

ESG Asset Class Integration

Dan Bienvenue, Managing Investment Director

Lou Zahorak, Investment Director

Christine Gogan, Investment Director

Rina Lessing, Investment Manager

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March 13, 2017

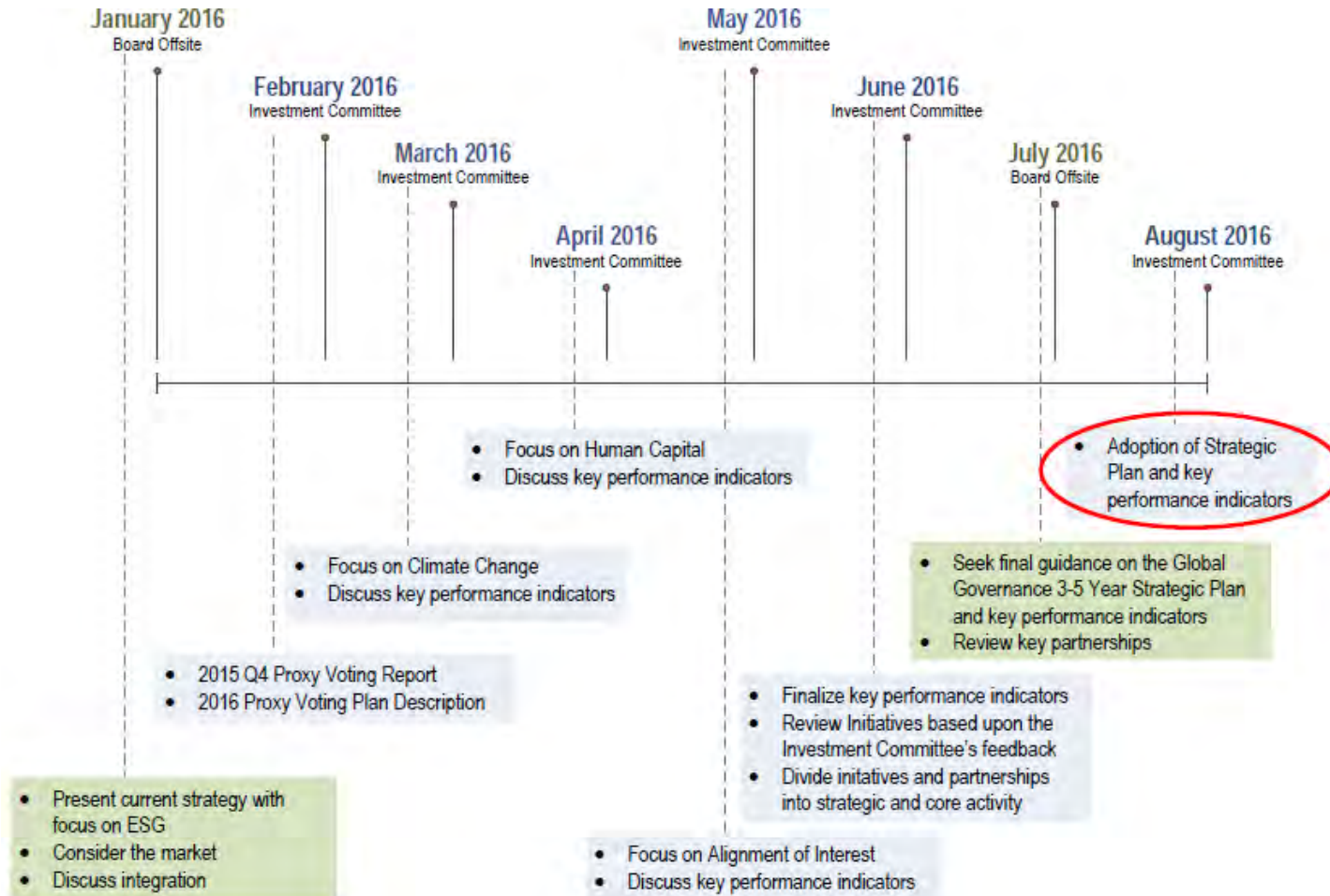
ESG Asset Class Integration | Agenda

- ESG Strategic Plan
 - Summary and Timeline
 - Key Initiatives
- Governance Framework
 - Organizational Realignment
 - ISG and the Subcommittee / Working Group Structure
- Integration and Manager Expectations Deep-Dive

