned with our clients' needs.**

While each of our investment teams has developed a unique philosophy underpinning their individual investment approach, the teams are driven by four shared values:

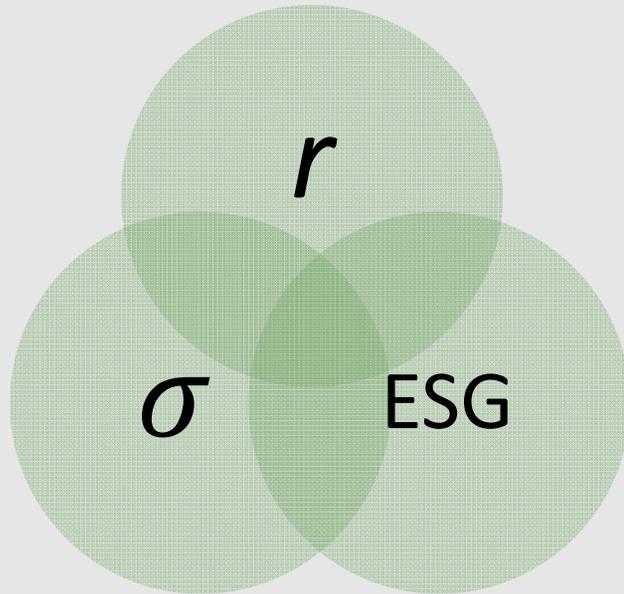
- **Research** is at the heart of every investment belief we develop
- Through **Collaboration** and our team structure, we not only encourage diversity of ideas but also create a powerful governance process within our organization
- To achieve a degree of **Accountability**, we must be pragmatic and act with integrity. Our role as a fiduciary means that clients always come first.
- We believe that **Innovation** is about our clients and how we can use our capabilities in a way that delivers better outcomes for them



# ESG Investing Approach

# The Reframing of ESG in Investment Management Requires New Approaches and Solutions

## Definition of Performance is changing



## Investor needs are evolving

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**76%** of institutional investors evaluate ESG before making an investment<sup>1</sup>

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**72%** desire metrics on expected future performance and nonfinancial risk<sup>1</sup>

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**2x** likelihood of Millennials to invest in companies/funds that target specific social or environmental outcomes<sup>2</sup>

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**71%** of individual investors are interested in sustainable investing<sup>2</sup>

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<sup>1</sup> E&Y, "Tomorrows Investment Rules 2.0"

<sup>2</sup> Morgan Stanley, "Sustainable Signals"

# Evolving Global Risk Landscape — A Shifting Paradigm?

## Top 5 Global Risks in Terms of Likelihood

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
1st	Breakdown of critical information infrastructure	Asset price collapse	Asset price collapse	Asset price collapse	Storms and cyclones	Severe income disparity	Severe income disparity	Income disparity	Interstate conflict w/regional consequences	Large scale involuntary migration	Economic
2nd	Chronic Disease (DM)	Middle East Instability	Slowing Chinese Economy (<6%)	Slowing Chinese Economy (<6%)	Flooding	Chronic fiscal imbalances	Chronic fiscal imbalances	Extreme weather events	Extreme weather events	Extreme weather events	Environmental
3rd	Oil price shock	Failed and failing states	Chronic Disease	Chronic Disease	Corruption	Rising greenhouse gas emissions	Rising greenhouse gas emissions	Unemployment and underemployment	Failure of national governance	Failure of climate change mitigation & adaptation	Environmental
4th	China economic hard landing	Oil and gas price spike	Global governance gaps	Fiscal crises	Biodiversity loss	Cyber attacks	Water supply crises	Climate change	State collapse or crisis	Interstate conflict	Geopolitical
5th	Asset price collapse	Chronic Disease (DM)	Retrenchment from globalization (EM)	Global governance gaps	Climate change	Water supply crises	Mismanagement of population ageing	Cyber attacks	High structural Unemployment and underemployment	Natural catastrophe	Environmental

