Responsible Investment's next decade: **Developing CalPERS Total Fund process for ESG integration**

Discussion document prepared for CalPERS ESG Board Workshop, August 15, 2011

Consulting. Outsourcing. Investments.

Foreword

"CalPERS believes that environmental, social, and governance issues can affect the performance of investment portfolios to varying degrees across companies, sectors, regions, and asset classes over time." [1]

This report provides background for discussion with the asset classes on future environmental, social and governance (ESG) integration activities at CalPERS. Mercer summarized the previous peer comparison work and input from CalPERS in this document in order to facilitate decision-making on an ESG integration work plan for the coming years. CalPERS is now releasing this report as we move into the next phase of fully integrating ESG factors into investment decisions across asset classes.

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[1] CalPERS Global Principles of Accountable Corporate Governance

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Introduction

Institutional investment has entered a new era. Environmental, social and governance (or "ESG") factors such as climate change, resource scarcity, labour relations, human rights and executive compensation are playing an increasingly important role in investment policy development, capital allocation and investment monitoring.

A good marker of this change is the groundswell of support for the global Principles for Responsible Investment (PRI). Since their 2006 launch, the number of investors committing to the Principles (and articulating their commitment to integrate ESG issues into investment decision-making and active ownership processes) has grown from 32 signatories representing $2 trillion in assets, to 915 investors representing $25 trillion. Service providers, asset managers, consultants, academics, and some regulatory agencies have fostered this growth as well, creating a new body of tools, research, and standards for how to integrate ESG considerations, reduce investment risk, seek related opportunities, and improve the overall governance and transparency of investments.

CalPERS has long been a respected leader in the world of ESG. In fact, CalPERS leadership on these issues predates the ESG moniker. Note, for example, the Appendix to this document, which references 111 policies, commitments, memberships and letters of support and endorsement that CalPERS has developed or publicly supported, which relate in some way to ESG.

Twelve months ago, CalPERS engaged Mercer to help it evaluate its approach to investment, environmental, social and governance (IESG) integration and develop a five year, total fund approach. This document provides a summary of the key components of the project, our findings, and some insight into the future development of CalPERS Total Fund IESG integration strategy

Description of the project

The task of supporting CalPERS Total Fund IESG integration strategy was organized over two primary phases.

Phase I

Phase I was conducted from approximately August 1, 2010 through December 31, 2010. The goal was to survey the ESG integration landscape and provide a baseline for CalPERS to consider the development of its Total Fund IESG integration strategy. The Phase accomplished three main tasks:

Key component
CalPERS Global ESG Exchange: A global peer exchange was established including an in-person meeting in early October in which senior investment staff from CalPERS, and all peers participated.
Benchmarking Report: A global peer benchmarking report, *Responsible Investment's Second Decade*, was completed which highlights practices, the investment case for IESG integration across asset classes, and emerging issues and approaches.[2] Mercer presented this report at the CalPERS Global ESG Exchange event.
CalPERS IESG Policy Inventory: The inventory was developed which lists and annotates for the first time, by asset class and issue, more than 100 CalPERS policies, commitments, memberships, and letters of support and endorsement related to IESG integration (See Appendix A).

Phase II

The core of Phase II involved the production of IESG integration modules for each of CalPERS major asset classes, plus the asset allocation function. The structure of the modules revolves around CalPERS current activities, what others are doing, and what CalPERS can do given its existing investment objectives and priority themes for IESG integration. Using a broad selection of peers for comparison, including pension funds, sovereign funds asset managers and other financial services firms in the respective asset classes or function, the modules present an extensive list of practices and approaches for Senior Investment Officers and the CalPERS Board to consider.

Phase II began in January 1, 2011 and has the following key components:

Key component
Mercer and CalPERS determined priority IESG themes to help frame the peer activity and opportunities for CalPERS in each asset class. The primary themes are Climate Change (E), Human Rights (S) and Governance/Alignment of Interest (G). Water (E) is considered a new, environmental sub theme.
Mercer completed IESG integration modules, summarizing peer activity and outlining opportunities for further CalPERS IESG integration activities for Global Equity, Fixed Income, AIM, Real Assets and Asset Allocation.
Meetings were held with each asset class (and asset allocation), CalPERS Corporate Governance Team and Mercer to review opportunities.
CalPERS is hosting a Board IESG Workshop where the results of Phase I and II will be presented and next steps discussed and agreed, leading to a total fund plan.

[2] Responsible Investment's Second Decade: Summary Report of the State of ESG Integration, Policy and Reporting, Mercer Investment Consulting. October, 2010.

Reviewing the evidence

Throughout the life of this project, the goal has been to establish an IESG integration path for CalPERS that can contribute positively to CalPERS investment objectives and fulfillment of fiduciary obligations. To do this, an underlying priority of the project has been to explore and present the evidence that supports or contrasts the belief that addressing ESG factors can improve investment outcomes. There is a wide range of academic, industry and anecdotal evidence pointing to a neutral-positive correlation between IESG integration and financial performance.

Appendix A includes two summary tables of important recent studies in this area. The first table lists the thirty-six studies which were included in two Mercer meta-reports: *Demystifying Responsible Investment Performance* (2007), and *Shedding Light on Responsible Investment Performance* (2009). The second table includes additional studies which were referenced in the asset class modules developed for CalPERS during Phase II of this project or were identified more recently and deemed relevant.