Summary of the 5-year plan | Governance & Sustainability

	Environmental	Social	Governance
S T R A T E G I C	Data and corporate reporting standards (includes water risk)	Data and corporate reporting standards (includes human capital)	Data and corporate reporting standards (focusing on the long-term)
	Manager Expectations (includes water risk)	Manager Expectations	Manager Expectations
	Research <ul style="list-style-type: none"> Sustainable Investment Research Initiative (SIRI) 	Research <ul style="list-style-type: none"> SIRI Diversity Income inequality (action plan if warranted) 	Research <ul style="list-style-type: none"> Topics from Global Governance Principles Review
	Engage 80 PRI Montreal Pledge Companies (identify risk candidates)	Diversity and Inclusion <ul style="list-style-type: none"> Engagement Voting 3D Advocacy 	Private Equity Fee and Profit Sharing Transparency (including AB 2833)
C O R E	<ul style="list-style-type: none"> Carbon Footprinting – Total fund Thermal Coal Companies – (SB185) 	<ul style="list-style-type: none"> Responsible Contractor Program Supply Chain Activities 	<ul style="list-style-type: none"> Proxy Voting Shareowner Campaigns (Proxy Access/Majority Voting) Focus List Divestment: Mandates, Policy & Principles
	Work through Partnerships to leverage resources and impact		
	<ul style="list-style-type: none"> Corporate Engagements Federal and Legislative Guidelines Sustainability Report Response to Ad Hoc Media and Stakeholder Requests 		

Proposed Timeline for Developing a 3-5 Year Strategic Plan



Key Initiatives

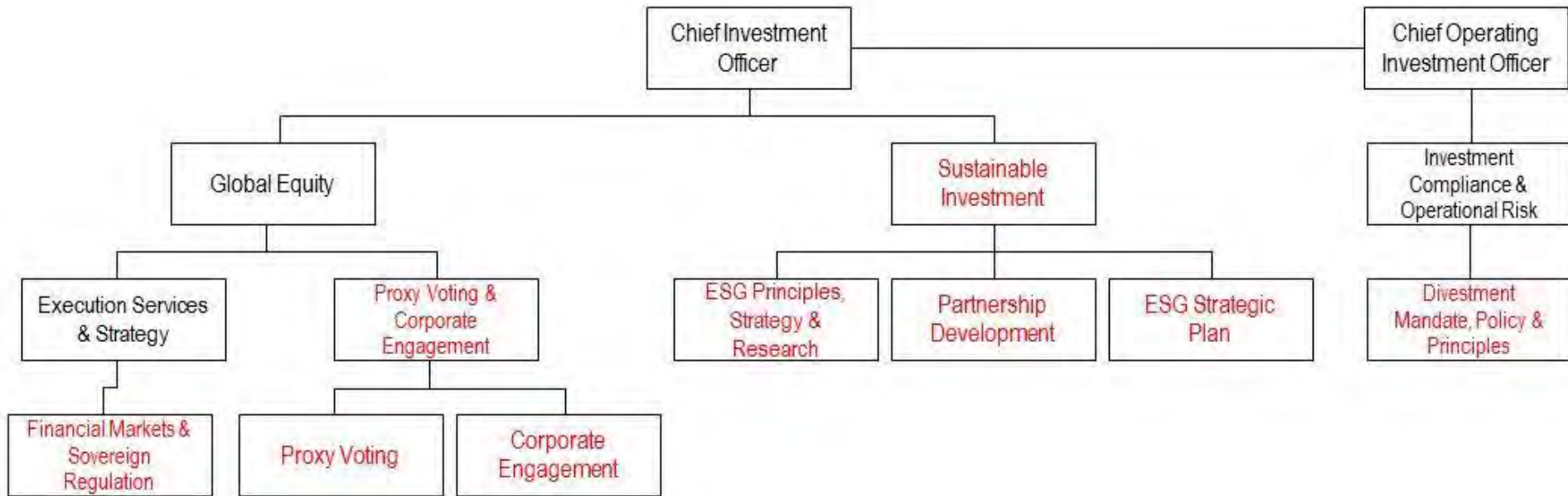
Strategic

1. Data and Corporate Reporting Standards
2. Engage UN PRI Montreal Pledge Companies
3. Diversity and Inclusion
4. Manager Expectations
5. Research
6. Private Equity Fee and Profit Sharing Transparency