## Top 5 Global Risks in Terms of Impact

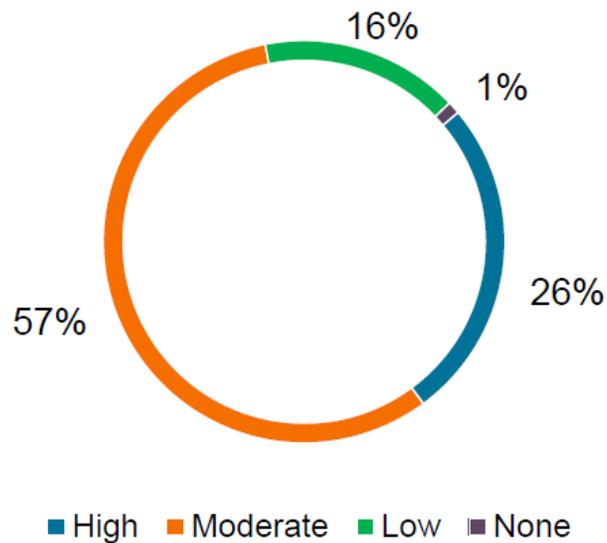
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
1st	Asset price collapse	Asset price collapse	Asset price collapse	Asset price collapse	Fiscal crises	Major systemic financial failure	Major systemic financial failure	Fiscal crises	Water crises	Failure of climate change mitigation & adaptation	Environmental
2nd	Retrenchment from globalization	Retrenchment from globalization (DM)	Retrenchment from globalization (DM)	Retrenchment from globalization (EM)	Climate change	Water supply crises	Water supply crises	Climate change	Rapid and massive spread of infectious diseases	Weapons of mass destruction	Geopolitical
3rd	Interstate and civil wars	Slowing Chinese Economy (<6%)	Oil and gas price spike	Oil price spike	Geopolitical conflict	Food shortage crises	Chronic fiscal imbalances	Water crises	Weapons of mass destruction	Water crisis	Societal
4th	Pandemics	Oil and gas price spike	Chronic Disease	Chronic Disease	Asset price collapse	Chronic fiscal imbalances	Weapons of mass destruction	Unemployment and underemployment	Interstate conflict w/regional consequences	Large scale involuntary migration	Societal
5th	Oil price shock	Pandemics	Fiscal crises	Fiscal crises	Extreme energy price volatility	Extreme energy/ag price volatility	Failure of climate change adaptation	Critical information infrastructure breakdown	Failure of climate change adaptation	Energy price shock	Technological

Source: Global Risks Report 2016, 11<sup>th</sup> Edition. © World Economic Forum® 2016 — All rights reserved.

# Global Pension Funds Signaling Future ESG Interest

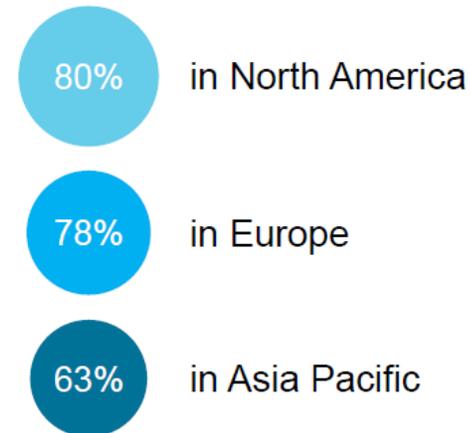
## Preparing Their Portfolio For the New Economy That Lies Ahead

Pensions' Anticipated Interest in Environmental, Social & Governance (ESG) in the Next 3 Years



Note: The base is all respondents whose funds have some defined benefit (DB) component.

Funds More Likely to Appoint a Manager With ESG Capabilities

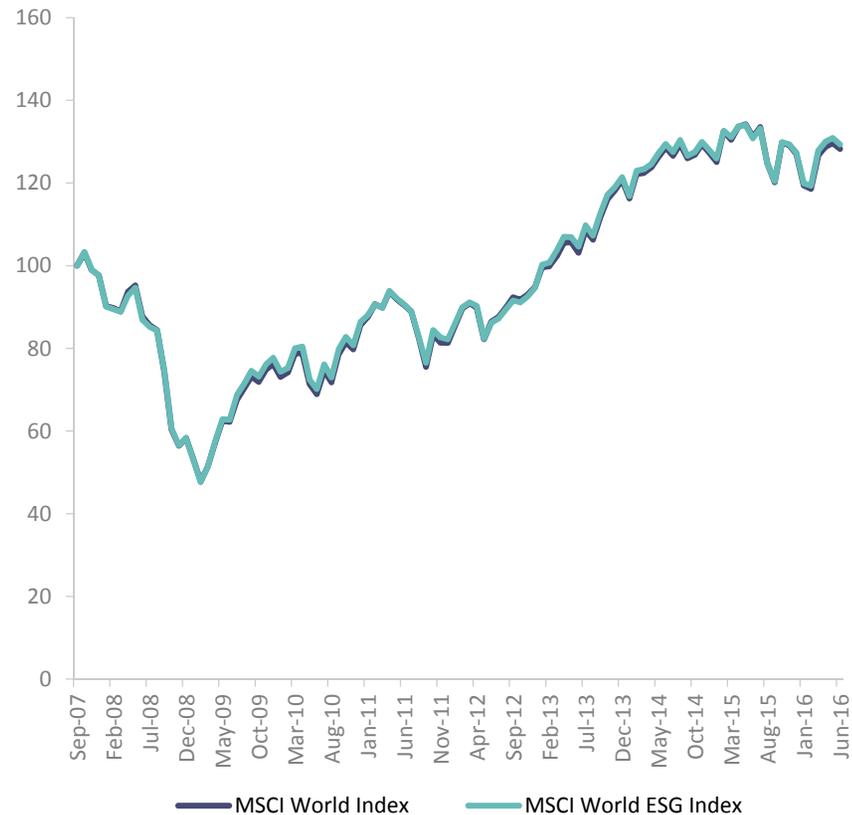


Note: The base is all respondents whose anticipated level of interest in ESG investment is high / moderate.

Source: Pensions With Purpose, February 2016. <http://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.

# Performance of ESG versus Standard Global Equities

## Similar Performance in Developed Markets



## Stronger Case in Emerging Markets



As of June 30, 2016. Source: MSCI.

USD Gross Returns. Indexes rebased to 100 on September 30, 2007. Index returns are unmanaged and do not reflect the deduction of any fees or expenses.

Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income. Pre-Inception Index Performance shown for the MSCI EM ESG Index only above is Back-Tested. Performance prior to the date of index inception, June 6, 2013, is hypothetical. Market indices are unmanaged and are not subject to fees and expenses which could lower returns. Index performance is not intended to represent the performance of any particular exchange-traded fund or product managed by SSGA Funds Management, Inc. Actual performance may differ substantially from the back-tested performance presented, as the performance was calculated with the benefit of hindsight, cannot account for all financial risk that may affect the actual performance, and is not a guarantee of future results. The rule set of the index is available upon request or can be viewed at this link: [https://www.msci.com/eqb/methodology/meth\\_docs/MSCI\\_Custom\\_ESG\\_Indexes\\_September\\_2015.pdf](https://www.msci.com/eqb/methodology/meth_docs/MSCI_Custom_ESG_Indexes_September_2015.pdf).

The Back-Tested Pre-Inception Index Performance data is reported on a gross of fees basis. You cannot invest directly in an index.

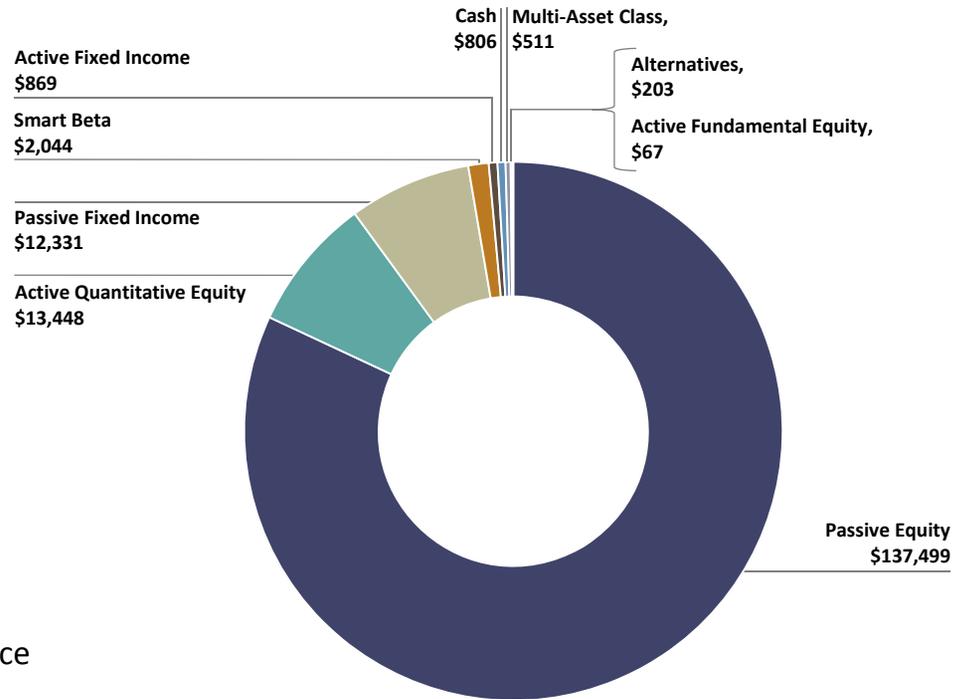
The performance includes the reinvestment of dividends and other corporate earnings and is calculated in US dollars.

Past performance is not a guarantee of future results. For illustrative purposes only and not intended as investment advice.