Overall, Mercer has concluded that the evidence to date is compelling enough to encourage investors to seek the path to IESG integration most relevant and practical considering their broader objectives. In addition, the research, anecdotal evidence and industry viewpoints together make a strong case that the investment industry will see a steady increase in incorporation of ESG issues into investment analysis over time, and that ESG issues are likely to become more rather than less material in the future. More specific conclusions over our review of the evidence are as follows:

- Evidence suggests that there is no performance penalty from taking ESG factors into account in the investment management process
- The usefulness of ESG information will vary by indicator, region, sector, and time period
- As a financial discipline, responsible investment can be successfully implemented in virtually any investment style
- Genuine environmental, social, and corporate governance (ESG) analysis (i.e. integration) needs to be distinguished from simple automatic exclusions.

In general, the academic literature confirms our belief that the consideration of ESG factors can lead to outperformance, especially over the longer-term. ESG integration itself is hardly sufficient, however, and manager skill, investment style, and time period are equally or more important (as with other investment approaches).

Finally, as institutional investment consultants, we are aware that fiduciary duty and risk-adjusted performance are inextricably linked. Two key additional reports are worth noting in this regard.

In 2005, the United Nations Environment Programme Finance Initiative supported the publication of a key report which argues that integrating ESG considerations into investment decisions is no longer just a luxury, but a legal responsibility. *A legal framework for the integration of environmental, social and governance issues into institutional investment*[3], provides a legal interpretation of ESG issues in the context of fiduciary law in nine major capital market jurisdictions, and was produced by the international law firm, Freshfields Bruckhaus Deringer. Case law research by the firm on developed nation jurisdictions led to the conclusion that consideration of ESG by fiduciaries is not only permitted by the statutes in these nations but "arguably" required in all jurisdictions.

Further, the CFA Institute published a report in 2008, *Environmental, Social and Governance Factors at Listed Companies: A Manual for Investors*[4], that listed a number of reasons to incorporate ESG into investment analysis, such as: ESG can be a proxy for good corporate management; ESG can impact brand value and reputational risk; and assessing ESG can enhance security selection and risk management.

No single report or study is adequate to take a fiduciary stand for or against ESG integration. However, the growing body of evidence and supporting documentation is turning the tables on some of the perceptions and misconceptions in the industry, namely, that responsible investment restricts the investable universe and therefore must hurt returns. More practitioners today are seeking to integrate ESG to add rigor and depth to their investment process and risk management, rather than restricting the universe unnecessarily.

Developing priority themes

In setting out to develop a five year total fund IESG integration strategy, Mercer worked with CalPERS to identify three broad issues that represent priority themes for integration across asset classes: climate change (E), human rights (S), and governance/alignment of interests (G). One new environmental sub-theme – water – was also established, given its growing importance to companies and investors. The following section describes the themes in more detail, and illustrates the rationale behind their selection.

Theme 1: Climate change

Recognizing that effective management of climate-related challenges and opportunities will be an important aspect of sustainable industry leadership over the long term[5], the climate change theme focuses on environmental issues relating to the trend towards a low-carbon economy, reduced levels of greenhouse gas emissions and improved energy efficiency. Focusing on these issues addresses major topics relevant to investors, existing CalPERS commitments and policies, and investment opportunities and risk.

[3] http://www.unepfi.org/publications/catalogue/index.html

[4] http://www.cfapubs.org/doi/pdf/10.2469/ccb.v2008.n2.1

[5] See CEOs on sustainable growth: Five areas of focus through 2014, PwC CEO Survey. April 2011. A New Era of Sustainability, Accenture. June 2010.

Climate change is driving opportunity and risk through its redistributive effects – altering the balance between sectors and regions – and negative effects due to uncertainty and loss of value through extreme events and resource constraints.[6] Surveying 580 business and political leaders on the perceived likelihood, impact and interconnectedness of global risks, respondents to the World Economic Forum's 2011 survey rated climate change as the greatest global risk in terms of likelihood and impact.[7] In the recent report in which CalPERS participated – "Climate Change Scenarios: Implications for Asset Allocation" – Mercer found that the cost of climate change impacts on the physical environmental, health and food security could exceed $4 trillion by 2030 and that climate change-related policy changes could increase the cost of carbon emissions by as much as $8 trillion by 2030.[8]

Already, a relationship between companies' management of carbon emissions and equity valuations is evident in more carbon-intensive sectors.[9] Academic research on the fixed income asset class has also found that there is a positive relationship between the environmental performance measures and both the cost of debt and credit ratings of borrowing firms.[10] Furthermore, industry research has shown that cleantech private equity investments have the potential to produce higher internal rates of return over time than their generalist private equity counterparts,[11] while in real estate, research demonstrates that there is a positive link between energy efficiency and investment performance.[12]

Water is an important sub-theme within the environmental / client change category. By 2025, about two-thirds of the world's population – about 5.5 billion people – are expected to live in areas facing moderate to severe water stress.[13] Climate change will further

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[6] A warming investment climate, Goldman Sachs Research, October 2008 in The materiality of climate change: How finance copes with the ticking clock. UNEP FI. October 2009

[7] Global Risks 2011. World Economic Forum. January 2011.

[8] Climate Change Scenarios: Implications for Strategic Asset Allocation, Mercer. February, 2011.

[9] See, for example: The materiality of climate change: How finance copes with the ticking clock. UNEP FI. October 2009.

[10] See, for example: Rob Bauer and Daniel Hann. Corporate Environmental Management and Credit Risk. Maastricht University. European Centre for Corporate Engagement (ECCE). June, 2010.

Also see: Olaf Weber and R.W. Scholz. Incorporating sustainability criteria into credit risk management. Business Strategy and the Environment, 19 (1): 39-50. 2010.

[11] See, for example: Investing in Climate Change 2010: A Strategic Asset Allocation Perspective, http://www.dbcca.com/dbcca/EN/investment-research/investment_research_2253.jsp. DB Climate Change Advisors. January, 2010. Also, see: Preqin Special Report: Private Equity Cleantech. June, 2009.