Core

1. Carbon Footprinting
2. Responsible Contractor Policy
3. Supply Chain Activities
4. Proxy Voting
5. Shareowner Campaigns
6. Focus List
7. Divestment: Mandates, Policy and Principles, including Thermal coal companies SB 185
8. Corporate Engagements
9. Partnerships
10. Legislative Guidelines
11. Sustainability Report

New Organizational Alignment – ESG



Investment Strategy Group (ISG) Subcommittees

Trust-Level Risk and Attribution Co-Chairs: Kevin Winter, Michael Krimm

Ensures that investment risks are intended, understood, and compensated



Investment Strategy Group



Portfolio Allocation Chair: Eric Baggesen

Provides organized approach to making asset class rebalance and tactical position decisions



Governance and Sustainability Co-Chairs: Dan Bienvenue, Anne Simpson

Ensures that ESG risk considerations are integrated into the investment-decision making process



Trust-Level Investment Review Chair: Paul Mouchakkaa

Provides a trust-level decision process and framework for the review of non-core programs, business models, assets and investments



Governance & Sustainability Subcommittee | Purpose

Goal and Functions

Advises and informs the Investment Strategy Group (ISG) on the integration of the CalPERS Investment Beliefs, in particular environmental, social, and governance (ESG) risk and opportunity considerations into the Total Fund.

- Grounded in economics and fiduciary duty
- Governance around Core and Strategic work
- Research on emerging topics and trends
- Broad INVO ownership of agenda and activities in ESG

Governance & Sustainability Subcommittee | Membership

Co-Chairs:

- Dan Bienvenue, Managing Investment Director, Global Equity
- Anne Simpson, Investment Director, Sustainable Investment

Global Equity

- Simiso Nzima, Investment Manager
- Stuart Hall, Investment Officer III

Real Assets

- Rina Lessing, Investment Manager
- Beth Richtman, Investment Manager

Global Fixed Income

- Lou Zahorak, Investment Director
- Paul Kramer, Investment Manager

Private Equity

- Christine Gogan, Investment Director
- Liliya Kamalova, Investment Officer III

Asset Allocation/ Risk

- Alison Li, Investment Manager
- Dianne Sandoval, Investment Manager

Investment Compliance & Operational Risk

- Kit Crocker, Investment Director
- Anna Morrison, Investment Officer I

Sustainable Investment

- Divya Mankikar, Investment Officer III
- Tiffany Pokk, Investment Officer II

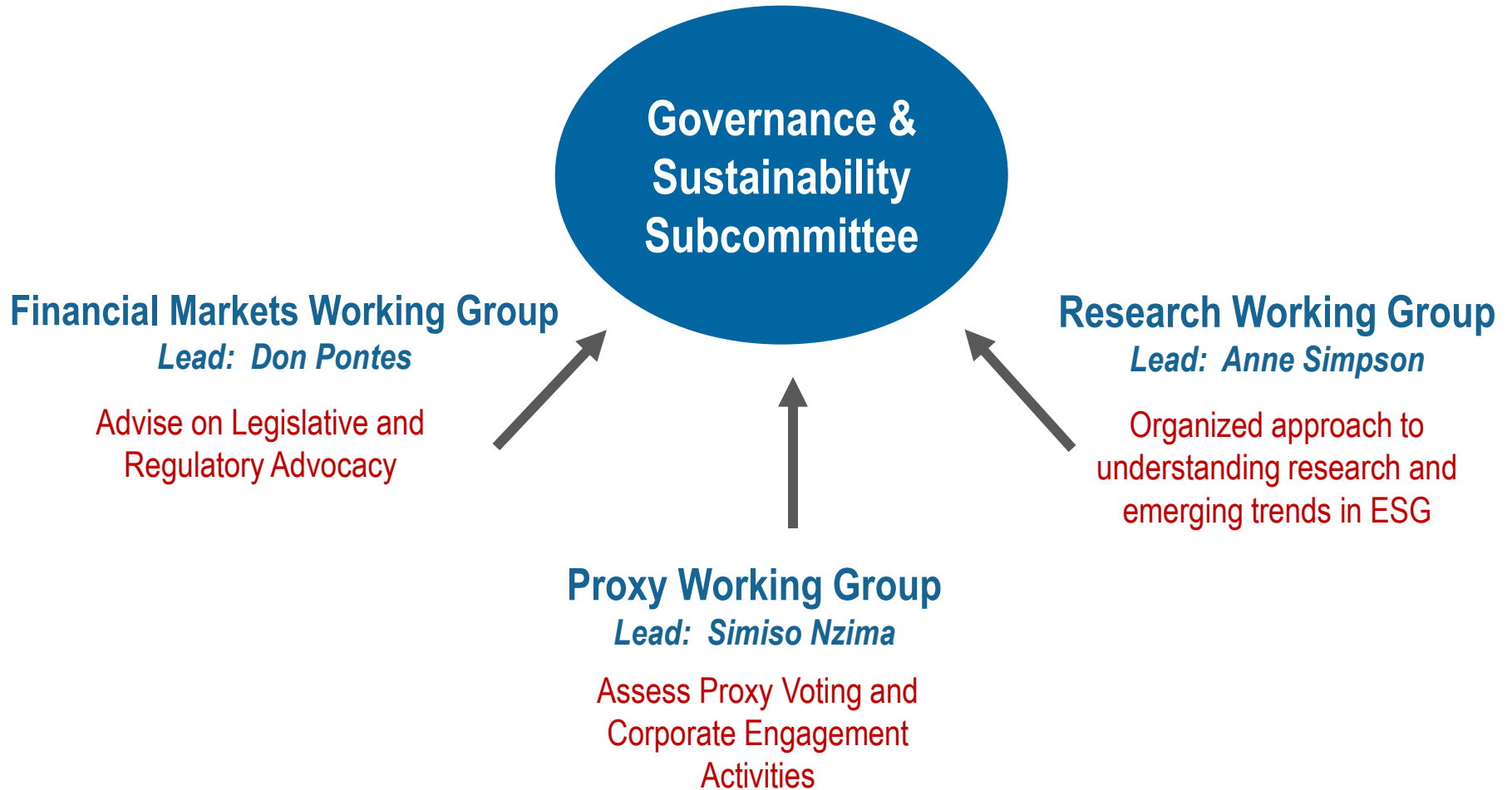
Execution Services and Strategy (ESS)