# SSGA ESG Capabilities



**\$167,781 Million in ESG Assets Under Management**  
As of March 31, 2016

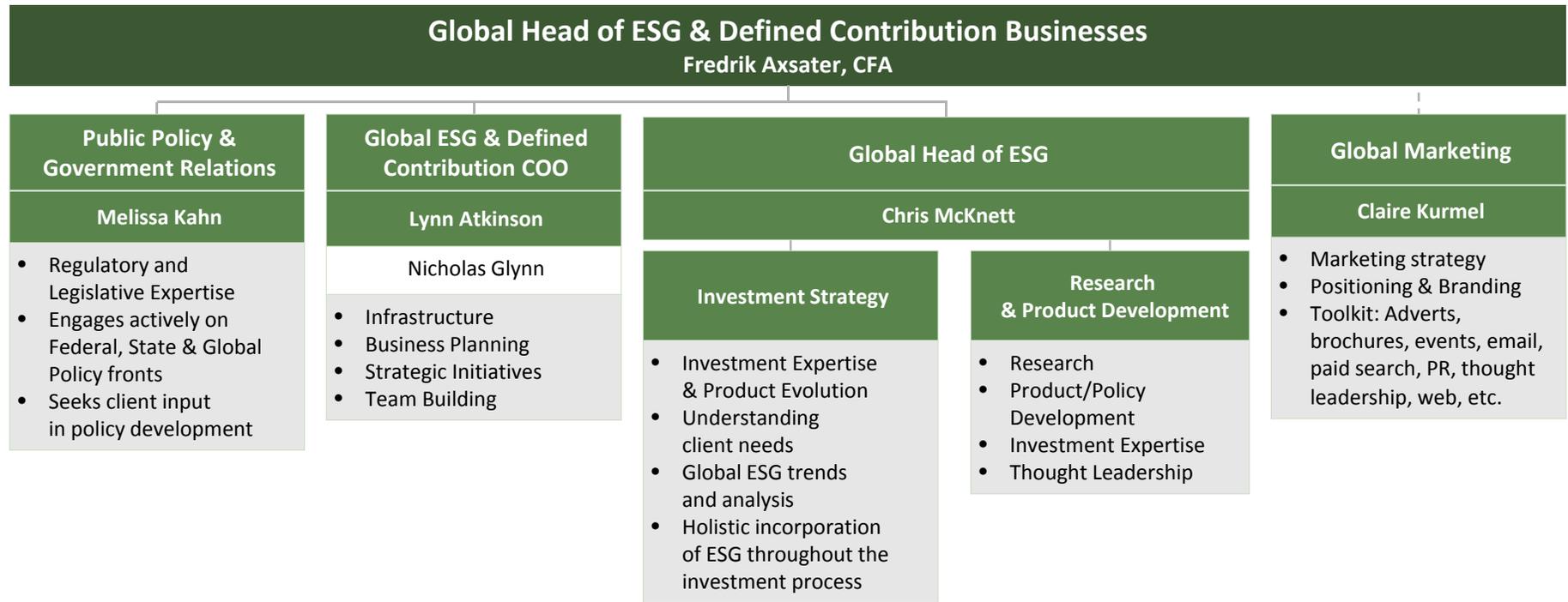


## Competitive Strengths

- Dedicated internal resources and industry experience
- Integration of ESG research from multiple third-party sources
- Proprietary research into ESG factors and equity returns
- Affiliations with global investor consortiums
- Management of ESG assets since 1986
- Strategies across asset classes and the ESG style continuum

Source: SSGA.

# Commitment to Every Major Aspect of ESG Investing



Additional SSGA Resources	Additional State Street Resources
Institutional & Intermediary Channel Coverage and Consultant Relations	Center for Applied Research
Public Relations	Corporate Citizenship
Corporate Governance, Compliance, Fiduciary, and Legal Oversight	Indices & Indicators, Risk Analytics, and Trading Analytics
Equity, Fixed Income, Cash, Asset Allocation and Alternative Investment Teams	Transition Management
Client Reporting and Operations	Trust/Custody and Securities Lending

Source: SSGA.  
As of June 30, 2016.

# Principles for Responsible Investment

## SSGA a signatory since May 2012



Principle	SSGA Action(s)
1. Incorporate ESG issues into investment analysis and decision-making processes	<ul style="list-style-type: none"> <li>• Conduct quantitative research</li> <li>• Project Delphi (sponsor, coordinate and led collaborative project to develop framework of critical ESG factors by industry)</li> <li>• Manage ESG portfolios</li> <li>• Collaboration between corporate governance, ESG and investment teams</li> </ul>
2. Be active owners and incorporate ESG issues into our ownership policies and practices	<ul style="list-style-type: none"> <li>• Maintain governance policy/exercise voting rights</li> <li>• Conduct issuer and stakeholder engagement</li> <li>• Active in related industry investment groups</li> </ul>
3. Seek appropriate disclosure on ESG issues by the entities in which we invest	<ul style="list-style-type: none"> <li>• Directly engage with companies globally</li> <li>• Signatory to Carbon Disclosure Project, EITI, etc.</li> <li>• Publish quarterly stewardship newsletter and annual report</li> </ul>
4. Promote acceptance and implementation of the Principles within the investment industry	<ul style="list-style-type: none"> <li>• Industry speaking roles promoting best practice</li> <li>• Client and prospect education</li> <li>• Host meetings to assist PRI*</li> </ul>
5. Work together to enhance our effectiveness in implementing the Principles	<ul style="list-style-type: none"> <li>• Active in many investor networks for which ESG is central to the mission (e.g., ACGA, CII, ICGN, INCR, etc.,)</li> <li>• Joint or collaborative engagements</li> <li>• Project Delphi</li> <li>• Participate in PRI Working Groups</li> </ul>
6. Report on our activities and progress towards implementing the Principles	<ul style="list-style-type: none"> <li>• STT Corporate Responsibility Report</li> <li>• Publish quarterly stewardship newsletter and annual report</li> <li>• Publish ESG investing thought leadership and product materials</li> <li>• PRI report</li> </ul>

As of March 31, 2016, updated annually.  
 The information shown is intended for illustrative purposes only and is not exhaustive.  
 \* SSGA is not affiliated with PRI.

# Research and Publications

IQ An excerpt from FALL 2014

## CAPTURING THE RISK PREMIA OF ESG

Christopher McKnett, Head of ESG Investments  
Simon Roe, Head of Core Portfolio Management, Active Quantitative Equities

It's one thing to have a hunch that companies that score well on social, and governance criteria generally perform better over time to prove it and build it into your active models.

The last decade has seen a major evolution in the concept of what was once termed socially responsible investing. That can be ascribed partly to rising global awareness of the severe challenges that the world faces as a whole and partly to a fundamental shift in market perception as more and more investors have begun to contemplate the implications of those challenges for risk and return.