[12] See, for example: Sustainability and the Dynamics of Green Building: New Evidence on the Financial Performance of Green Office Buildings in the USA, RICS Research. October, 2010.

[13] Water for life factsheet. United Nations Environment Programme. http://www.un.org/waterforlifedecade/factsheet.html

compound the issue. Water scarcity and global water stress is of increasing importance to investors given the interconnectedness of water security with food security and energy price volatility.[14] A rapidly rising global population and growing prosperity are putting unsustainable pressures on resources. Demand for water, food and energy is expected to rise in the next two decades by 30-50%, while a desire for economic growth incentivizes short-term responses in production and consumption that undermine long-term sustainability[15]. Shortages could cause social and political instability, geopolitical conflict and permanent environmental damage. Water related risks and opportunities may often be geographically localized but span asset classes, as well as developed and emerging markets. While water is a fundamental part of the economy, there is still a limited understanding of the investment risks and opportunities associated with it at the micro and macro level.

Theme 2: Human rights

For CalPERS, the human rights theme primarily deals with social issues related to health and safety standards, fair labor practices such as the right to organize, and other elements that encourage a productive and sustainable business model. It also includes issues that may be relevant in emerging markets such as child labor. Several laws, international agreements and standards such as the International Labor Organization (ILO) Core Labor Standards and the UN Global Compact have been supported by CalPERS and will be relevant in issues across portfolios.

The treatment of employees and the conditions in which they work can provide an investor with insight into how an investment, be it a company, project or property, is managed. These issues also have the potential to materially impact a businesses' "license to operate," litigation risk, reputational risk, environmental management, workforce productivity and effective recruitment. Examining the relationship between employee relations and credit risk, one academic study found that those firms with a greater emphasis on employee relations enjoy lower debt financing, significantly higher credit ratings, and lower firm-specific risk, while those with poor treatment of their workforce are negatively effected by weaker access to human capital, higher turnover, and litigation.[16] Academic research has also shown that stringent labor laws can have positive effects on companies in the form of increased trust between employers and employees, increased incentives for longer-term labor contracts between employers and laborers (due to higher costs of training), and, therefore, increased incentives for innovation by employees.[17]

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[14] Global Risks 2011. World Economic Forum. January 2011.

[15] Global Risks 2011. World Economic Forum. January 2011, pg. 7.

[16] Corporate Environmental Management and Credit Risk. Daniel Hann, Jeroen Derwall and Rob Bauer. University of Maastricht. September 2010.

[17] Labor Laws and Innovation, http://econ.as.nyu.edu/docs/IO/10685/labor_laws_innovation_1Mar09_Viral.pdf . Viral V. Acharya, Ramin Baghai-Wadji and Krishnamurthy Subramanian, 2009.

Theme 3: Alignment of interest

Ensuring the alignment of interests and transparency is at the core of a fully accountable governance structure that provides, over the long-term, sustainable, risk-adjusted returns. The governance theme encapsulates internal fund governance as well as the governance structures of investment managers, vehicles and individual assets or securities in which CalPERS invests. Traditional governance measures (pay, shareholder rights) are included here as well as procurement and due diligence related to external service providers and intermediaries. Issues of diversity, transparency, fairness, and fiduciary duty will also play a role in facilitating shared interests and common goals throughout the CalPERS investment supply chain.

Industry research has shown that strong shareholder rights[18] are positively related to investment performance in the public equity and fixed income asset classes.[19] Engagement activities around improving corporations' governance performance (namely, CalPERS Focus List initiative) have also been shown to positively impact the stock prices of the targeted companies and, at a minimum, slow the erosion of shareholder value on a cumulative basis.[20]

Total fund exposure to the themes

Across the themes, CalPERS has significant ongoing ESG activities (as demonstrated by Appendix A) some of which represent financial commitments and investment mandates. Mercer calculates that according to the identified ESG themes, CalPERS total allocation to targeted investments (investments that are explicitly linked to a theme) is 6.25%. Most of this total is attributed to the governance theme, which includes CalPERS commitments to diversity.

Against its peers, this figure is relatively high. However, in sum, these allocations represent a relatively small part of total fund assets. If there are benefits to IESG integration (i.e., a belief that the consideration of these, and other, ESG themes in ongoing investment processes is additive), then strategic efforts to improve integration across all assets is warranted. The priority ESG themes identified help to frame this discussion.

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[18] See, for example: Corporate governance and Equity Prices, Gompers et al. 2003; Does weak governance cause weak stock returns? Core et al. 2006; and Corporate Governance, Idiosyncratic Risk, and Information Flow, Ferreira and Laux. 2007

[19] See, for example: Kimberly Gladman, CFA, Ph.D.,The Corporate Library's Governance Ratings and Equity Returns. The Corporate Library. 2009. Also, see: Drut, Bastien. Sovereign Bonds and Socially Responsible Investment. Credit Agricole Asset Management. CEB Working Paper N° 09/014. May, 2009.

[20] Wilshire Associates Intl. The CalPERS Effect on Targeted Company Share Price. July, 2010.

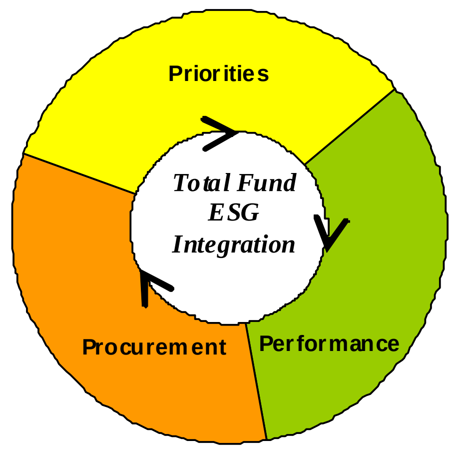
Peer activity and the "3 Ps"

During Phase I of the project, peer activities were categorized by asset class and activity type. At the Global Peer IESG Exchange in October 2010, discussion centered on where the industry was focused and why less progress had been made in some areas then others.