- Don Pontes, Investment Director
- James Andrus, Investment Manager

Enterprise Representatives

- Gretchen Zeagler, Assistant Chief, Legislative Affairs Division
- Megan White, Information Officer II, Public Affairs
- Salony Mehrok, Senior Attorney, Legal Office

Governance & Sustainability | Working Groups



ESG Asset Class Integration

Global Fixed Income


Lou Zahorak, Investment Director

The Six UN PRI Principles

- 1 We will incorporate ESG issues into investment analysis and decision-making processes.*
- 2 We will be active owners and incorporate ESG issues into our ownership policies and practices.*
- 3 We will seek appropriate disclosure on ESG issues by the entities in which we invest.*
- 4 We will promote acceptance and implementation of the principles within the investment industry.*
- 5 We will work together to enhance our effectiveness in implementing the Principles.*
- 6 We will each report on our activities and progress towards implementing the Principles.*



Global Fixed Income ESG Integration

 Principle 1: *We will incorporate ESG issues into investment analysis and decision-making processes.*

Global Fixed Income Actions:

Policy required: Exclude tobacco bonds from portfolios

- Use ESG-related tools, metrics, and analyses
 - Use MSCI ESG scores to assess ESG related risks in our Internal Credit portfolios
 - Use MSCI carbon data to complete Carbon Footprint comparison of Internal Credit Portfolio relative to our benchmark
 - Use Covenant Review to provide insight into understanding Bondholder rights stated in Bond Indentures
- Assess the capabilities of internal and external investment managers to incorporate ESG issues
 - Quarterly review of our Internal Credit portfolio positions to ESG scores
 - Utilize various social measures for Internal Sovereign portfolios – Corruptions, Transparency, Inequality Indices
 - Completed survey of External Manager integration of ESG into their research and portfolio process
- Ask investment service providers to integrate ESG factors into evolving research and analysis
 - Barclays Research: Governance scores have strongest link to performance

Global Fixed Income ESG Integration

■ Principle 1: *We will incorporate ESG issues into investment analysis and decision-making processes.*

Global Fixed Income Actions (continued):

Specific portfolio decisions and engagements

- Sold Viacom and CBS bonds without change of control language where Governance event risk was identified
- Engaged General Electric with other bondholders due to concerns about fair treatment and valuation on preferred securities exchange
- Reduced exposure to South Africa, Malaysia, and Turkey due to financial risks associated with high corruption and low Transparency Scores
- Engaged with BHP on their governance of and financial risks associated with Samarco – Brazilian mining accident that resulted in environmental damage and civilian deaths