The preferred term for this type of investing now goes by ESG, for environmental, social and governance investing. And investment strategies that leverage ESG data have grown increasingly sophisticated. At first, investors who wanted to invest ethically simply screened out bad actors, excluding from their portfolios the shares of companies that they believed were harming the planet, treating their employees poorly or operating opaquely. The motivation was clear: Avoid or minimize exposure to objectionable companies and controversial products. But over the years, a different, more analytical

**Figure 1: Performance of MSCI World Index Versus MSCI World ESG**

Source: MSCI as of August 31, 2014.  
Green lines are plotted from base of 100 in September 2007.  
Past performance is no guarantee of future results.  
Index returns are unmanaged and do not reflect the deduction of any fees or of income, gain and loss and the reinvestment of dividends and other income.

1 STATE STREET GLOBAL ADVISORS | IQ: FALL 2014 ISSUE EXCERPT

## Climate Change Risk Oversight Framework For Directors

March 14, 2016

**Key Takeaways**

- The COP21 Paris Climate Accord signals the turning point of a global effort to address climate change. As nations begin to pursue their emission reduction strategies, directors should evaluate the climate-related risks facing their companies.
- State Street Global Advisors (SSGA) believes that boards should regard climate change as they would any other significant risk to the business and ensure that a company's assets and its long-term business strategy are resilient to the impacts of climate change.
- SSGA has developed a framework to help directors evaluate potential climate-related risks that may impact companies within a sector.
- The three primary climate-related risks we have identified are physical risk, regulatory risk and economic risk.
- Climate change will continue to be a priority for our asset stewardship and company engagement program in 2016 as we seek to promote effective environmental and sustainability practices and better company performance on behalf of our clients and other stakeholders.
- Our guidance for directors is based on over 80 climate-related engagements we have had with companies over the past two years.

**Background**

The success of the COP21 climate negotiations has brought a sense of urgency to the global transition towards a low carbon economy. This new global direction agreed upon by heads of 196 countries, encompassing 95% of global emissions in Paris, presents challenges and opportunities to boards and companies across all sectors. The challenges come in the way of possible changes to strategy to meet specified goals; allocating capital in technology and/or infrastructure; and managing reputation based on corporate practices that demonstrate a company's climate consciousness. The opportunities are presented through proactively identifying new business lines; mitigating future regulatory risk; and leveraging sustainability practices as a differentiator to enhance brand/firm reputation.

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## The COP21 Paris Climate Accord at a Glance

**Goal** Limit global average temperature increase to no more than 2 degrees Celsius with ambition for 1.5 degrees Celsius

**Implementation Mechanism** Individual countries requested to design an Intended Nationally Determined Contributions plan or INDC, which simply put, include national greenhouse gas ("GHG") emission reduction and a strategy to achieve this goal. INDCs give countries the flexibility to design a plan that balances their set of emissions with economic and national priorities.

**Four strategies that will commonly be pursued in different nation states include:**

- Making coal plants more efficient or switching from coal fire to natural gas plants
- Shifting energy generation to a renewable source such as wind or solar
- Enhancing energy efficiency, especially in commercial, industrial and transportation sectors. For example, through more stringent fuel economy standards for light and heavy duty vehicles
- Forest conservation or reducing deforestation

In this paper SSGA contextualizes the implication of COP21 on a sector and provides a framework for directors to oversee risks pertaining to climate change. In addition, through a guidance questionnaire, we clarify investor expectations of board members on their responsibilities with regards to climate change related matters at their companies.

**SSGA's Framework For Overseeing Climate Change Risk**

Climate change has been a priority engagement issue since 2014. Over the course of the past two years, we have held 80 climate-related engagements with companies on topics such as disclosure, practices, risk management and the impact of climate change on the company's long-term strategy.

## New Federal Guidance

# CLEARER DIRECTION FOR ESG INVESTING

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The information contained above is for illustrative purposes only.

# Stewardship Philosophy & Strategy

# SSGA's Approach to Stewardship

**Long-term, Significant Shareholder with a Global Focus**

- Core passive is 'permanent' capital
- Must be engaged; divestment not an option
- Stewardship part of SSGA's investment process

**Value Driven Philosophy implemented by a Dedicated Governance Team, Integrated with Investment Teams, using a Risk Based Screening Approach**

- Clearly articulated objectives and framework
- Linked to investment and fiduciary objectives
- Proprietary ESG screens and stewardship program help identify companies for active engagement

**Engagement and Voting conducted with a Unified Voice\*** to maximise influence and create value for clients

- Engagement, not confrontation, with management and boards
- Transparent voting with clear communication of vote decisions

\* Voting and engagement activities for all investment strategies and geographic regions are consolidated and harmonised by a centralised governance team ensuring that SSGA votes in a consistent manner across all of its discretionary holdings.

## SSGA's Role as a Long-Term Investor and Objectives of our Corporate Governance Activities:

Our stewardship role in global capital markets extends beyond proxy voting and engagement with issuer companies. It includes promoting investor protection for minority shareholders in global markets through partnerships with local investors and regulators, and working with investee companies to encourage adoption and disclosure of ESG practices.