CalPERS framed the industry's challenges and opportunities for further collaboration into three broad categories – now known among the peers as the "3 Ps."

The 3 Ps are multi-dimensional and interconnected in their relationship to ESG.

The CalPERS "3 Ps" for Successful ESG Integration



Priorities: Investors struggle to focus on areas that are most relevant to investment objectives and most meaningful in terms of ESG impact. Among the plethora of ESG issues, initiatives, campaigns, standards and investment approaches and products, investors seek opportunities to collaborate, leverage resources and enhance impact. More prioritization needs to take place.

Performance: There are numerous academic and industry-produced research and anecdotal evidence to show that ESG issues can be material to investment risk and financial performance. Yet, there is still work to be done in this regard, particularly in fixed income and alternatives. At the same time, investors incorporating ESG seek information on the impact or ESG footprint of their investments. Work to measure this will continue, and different asset classes and investments require specific methods of measurement, collection and reporting. In many cases, there is not broad agreement on what 'ESG impact' means or what type of impact is most desirable.

Procurement: As ESG Integration has taken hold, large global investors such as CalPERS and its peers have taken an interest in enhancing procurement processes to incorporate ESG. These efforts have a dual effect of increasing ESG impact of available product, and improving availability of suitable products and services to ensure alignment of interests.

While the 3 Ps encompass common issues emerging from discussions with peers, investors have differing operating structures and investment objectives. Additional detail on peer approaches to integration across asset classes, themes, and investment organizations was necessary to determine a strategic direction regarding ESG integration. This research was conducted by Mercer in more depth during Phase II of the project.

Peer analysis

In assessing approaches to IESG integration among peers, Mercer identified activities that are very common, as well as activities that are only emerging as cutting edge developments. The following table presents a very broad picture of CalPERS current activities by IESG integration approach, and compares these to the spectrum of peer activities in order to highlight potential gaps and resulting opportunities for CalPERS.

Approach	CalPERS Activities	Additional Peer Activities: Gap analysis
Staff Training and Incentives	CalPERS created the IESG Implementation Team in 2010.	Several peers have taken steps toward the goal of a comprehensive, ongoing ESG training program, although this activity is rarely embedded – particularly across all staff.
Policy, Reporting and Transparency	CalPERS plans to release its first Total Fund ESG Report in 2012. CalPERS maintains asset class specific policies and a range of public endorsements/commitments to external initiatives (Appendix A).	Most of CalPERS peers have developed a total fund ESG policy and issue an annual Responsible Investment report. Many peers have developed an overriding policy and/or specific expectations documents that guide integration activities across asset classes.
Investment Manager Procurement	Some CalPERS policies describe ESG standards and preferences supported by CalPERS. Some asset classes have developed tools to integrate ESG factors into manager due diligence.	Peers are consistently expanding the integration of ESG factors into external manager due diligence and contracting across asset classes and styles.
Monitoring ESG Characteristics and Impact of Investments	CalPERS monitors energy use and other environmental factors in its Core Real Estate Portfolio.	Several peers have implemented methods of ensuring that investment managers and direct investments consider ESG issues in investment decision-making. The industry is also working hard to develop standards for measuring the ESG impact of various investments across asset classes.
Asset Allocation	CalPERS participated in Mercer's Strategic Asset Allocation and Climate Change Scenarios Project.	Some peers have taken first steps towards integrating ESG factors into their strategic asset allocation reviews by participating industry studies or conducting their own.
Security Analysis	CalPERS uses ESG factors in security analysis in select cases, including Tobacco screening.	Security analysis tools are now available in the market to review public equity and corporate credit. ESG indices have also been established for "tilting" and benchmarking purposes. Use of these tools is as yet limited although the outlook for "sustainable beta" is promising. There continues to be innovation and research on the impact and predictive merits of ESG ratings, and opportunities for leadership exist in this realm.
ESG-Targeted Investments	CalPERS makes ESG-targeted investments across asset classes (California Investments, for example).	Among the peers, ESG-targeted investments are the most common approach to ESG integration across asset classes. Most developments center on the environmental theme with an increasing interest in socially themed investments such as microfinance and community investing.
Engagement and Market Reform	CalPERS is a leader in the areas of direct engagement (via its Focus List) and public policy engagement across several issues and asset classes.	Increasingly, engagement activities are expanding to asset classes other than public equity and peers are publicly disclosing information regarding proxy voting and engagement campaigns. While CalPERS is a leader in domestic engagement, there are additional opportunities for CalPERS in international engagement efforts.

Additional details on CalPERS and the peers are provided below to identify potential opportunities for CalPERS to consider in enhancing IESG integration across the total fund. This comparison is presented by asset class singling out a specific IESG integration opportunity for CalPERS. The opportunities highlight an activity where CalPERS may enhance current commitments or where there is an opportunity for CalPERS to explore an issue that has challenged the industry.

Areas of opportunity

Total Fund ESG Policy

Potential Priority	Path to Implementation	Objectives
Establish total fund ESG policy	- Create overarching policy - Expand existing principles - Adopt ESG themes and related priorities	- Meet industry practice - Establish priorities - Improve transparency

Across the IESG integration modules produced for this project, it is evident that CalPERS is a leader in many areas such as targeted investments, company engagement and public policy engagement. To enhance IESG integration, however, CalPERS can implement ESG reporting at the total fund level, and develop a total fund ESG integration policy.