■ Principle 3: *We will seek appropriate disclosure on ESG issues.*

Global Fixed Income Actions:

- Contributed to SASB assessment of various industry disclosure practices

Global Fixed Income ESG Integration | Looking Forward

Survey Summary

Surveyed

- 4 High Yield Credit Managers
- 5 International Fixed Income Managers
 - 8 of 9 are UNPRI Signatories
 - All 9 are considering ESG factors in their investment process



Conclusions Drawn

- As signatories the Managers are moving toward UNPRI integration requirements
- Some have more formalized organizational structure and roles to implement the integration process

Next Steps


- Complete Carbon Footprint of Internal Corporate Fixed Income portfolios
- By year end 2017, update Global Fixed Income manager investment guidelines to include requirements to incorporate ESG factors into investment process

ESG Asset Class Integration

Private Equity

Christine Gogan, Investment Director


Private Equity ESG Integration

 Principle 1: *We will incorporate ESG issues into investment analysis and decision-making processes.*

Private Equity Actions:

- During the investment monitoring phase, PE staff engages with the GPs to understand how ESG policies are implemented, how ESG is monitored across investments, and how ESG decisions are communicated to the LPs.
- During the due diligence process, PE staff asks questions concerning the GP's ESG practices including whether a formal ESG policy exists as well as how ESG matters are factored into investment decision making by the GP. These matters are discussed as part of the investment decision making process.

Private Equity ESG Integration

 Principle 4: *We will promote acceptance and implementation of the Principles within the investment industry.*

Private Equity Actions:

- **Underwriting:** Understand how GPs incorporate ESG into their investment selection by including several of the UNPRI Principles in the CalPERS due diligence questionnaire.
- **Monitoring:** Staff proactively inquires of the top 10 managers by assets under management about ESG practices and issues at the Limited Partner Advisory Committee (LPAC) meeting. Further, staff is documenting all ESG-related issues in periodic meeting notes and discussing practices across the Private Equity Portfolio.
- **Industry Engagement:** CalPERS PE staff has been engaged with UNPRI to provide feedback in creating and modifying the Principles based on feedback gained from monitoring PE Managers. Staff also participates in the broader industry dialogue with other limited partners and emphasizes the importance of collaborating together to support industry standards that strive to assist LPs in monitoring ESG issues uniformly across private equity funds.

GP Level of Engagement on ESG

- A vast majority of commitments made in the last 16 months include an ESG section in the Side Letter or Limited Partnership Agreement.
- Larger PE firms are leading the way with designated sustainability staff and annual sustainability reports. Several smaller PE firms are working towards creating an ESG policy.
- Based on recent experiences, CalPERS is typically the LP that actively brings up the ESG topic at annual meetings and LPAC meetings.

*Data based on PE commitments made from 06/30/2015 through 10/31/2016

Private Equity ESG Integration Highlights

Axalta: Global manufacturer, marketer, and distributor of a range of coatings for vehicle manufacturers and other industries including construction.

- Axalta re-designed auto and architectural coatings to reduce VOCs (volatile organic compounds) to negligible amounts. For buildings, certain coatings also absorb less solar heat, helping Axalta's customers meet LEED (Leadership in Energy and Environmental Design) criteria.
- Axalta re-designed its coatings to work with high-strength composites and plastics needed to meet tighter auto fuel economy standards.
- For their auto plants, Axalta changed the paint application process to reduce or eliminate the need for energy-intensive drying ovens.



*“Our coatings are designed to serve the **sustainability** goals of our customers, helping their products last longer, enabling their operations to run more **efficiently**, and providing ways to **save energy, reduce waste, and be more productive.**”*

Private Equity ESG Integration Highlights

Vogue International: US manufacturer and distributor of hair care and other personal products.

- Vogue established a process to integrate environmental criteria into ingredient selection and new product development, including a commitment to phase out ingredients of concern.
- Vogue introduced new product labels manufactured with less fossil fuels, water and energy, greenhouse gas emissions and waste, with a savings of 26-34% in each category.
- New sustainability actions put Vogue products at or near the top quartile on Walmart's 2015 Sustainability Index, increasing shelf space and sales.