### Transparency and Accountability to Clients



- Engaged in dialogue, honest evaluation, continuous enhancement and increased transparency of our stewardship practices

### Enhance and Evolve ESG Practices in Markets



- Apply higher voting standards where governance practices do not meet global investor expectations;
- Identify clear engagement priorities that focus on sector, thematic and/or market specific issues; and
- Collaborate with other investors when collective action is needed

### Develop Long-Term Partnership with Companies and Guide them through the Evolution in ESG Practices



- Engage constructively with management/boards to effect change in investee companies;
- Publish thought leadership papers to inform directors on changing ESG practices; and
- Communicate clearly our expectations and vote rationale during engagement

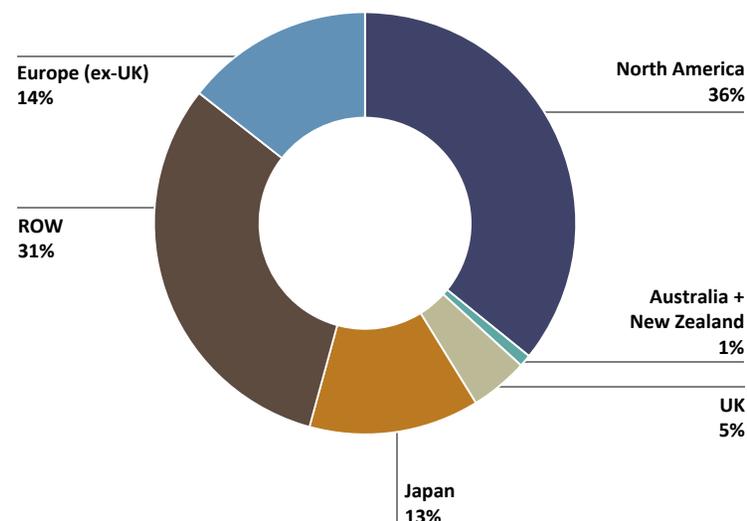
# H1 2016: Proxy Season Review

# Proxy Voting Analysis

SSGA reviewed voting issues at over 3,472 companies or 35% of total meetings

SSGA Voting Trends	2015	H1 2015	H1 2016
<b>Number of Meetings Voted</b>	15,471	11,360	11,558
<b>Management Proposals</b>	140,313	110,992	120,912
Against Management	12.1%	10.8%	12.3%
<b>Shareholder Proposals</b>	3,227	2,630	3,204
Against Management	13.6%	12.0%	12.6%
<b>Number of Countries</b>	81	68	81

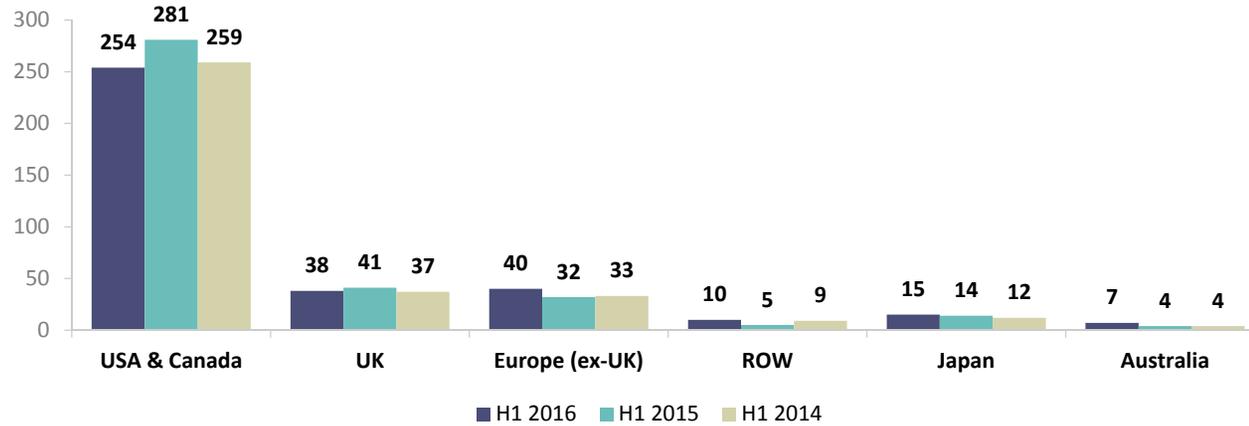
Voting by Region H1 2016



Source: SSGA voting statistics provided by Institutional Shareholder Services (ISS).  
 NB: Management and Shareholder proposals do not add up exactly to overall total due to categorization of certain proposals by ISS.