Many peers have summarized their public commitments and philosophy on ESG with a policy that applies across asset classes and serves as a jumping off point for detailed information on specific activities in particular asset classes or ESG themes. To date, CalPERS has not developed a centralized policy, instead incorporating relevant issues and external standards in asset class statements of investment policy or by endorsing campaigns and initiatives (as evidenced by Appendix A).

Establishing a single statement of policy, even if supported by additional policy documents, could establish CalPERS position on certain issues in advance of public inquiry. Further, the policy could be used to establish and maintain a focused work program, which can prove a challenge when so many parallel initiatives are in place. Such a policy could also improve transparency by setting expectations and priorities for more specific activities over a medium and longer time horizon.

Total Fund IESG Integration Report

Potential Priority	Path to Implementation	Objectives
Establish total fund ESG report	- Consolidate existing documents - Create cross asset-class framework - Improve process over time	- Meet industry practice - Improve transparency - Maintain industry profile

Most peers examined for this project issue a Total Fund ESG or Responsible Investment report. Some peers organize the information by asset class and others by theme. CalPERS is in the process of creating its first such report. This will be an iterative process as ESG integration and related data gathering and benchmarking continues to develop across asset classes. In creating its first report CalPERS can draw from information reported to the Principles for Responsible Investment's annual signatory assessment, the asset class modules developed for this project, and reporting frameworks utilized by leading peers. As CalPERS builds its framework for monitoring ESG risks across asset classes, its ability to report on total fund results will be enhanced over time.

Tackling the Global Equity Index Strategy

Potential Priority	Path to Implementation	Objectives
Adjust global equity index strategy	- Study performance impact of ESG ratings/data - Develop optimal ESG "tilt" - Adjust tilt and benchmark over time	- Meet industry practice - Improve risk adjusted returns - Report on progress

CalPERS supports many of the leading responsible investment and ESG industry initiatives through its Corporate Governance team. The Global Equity investment program has made leading efforts in targeted investments through its Environmental Model Portfolio and Corporate Governance Investment Program, totalling approximately $5.5 billion.

However, integrating ESG considerations across the largest Global Equity allocation - indexed assets - remains an area of opportunity.

Integration of ESG into indexed public equity strategies remains a rare approach within the industry, yet has great potential as these strategies represent a significant component of institutional assets. To date, a number of barriers have prevented further integration in this realm, such as concerns about tracking error, liquidity and expenses, as well as general uncertainty about why and how to integrate ESG. As new research and products address these concerns, we believe ESG ratings and indices will increasingly be utilized to "tilt" or benchmark portfolios.

Exploring the potential benefits and impact of various approaches to IESG integration in CalPERS global equity index strategies can establish CalPERS as a leader in this relatively new area, and lead to the development of a plan for tilting its indexed investments towards its ESG investment beliefs.

Alternative Investment Management (AIM)

Potential Priority	Path to Implementation	Objectives
Alignment of interests and procurement	- Develop process for due diligence and monitoring - Clarify expectations on ESG - Apply consistently to assist In benchmarking and reporting	- Meet industry practice - Establish priorities - Improve transparency

CalPERS has shown substantial leadership on the issues of targeted investments and investment manager due diligence in this asset class. AIM has allocated nearly one billion dollars to clean technology investments, and estimates that its investments have influenced several additional billions of dollars of investments into the sector.

Where we see great opportunity for CalPERS relates to the ongoing monitoring of external managers. While AIM has established protocols for including ESG criteria in due diligence, there has been less effort to apply ongoing monitoring and benchmarking of IESG integration. However, AIM is currently developing a Manager Assessment Tool that will rank investment managers on alignment of interest and key ESG issues as well as other areas. This tool can act as an input to both the manager selection and manager monitoring processes.

Moving towards more complete integration in this area can reduce risk by increasing the knowledge that AIM staff has of their managers and portfolios and ensuring that managers and portfolios are in line with CalPERS' established ESG policies and priorities.

Fixed Income

Potential Priority	Path to Implementation	Objectives
Explore ESG factors in credit analysis	- Study of relationship between ESG ratings and credit ratings - Develop more formal role for ESG factors in credit analysis	- Establish industry practice - Improve risk adjusted returns

CalPERS is a leader in efforts to improve the environment for fixed income investors. CalPERS has established priorities that are directly related to the long-term objectives of the asset class according to its role in the total fund. This activity provides long-term support for regulatory changes or changes to industry practice that can enhance CalPERS' risk-return profile.

Due to the more recent origins of explicitly embedding ESG factors in credit analysis, there is an opportunity for CalPERS to assert leadership, similar to that explained above for Global Equity. There has been some research done on the correlation of ESG ratings and criteria with credit ratings and cost of capital. There are still unanswered questions, however, such as for which sectors, countries and where in the market cycle and the maturity of a security ESG characteristics may be most predictive. This research has the potential to move the industry significantly forward in its thinking in regards to IESG integration this asset class.

Real Assets

Potential Priority	Path to Implementation	Objectives
Monitor impact of direct investments	- Develop/procure standards and framework for data collection - Set targets and benchmark performance across assets - Report results	- Establish industry practice - Improve ESG impact - Leverage collaboration with peers

The Real Estate asset class within CalPERS has a long history of activity on environmental issues such as energy efficiency and social issues such as responsible contracting. The Infrastructure and Forestland asset classes are relatively new categories at CalPERS (and relatively new among institutional investors in general). Peer activity is varied in these sub-asset classes. Historically real estate has garnered more attention as there can be a more direct link between energy efficiency and the value of the property in many investments. As infrastructure investments are often linked to environmental or social services such as energy, water, and hospitals, material ESG issues can be prevalent. Likewise, forestland has inherent environmental and social characteristics (particularly in emerging markets or remote areas).