*“We are committed to reducing our **environmental impact** and **increasing transparency** while maintaining our commitment to product safety and **sustainable practices** as an integral and fundamental part of our business strategy and operating methods.”*

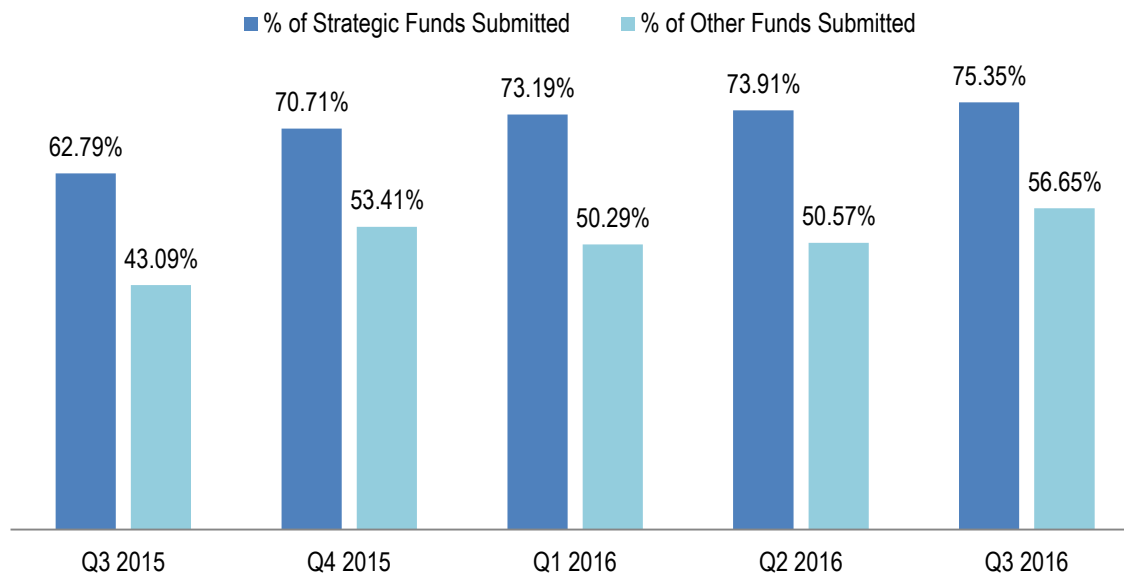


Vogue
International

Private Equity Fee & Profit Sharing Transparency | Progress

Slow but steady adoption of the ILPA Fee and Profit Sharing Template

Quarterly ILPA Fees Templates



- Five consecutive quarters of collecting the ILPA Fee Reporting Template
- Strategic funds are generally more responsive than legacy
- ILPA Fee Reporting template is not consistently requested by other LPs (according to GPs)

Private Equity ESG Integration | Looking Forward



Survey Summary

- 17 of 92 Managers are UNPRI signatories
- 38 of 92 have a formal ESG Policy
- We have seen progress over the last 5 quarters in the Quarterly ILPA Fee Template Provision, increasing from 63% to 75% for our Strategic Funds and from 43% to 57% for the Legacy Funds

Conclusions Drawn

- Private Equity Managers are consistently adopting ESG policies, although UNPRI seems to have the most traction with European Private Equity Managers, US Private Equity Managers are more likely to align with the American Investment Council ESG principles.
- Certain Private Equity Managers are working to implement software changes to allow them to report information in the format of the ILPA quarterly fee reporting template; however, there does not appear to be a broad-based LP demand to consistently request the ILPA fee template.

Next Steps

- CalPERS staff will continue to proactively engage GPs to understand ESG issues across the Private Equity Portfolio
- Broader adoption of the ILPA Fee and Profit Sharing template remains a priority for CalPERS
- CalPERS staff is engaging both LPs and GPs to understand why others are not adopting the ILPA Fee Template and encouraging feedback to be provided to ILPA in order to make the template as relevant as possible

ESG Asset Class Integration

Real Assets

Rina Lessing, Investment Manager

Real Assets ESG Integration

 Principle 1: *We will incorporate ESG issues into investment analysis and decision-making processes.*

Real Assets Actions:

- Address ESG issues in investment policy statements
 - Incorporated Sustainable Investment Practice Guidelines into RAU procedures manual
 - Ongoing requirement in separate account agreements to comply with the Responsible Contractor Program Policy
- Support development of ESG-related tools, metrics, and analyses
 - Developed proprietary ESG Consideration Matrix, to be utilized across Real Assets, currently implemented by infrastructure (under development for Real Estate investments)
 - Co-founder of GRESB* Infrastructure (sustainability survey, data collection, and benchmarking)
 - Launched Energy Optimization Initiative to research opportunities for economically and environmentally optimizing Real Estate Energy use
- Assess the capabilities of external investment managers to incorporate ESG issues
 - RCP annual reporting
 - ULI Greenprint and GRESB benchmarking (see next page for aspects)

*Global Real Estate Sustainability Benchmark

Real Assets ESG Integration

■ Principle 3: *We will seek appropriate disclosure on ESG issues by the entities in which we invest.*

Real Assets Actions:

- Ask for standardized reporting on ESG issues (using tools such as the Global Reporting Initiative)
 - GRESB survey covers the following standardized ESG aspects: Management, Policy & Disclosure, Risks & Opportunities, Monitoring & EMS (Energy Management Systems), Performance Indicators, Building Certifications, and Stakeholder Engagement.
 - CalPERS Core Real Estate managers are members of ULI Greenprint and report energy consumption for underlying assets
- Ask for Information from companies regarding adoption of/adherence to relevant norms, standards, codes of conduct, or international initiatives (such as the UN Global Compact)
 - Manager's adherence to relevant industry standards will be identified and benchmarked as a part of GRESB's annual survey
 - Managers required to submit annual Responsible Contractor Program certification

Real Assets ESG Integration Highlights

City National Plaza (“CNP”), two 51 story office buildings in downtown Los Angeles, acquired in September 2013

- Since acquiring the asset in 2013, specific ESG strategies employed included an update to the lighting system, use of occupancy sensors, better on/off controls for tenant equipment, a retrofit of the cooling towers, and installing efficient water fixtures.
- **Energy:** 38% reduction in annual energy use
- **Water:** 40% reduction in annual water use
- **Annual savings:** \$4.3 million



Real Assets ESG Integration Highlights

Desert Sunlight, investment in a solar power generation project in Riverside County, California

- Acquired an ownership stake in July 2016 in Desert Sunlight Solar Farm (DSL), a 550 megawatt (MW) solar photovoltaic (PV) power generation project located 180 miles east of Los Angeles in Riverside County, California.
- DSL provides enough power to serve the needs of about 160,000 homes in California, and displaces about 300,000 tons of CO₂ annually, which is equivalent to removing 60,000 cars from the road each year.



Real Assets ESG Integration | Looking Forward

Survey Summary

- Solicited feedback from core Real Estate managers regarding tools and metrics, including exploration of GRESB as potential data collection and benchmarking tool
- Hosted an Energy Optimization Roundtable, inviting external managers and industry experts to discuss strategies, approaches and experiences with energy efficiency and management

Conclusions Drawn

- GRESB viewed as a potential comprehensive tool for ESG data collection and benchmarking
- Varying approaches to ESG across property types

Next Steps

- Plan to roll out GRESB across Real Estate and Infrastructure in 2017
- Finalize development of ESG Consideration Matrix for Real Estate
- Evaluate GRESB as potential tool for Carbon Footprinting across Real Assets
- Energy Optimization (EO) Initiative – continue conducting research



ESG Asset Class Integration


Global Equity

Simiso Nzima, Investment Manager

Global Equity ESG Integration Channels

- Active Ownership or Governance Approach
 - Active engagement of portfolio companies on ESG risks and opportunities
 - Implemented via proxy voting (coverage breadth), corporate engagement (coverage depth), and shareowner campaigns
 - Leverages external and internal partnerships, including asset owners, asset managers and other global institutions
 - This approach is outside of the portfolio construction process and hence is applied regardless of the investment strategy employed (fundamental, quantitative or indexed) or whether investments are managed internally or externally
- Responsible Investments Approach (Screening & Exclusions)
 - Use of issue-based or thematic screens during the portfolio construction process to exclude certain stocks
 - Board and legislative mandated exclusions and/or restrictions
 - Current exclusions and/or restrictions: Global Principles, Tobacco, Sudan, Iran, Thermal Coal, and Gun Manufacturers
- Sustainable Investments Approach (ESG-themes)
 - Investments dedicated to the broad ESG theme or focused on any combination of E,S, or G
 - Current investment in HSBC Climate Change Index, which is managed internally
 - ESG investment strategy research project
- Manager Expectations
 - Established and applies manager expectations to both internal and external managers
 - Applies the Global Equity Sustainable Investment Practice Guidelines to both internal and external managers