# Corporate Engagement Analysis

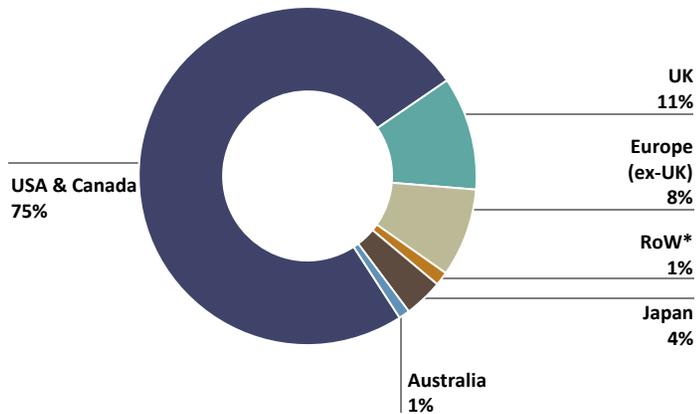
Number of Company Engagements By Region



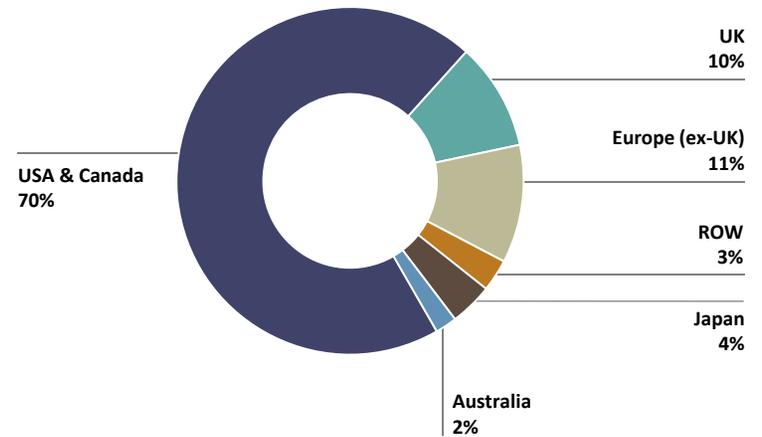
Total Company Engagements

FY 2014	FY 2015	H1 2016
610	636	364

Full Year 2015



H1 2016



\* RoW= Rest of World. Source: SSGA .

# 2016 Stewardship Priorities

On an annual basis SSGA develops a series of strategic priorities that drives a portion of engagement based developing macroeconomic conditions, emerging ESG trends and client feedback

Sector Focus	Thematic Focus	Voting Policy Focus
<p><b>Information Technology:</b></p> <ul style="list-style-type: none"> <li>The IT sector undergoing significant changes — from semiconductor and chip manufacturers adapting to the challenges of becoming commoditized industries, to technology giants’ changing long-term strategy in response to shifting demographics and customer preferences disrupting their traditional business models</li> <li>Governance concerns in the sector include controlling share structures that disenfranchise minority shareholders and high-levels of compensation payments that are not linked to long-term performance</li> <li>SSGA will engage to understand how boards are navigating the challenges posed by the changing landscape and evaluate governance structures in the context of a company’s business strategy</li> </ul> <p><b>Automotive:</b></p> <p>Sector facing challenges posed by changing technology &amp; IT entrants, environmental regulations, consumer behavior (sharing economies)</p> <ul style="list-style-type: none"> <li>We aim to assess how portfolio companies are responding to these challenges and positioning themselves to address disruptors that are poised to fundamentally change the sector</li> </ul> <p><b>Global Banks:</b></p> <ul style="list-style-type: none"> <li>Follow up with global SIFI banks will evaluate progress /revisions being made to long-term strategic plans</li> <li>Particular focus will be on the sustainability of the universal banking model and the positioning of investment banking franchises</li> </ul>	<p><b>Board Composition and Board Leadership:</b></p> <p>SSGA will evaluate board composition in the context of the company’s strategy, while promoting increased diversity among board members</p> <ul style="list-style-type: none"> <li>We will also engage with companies to better understand how their preferred board leadership structure facilitates the board's ability to provide independent oversight of management</li> </ul> <p><b>Supply Chain Management:</b></p> <ul style="list-style-type: none"> <li>We aim to understanding how companies assess and manage the various risks in their supply chain</li> </ul> <p><b>Pay Strategies:</b></p> <ul style="list-style-type: none"> <li>We will engage with companies to understand their compensation and wage strategies and how they support and help sustain business operations in the long-term</li> </ul> <p><b>Climate Change:</b></p> <ul style="list-style-type: none"> <li>We aim to understand company emissions management programs, the potential impact of carbon price on budgets and capital programs, the long-term strategy to position the company within a lower-carbon economy, and the resilience of company strategy to effects of climate change</li> </ul> <p><b>Water Management:</b></p> <ul style="list-style-type: none"> <li>We will engage with companies to understand their risk mapping and disclosure practices related to water management</li> </ul>	<p><b>Debt Issuances and Borrowing Limits:</b></p> <p>In some countries, companies are required to seek shareholder approval to issue debt or increase borrowing limits</p> <ul style="list-style-type: none"> <li>Based on our assessment of growing corporate debt levels in a low-interest rate environment, in 2015, SSGA adopted a risk-based approach to reviewing its proxy voting decisions pertaining to debt issuances and borrowing powers</li> <li>As a result, during the 2015 proxy season, SSGA voted against over 50% of debt issuance requests by companies. In comparison, ISS recommended that investors support 89% of all requests</li> <li>In 2016, SSGA will scrutinize debt-related proposals to assess the sustainability of a company’s debt levels under changing interest rates and other macroeconomic conditions. Where appropriate, we will engage with companies to better assess their capital utilization and capital management strategies.</li> </ul>

Source: SSGA 2015 Annual Stewardship Report.