A key issue for investors in these asset classes has been assessing and reporting the ESG impacts (positive and negative) of these investments. Sector experts, service providers and new organizations have developed metrics for certain types of investments and some within peers have begun to apply these to certain investments and report the information accordingly. This work is in its early stages.

Despite the challenges, for investors such as CalPERS with growing portfolios of direct infrastructure investments, determining that investments are aligned with CalPERS IESG integration program will be important. Additionally, with that information, CalPERS can improve its transparency by reporting that information publicly and benchmarking its performance over time, seeking to improve the overall risk profile of the portfolio as well as enhancing ESG impact.

Asset Allocation

Potential Priority	Path to Implementation	Objectives
Consider climate change in asset allocation	- Consider climate risk factors and sensitivity as part of asset allocation process - Update research on factors and scenarios as warranted	- Establish industry practice - Enhance asset allocation process - Report on progress

CalPERS recently participated in a study with Mercer, the IFC, Carbon Trust and 14 other global investors examining the potential financial impacts of climate change on investors' portfolios, identified through a series of four climate change scenarios playing out to 2030. The study used a framework that allows institutional investors to enhance their understanding of climate-related investment risks and opportunities across asset classes and regions. This "TIP Framework" estimates the rate of investment into low carbon technologies (T), the impacts (I) on the physical environment and the implied cost of carbon resulting from global policy (P) developments across the four climate scenarios. A select few peers have conducted their own study.

Findings from the climate change study are consistent with and reinforce a number of CalPERS priorities including:

- Engagement to encourage the introduction of a comprehensive global framework agreement on climate change
- Increased investment in ‘climate sensitive’ assets, such as infrastructure and forestland (which diversifies exposure to climate change risks and serves to decrease exposure to the equity risk premium)

With the experience and data from this project, CalPERS can continue to establish industry practice for integrating ESG into its strategic asset allocation process. To the extent that changes in scenarios and asset allocation might alter CalPERS’ exposure to risks or opportunities posed by climate change, these issues can now be factored into qualitative and quantitative phases of the asset allocation process.

Conclusion

The CalPERS Total Fund IESG Integration project has assisted CalPERS in reviewing its ongoing commitments and next steps to further IESG integration, maintain its leadership as a responsible investor, and seek optimal risk-adjusted returns for its beneficiaries. A wide range of opportunities were established for CalPERS to consider when formulating IESG integration priorities over the next 1, 3 and 5 years.

Those priorities are to be presented by Senior Investment Officers during the 15 August Board IESG Workshop. The priorities encompass a range of actions which will see CalPERS meet industry best practices where there is further opportunity, and continue to use its creativity, leadership and breadth to shape emerging best practices in this “new world” of integrated ESG investment practices.

Appendix A

Assessing the evidence

Before presenting a selection of the evidence, the following are a few observations about the state of research in this area:

- As befits a new area of interest, some of the pioneering research in the field has been produced by practitioners rather than academics. Recent years have witnessed a steady growth of academic interest in the field.
- There are far more studies focusing on corporate governance and screening than on other aspects of responsible investment as the former has been the primary focus of institutional investors and the latter, the most common RI strategy for retail investors.
- There are a number of weaknesses in the literature – which we expect will be addressed in the coming years – including analysis of the regulatory aspects of RI and a focus (rapidly shifting) on public equities and screening.

In general, the academic literature continues to confirm our belief that the consideration of ESG factors can lead to outperformance, especially over the longer-term. ESG integration itself is hardly sufficient, however, and manager skill, investment style, and time period are equally or more important. Another finding that is emerging is that the usefulness of ESG information varies by region, sector, and over time.

Table 1 displays an overview of the 36 studies from Mercer's *Shedding Light on Responsible Investment* and the AMWG UNEP FI/Mercer joint report *Demystifying Responsible Investment* combined. The final column, "Findings on ESG factors," indicates the nature of the relationship each study found between ESG factors and financial performance. A "Positive" relationship signifies that companies or portfolios with better ESG characteristics experience better financial performance. A "Neutral" relationship indicates that no statistically significant relationship was found by the researchers. "Negative" refers to results demonstrating that better ESG characteristics have a negative impact on financial performance.

The studies are listed in alphabetical order by author.

Table 1: Combined studies from *Shedding Light on Responsible Investment* and *Demystifying Responsible Investment*

	Author(s) (year of publication)	Title of study	Period of study	E, S or G	RI approach	Findings on ESG factors
1	Abramson L, Chung D (2000)	Socially responsible investing: Viable for value investors?	Sep 1990 – Mar 2000	E,S,G	Screening	Positive
2	Ammann M, Oesch D, Schmid MM (2009)	Corporate governance and firm value: International evidence	2003 – 2007	G	ESG integration (specifically G)	Positive
3	Barnett M, Salomon R (2006)	Beyond dichotomy: The curvilinear relationship between social responsibility and financial performance	Jan 1972 – Dec 2000	E and S	Screening	Neutral-positive
4	Bauer R, Otten R, Rad A (2006)	Ethical investing in Australia: Is there a financial penalty?	Nov 1992 – Apr 2003	E, S, G	Screening	Neutral
5	Bello Z (2005)	Socially responsible investing and portfolio diversification	Jan 1994 – Mar 2001	Mainly S	Screening	Neutral
6	Benson KL, Brailsford TJ, Humphrey JE (2006)	Do socially responsible fund managers really invest differently?	Jan 1994 – Dec 2003	Mainly S	Screening	Neutral
7	Brammer S, Brooks C, Pavelin S (2006)	Corporate social performance and stock returns: UK evidence from disaggregate measures	Jun 1997 – Jun 2002	E and S	Screening	Neutral-negative
8	Chong J, Her M, Phillips GM (2006)	To sin or not to sin? Now that's the question	Sep 2002 – Sep 2005	Mainly S	Screening	Negative
9	Core J, Guay W, Rusticus T (2006)	Does weak governance cause weak stock returns? An examination of firm operating performance and investors' expectations	Sep 1990 – Dec 1999	G	Activism	Neutral
10	Cortez MC, Silva F, Areal N (2009)	The performance of European socially responsible funds	Aug 1996 – Feb 2007	E, S, G	Screening	Neutral