Global Equity ESG Integration Highlights

 Principle 2: *We will be active owners and incorporate ESG issues into our ownership policies and practices.*

Global Equity Actions:

- Uses the Global Governance Principles to guide proxy voting, corporate engagement, and shareowner campaigns
- Internally votes proxies at over 11,000 company meetings annually for portfolios managed internally and externally
- Carries out strategic shareowner campaigns including filing or co-filing shareowner resolutions and soliciting proxies on ESG issues
- Executes corporate engagements either alone or in collaboration with other institutions through:
 - Face-to-face meetings
 - Conference calls
 - Letter writing
 - Attendance of Annual General Meetings (AGMs)
- Measured the carbon footprint of the Global Equity portfolio and identified, for engagement, the 100 companies which contribute 50% of the entire portfolio's carbon emissions
- Presented the 2017 Global Equity Corporate Governance work plan to the Investment Committee on February 13, 2017
 - Proxy voting: Investor Rights, Board Quality, Compensation, Corporate Reporting, and Environmental and Social Issues
 - Shareowner Campaigns: Proxy Access, Majority Voting for Director Elections, and Climate Risk Reporting
 - Corporate Engagements: Montreal Pledge Climate Change, Diversity & Inclusion, and Enhanced Focus List

Global Equity ESG Integration Highlights

 Principle 4: *We will promote acceptance and implementation of the Principles within the investment industry.*

Global Equity Actions:

- **Selection:** Integrated ESG scoring into the investment manager selection process - requires managers to explain how they incorporate ESG into their investment process. Staff then derives an ESG score which contributes to the final ranking in determining strategy selection
- **Contracting:** Requires investment managers to commit to having an investment process which incorporates an assessment of relevant ESG factors and to report such activities as part of the investment updates
- **Monitoring and Management:** Monitors and measures ESG characteristics at aggregate and individual portfolios
- **Ongoing:** Continuous ESG research, development of integration best practices, and evolution of the Global Governance Principles
 - Engagement with data providers to improve the effectiveness of tools used to analyze ESG issues
 - Annual survey of external managers regarding the integration of ESG factors into their research and investment decision-making process
 - Active engagement efforts with companies, regulators, and standards-setting bodies on material ESG factors

Global Equity ESG Integration: External Managers Examples

Samsung Electronics: Manufacturer of consumer and industrial electronic equipment and products

- Chaebol structure and inter-ownership raised concerns regarding quality and sustainability of governance provisions
- Additional concerns about excess cash on its balance sheet, occupational health and safety, labor relations and product safety issues associated with the Galaxy Note 7 batteries
- Over the last year, Manager 1 privately engaged with the company three times – once via conference call close to Samsung’s AGM and twice at the manager’s offices
- Samsung has now committed to:
 - Review its chaebol structure and possibly streamline and simplify its ownership structure to create better alignment between chaebol family and minority shareowners
 - Improve the diversity of its board composition, with the possibility of appointing a non-Korean director
 - Explore the potential creation of a new governance committee comprising independent directors

United Therapeutics Corp: Biotechnology company

- The company scored well on internal factor and fundamental analysis, and was a strong candidate for the portfolio
- Manager 2’s ESG team noted that the company had low ESG ranking, particularly across social metrics
 - Ranked poorly in human capital development, health and safety, and labor management
- Manager 2 dropped the company from its conviction list and hence disqualified it from a potential purchase

Global Equity ESG Integration | Looking Forward

Survey Summary

- 22 external partners (internally and externally managed strategies)
- 70% have ESG Policy (up from 20% in previous year)
- 60% are UNPRI signatories
- 100% incorporate ESG considerations in investment analysis and decision-making processes

Conclusions Drawn

Synthesis of Best Practices derived from survey responses

- Centralized office with ESG focus
- Internal ESG Policy – documented process for ESG integration
- Frequent discussions on ESG themes with investment personnel
- Accountability of analysts and portfolio managers
- Integration tied to incentive compensation structure
- Active ESG engagement program with regulators, standards-setting bodies, and companies
- Continuous measurement and evaluation of policy & integration approach

Next Steps

- Global Equity ESG Research Project
- Continue ESG integration discussions with partners (reinforce importance)
- Continue measurement of ESG risks & opportunities using analytical tools
- Improve internal knowledge