## 2016 Publications/Initiatives

### Effective Board Leadership:

- SSGA has shared our board leadership guidelines with board leaders at S+P500 and large European companies (DAX30, CAC 40, FTSE 350 and ASX 100 companies). We have set clear expectations around responsibilities, governance structures and characteristics of effective board leaders.
- The guidance is based on discussions we have had with over 100 independent chairs and/or lead independent directors from multiple jurisdictions over the past two years

### Climate Risk:

- In March 2016, we published a Climate Change Risk Oversight Framework for Directors that provides guidance to board members on overseeing climate risk in portfolio companies
- This guidance is based on over 80 climate-related engagements we have had over the past two years

### Rising Reputational Risk in C-Suite Pay:

- SSGA published “Guidelines for Mitigating Reputational Risk in C-Suite Pay” mid-proxy season in response to the lack of variability in CEO pay on a year-on-year basis

### Stewardship Program for Fixed Income Assets:

- In 2015, we put in place an ESG stewardship program for our fixed income assets. This program takes a creditors perspective on ESG.

Source: SSGA's Governance Team.

# Example: SSGA's Climate Change Risk Oversight Framework for Directors

*SSGA believes that boards should regard climate change as they would any other significant risk to the business and ensure that a company's assets and its long-term business strategy are resilient to the impacts of climate change.*

GICS	Impact Risk	Regulatory Risk	Economic Risk
<b>Energy, Utilities</b>	<ul style="list-style-type: none"> <li>• Damage to physical infrastructure.</li> <li>• Quality and availability of water for operations</li> </ul>	<ul style="list-style-type: none"> <li>• Company's preparedness to comply with national regulations</li> </ul>	<ul style="list-style-type: none"> <li>• Sensitivity to carbon pricing or tax that impact returns</li> <li>• Potential decrease in net present value of reserves leading to stranded assets</li> </ul>
<b>Materials, Industrials</b>	<ul style="list-style-type: none"> <li>• Obsolescence or innovation required to existing products to withstand changing climate conditions and extreme weather events</li> </ul>	<ul style="list-style-type: none"> <li>• Potential for industry to be targeted as future INDC sector given high emissions associated with sector</li> <li>• Conservation efforts could pose a risk to the company's supply chain</li> </ul>	<ul style="list-style-type: none"> <li>• Change in product preferences as consumers and businesses demand materials that enhance energy efficiency and facilitate environmental certifications such as LEED</li> </ul>
<b>Consumer Discretionary, Consumer Staples</b>	<ul style="list-style-type: none"> <li>• Availability and quality of raw materials that are susceptible to changing climate conditions</li> <li>• Disruption of existing supply chain due to changing climate conditions and extreme weather events</li> </ul>	<ul style="list-style-type: none"> <li>• Increase in costs and margins from changes to fuel/energy taxes and regulations</li> </ul>	<ul style="list-style-type: none"> <li>• Increase in cost of raw materials.</li> <li>• Decrease in quality of finished products due to the impact risk of climate change on quality of raw materials</li> <li>• Changing consumer behavior may impact demand for company products</li> <li>• Reputational risk to the company as its products and sustainability practices are evaluated by environmentally conscious consumers</li> </ul>
<b>Health Care</b>	<ul style="list-style-type: none"> <li>• Impact of changing climate conditions on human health — for example increase in asthma and vector borne diseases, and nutrition</li> </ul>		<ul style="list-style-type: none"> <li>• Capitalizing on growth opportunities from Impact of changing climate conditions on human health</li> </ul>
<b>Financials</b>	<ul style="list-style-type: none"> <li>• Financial/investment exposure to properties, infrastructure and businesses vulnerable to impact risks of climate change</li> </ul>	<ul style="list-style-type: none"> <li>• Financial exposure to sectors that are vulnerable to changing regulations</li> </ul>	<ul style="list-style-type: none"> <li>• Credit risk implications</li> <li>• Larger insurance payouts due to climate related events</li> </ul>
<b>Information Technology, Telecommunication Services</b>	<ul style="list-style-type: none"> <li>• Disruption in services as climate events potentially impact infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>• Regulation on reporting of company's climate preparedness given sector's critical infrastructure status</li> </ul>	<ul style="list-style-type: none"> <li>• Change in consumer preferences for energy efficient products</li> <li>• Reputational risk as environmentally conscious consumers assess a company's sustainability practices</li> </ul>

# Appendix A: Important Disclosures

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# Appendix B: Biography

# Biography



**Christopher C. McKnett**

Chris McKnett is a Managing Director of State Street Global Advisors. He is the head of the firms' global Environmental, Social and Governance (ESG) investments business working across asset classes, investment teams and functional domains to champion sustainable and responsible investment on behalf of SSGA and its clients. His responsibilities include to investment, product and business strategy. Chris is a member of SSGA's Proxy Review Committee and State Street's Executive Corporate Responsibility Committee. Chris is also a member of SSGA's Senior Leadership Team. Before joining SSGA in 2007, he worked for KLD Research & Analytics, Inc. Chris began working in the investment industry in 1999.

Chris is a First Mover Fellow at the Aspen Institute Business & Society Program and a member of the Investment Commission of the United Nations Environment Programme Finance Initiative. He earned his MBA from the Daniels College of Business at the University of Denver and a Bachelor of Science in Business Administration from the University of Connecticut