	Author(s) (year of publication)	Title of study	Period of study	E, S or G	RI approach	Findings on ESG factors
11	Cunningham GM, Hassel LG, Nilsson H (2007)	A study of the provision of environmental information in financial analysts' research reports	Jan 2001 – May 2004	E	ESG integration (specifically E)	Neutral
12	Derwall J, Guenster N, Bauer R, Koedijk K (2005)	The eco-efficiency premium puzzle	Jul 1995 – Dec 2003	E	ESG integration	Positive
13	Edmans A (2008)	Does the stock market value intangibles? Employee satisfaction and equity prices	Apr 1984 – Jan 2006	S	Screening	Positive
14	Galema R, Lensink R, Spierdijk L (2008)	International diversification and microfinance	1997 – 2007	S	Thematic	Positive
15	Galema R, Plantinga A, Scholtens B (2008)	The stocks at stake: Return and risk in socially responsible investment	1992 – 2006	E, S, G	Screening	Neutral
16	Geczy C, Stambaugh R, Levin D (2005)	Investing in socially responsible mutual funds	Jul 1963 – Dec 2001	S	Screening	Negative
17	Gompers P, Ishii J, Metrick A (2003)	Corporate governance and equity prices	Jan 1990 – Dec 1999	G	Activism	Positive
18	Hong H, Kacperczyk M (2006)	The price of sin: The effects of social norms on markets	Jan 1965 – Dec 2004	S	Screening	Negative
19	Jiraporn P, Gleason KC (2007)	Capital structure, shareholder rights and corporate governance	1993 – 2002	G	Engagement	Positive
20	Klein A, Zur E (2006)	Entrepreneurial shareholder activism: Hedge funds and other private investors	Jan 2003 – Dec 2005	G	Engagement	Positive
21	Konar S, Cohen MA (2001)	Does the market value environmental performance?	1989	E	ESG integration (specifically E)	Positive

	Author(s) (year of publication)	Title of study	Period of study	E, S or G	RI approach	Findings on ESG factors
22	Lee DD, Faff RW, Langfield-Smith K (2007)	Revisiting the CFP/CSP link: When employing corporate sustainability as a measure of CSP	1998 – 2002	E, S, G	ESG integration	Neutral-negative
23	Oehri O, Faush J (2008)	Microfinance investment funds – Analysis of portfolio Impact	Jan 1999 – Dec 2007 Jan 2004 – Dec 2007	S	Thematic	Positive
24	Olsson R (2007)	Portfolio performance and environmental risk	Jan 2004 – Jul 2006	E	ESG integration (specifically E)	Neutral-negative
25	Opler TC, Sokobin J (1995)	Does coordinated institutional activism work? An analysis of the activities of the Council of Institutional Investors	Jan 1991 – Dec 1993	G	Activism	Positive
26	Orlitzky M, Schmidt FL, Rynes SL (2003)	Corporate social and financial performance: A meta-analysis	Jan 1972 – Dec 1997	S and, to a lesser extent, E	Screening	Positive
27	Perino MA (2006)	Insitutional activism through litigation: An empirical analysis of public pension fund participation in securities class actions	Jan 1984 – Dec 2004	G	Engagement	Positive
28	Richard OC, Murthis BPS, Ismail K (2007)	The impact of racial diversity on intermediate and long-term performance: The moderating role of environmental context	1997 – 2002	S	ESG integration (specifically S)	Positive
29	Schröder M (2004)	The performance of socially responsible investments: Investment funds and indices	Varied start date: mid-1990s – Sep 2002	E, S, G	Screening	Neutral-positive
30	Semenova N, Hassel LG (2008)	Industry risk moderates the relation between environmental and financial performance	2003 – 2006	E	ESG integration (specifically E)	Positive
31	Shank TM, Manullang DK, Hill RP (2005)	Is it better to be naughty or nice?	Dec 1993 – Dec 2003	E, S, G, with more S	Screening	Positive

	Author(s) (year of publication)	Title of study	Period of study	E, S or G	RI approach	Findings on ESG factors
32	Smith MP (1996)	Shareholder activism by institutional investors: Evidence from CalPERS	Jan 1987 – Dec 1993	G	Activism	Positive
33	Statman M (2000)	Socially responsible mutual funds	May 1990 – Sep 1998	Mainly S	Screening	Positive
34	Statman M (2006)	Socially responsible indexes: Composition, performance and tracking error	May 1990 – Apr 2004	Mainly S	Screening	Positive
35	Stenström HC, Thorell JJ (2007)	Evaluating the performance of socially responsible investment funds: A holdings data analysis	Jan 2001 – Sep 2007	E, S, G	Screening	Neutral
36	Van de Velde E, Vermeir W, Corten F (2005)	Corporate social responsibility and financial performance	Jan 2000 – Nov 2003	E, S, G	ESG integration	Positive

Table 2 summarizes some additional literature examining the impact of ESG criteria on specific asset classes, much of which became available after *Shedding Light on Responsible Investment (2009)* was published. Much of this research is included and referenced in each asset class module prepared as part of Phase II of this project.

Table 2: Additional select studies by asset class

Public Equity

Author(s) (year of publication)	Title of study	Abstract / Findings
Junkin, Andrew ; Toth, Thomas. (Wilshire Associates) (2009)	The CalPERS Effect on Targeted Company Share Price	Wilshire Associates has analyzed the results of CalPERS Focus List initiative for several years. The study concluded that, "from 1987-2008 companies targeted by CalPERS underperformed prior to CalPERS engagement by more than 30% annualized in the 5 years prior. During the five years after, the 'average targeted company' outperformed by 2.4% annualized." [21]

[21] Junkin, Andrew and Thomas Toth. 2009. The "CalPERS Effect" on Targeted Company Share Prices. Wilshire Associates. http://www.calpers-governance.org/docs-sof/focuslist/wilshire-rpt.pdf

Author(s) (year of publication)	Title of study	Abstract / Findings
Junkin, Andrew (2010)	Corporate Governance Engagement Analysis	Wilshire studied the performance of the full corporate governance equity list – those companies CalPERS has engaged on some level (both Focus List and Non-Focus List companies) between 1999-2008. The study found that Non-Focus List companies outperformed the Focus List companies during the time period. The author concludes that this finding is "perhaps intuitive, in that only the 'worst' offenders are those that are 'named and shamed' on the Focus List. Others that are contacted and are receptive to or already engaged in some measure of reform (the Non-Focus List) move more quickly to better governance standards, improving the performance of those stocks more and more rapidly."[22]
Kiernan, Matthew; Trenet, Pierre; Lopez-Alcala, Mario (2007)	Carbon Beta and Equity Performance	Using Innovest data, the study found that companies positioned as top "carbon performers" not only have a higher expected financial return in comparison with the broad market benchmark, but also vis a vis same-sector competitors judged to be "carbon laggards". Analyzing equity returns from June 2004 to June 2007, top carbon performers outperformed carbon laggards by an annualized rate of return of 3.06%.[23]
Phillips, John (Virtcom Consulting) (2009)	Board Diversification Strategy: Realizing Competitive Advantage and Shareholder Value	From the report: "In a report commissioned by CalPERS, research findings suggests that companies with more diverse boards, especially gender based diversification, have higher performance and key financial metrics such as return on equity, return on sales, and return on invested capital. Findings also indicated that a selected group of companies with a high ratio of diverse board seats exceeded the average returns of the Dow Jones and NASDAQ indices over a five-year period."[24]

[22] Junkin, Andrew. 2010. Corporate Governance Engagement Analysis. Wilshire. http://www.calpers-governance.org/docs-sof/focuslist/item04-01.pdf

[23] Kiernan, Matthew, Pierre Trenet and Mario Lopez-Alcala. 2007. Carbon beta and Equity Performance. Innovest Strategic Advisors. http://www.climateactionproject.com/docs/carbonbetaequityperformance-delivered.pdf

[24] Phillips, John. 2009. Board Diversification Strategy: Realizing Competitive Advantage and Shareholder Value. Virtcom Consulting. http://www.calpers.ca.gov/eip-docs/about/press/news/invest-corp/diversification-strategy.pdf

Author(s) (year of publication)	Title of study	Abstract / Findings
Statmen, Meir; Glushkov, Denys (2009)	The Wages of Social Responsibility	The study analyzed returns during 1992-2007 of stocks rated on social responsibility by KLD. The authors found that portfolios tilted towards stocks of companies with high scores on social responsibility characteristics gave investors a return advantage relative to conventional investors. However, the return advantage of tilting towards stocks with high social responsibility scores is largely offset by the return disadvantage that comes with the exclusion of 'shunned' companies (e.g. companies associated with tobacco, alcohol, gambling, firearms, military and nuclear operations). The authors conclude that investors are better off in adopting the best-in-class method in the construction of their portfolios. That method calls for tilts toward stocks of companies with high scores on social responsibility characteristics, but refrains from calls to shun the stock of any company.[25]
De, Indrani ; Clayman, Michelle R. (2009)	Are all components of ESG Scores equally important?	Authors found ESG scores have predictive power over total stock returns and financial performance measured by ROE. *From the report*: "Good companies, defined as those having more strengths than weaknesses in the various ESG fields, tend to have higher medium to long run (three- to five-year) returns and ROE. These results hold even after controlling for the sector effect… Among the subcomponents of the overall ESG score, corporate governance scores are the best predictor of stock returns, and the predictive power of the corporate governance scores was highest over the longer three- to five-year horizons. Even controlling for the sector effect, corporate governance scores had the highest predictive power for stock returns in the medium to long run, followed by the overall ESG score. This indicates that all subcomponents of overall ESG scores are not equal, and corporate governance practices are most important for stock returns."[26]
Gladman, Kimberly. (2009)	The Corporate Library's Governance Ratings and Equity Returns	A 2009 study published by The Corporate Library explored the impact of the firm's governance ratings on portfolio performance. Three hypothetical portfolios were constructed and screened using the Corporate Library's governance ratings. The highest level of outperformance for one of the three portfolios – 275 annualized

[25] Statmen, Meir, and Denys Glushkov. 2009. The Wages of Social Responsibility. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1372848

[26] De, Indrani and Michelle R. Clayman. 2010. Are All Components of ESG Scores Equally Important? http://post.nyssa.org/nyssa-news/2010/07/the-impact-of-esg-on-stock-returns-and-profitability.html

Author(s) (year of publication)	Title of study	Abstract / Findings
		basis points – was found for the portfolio applying the strictest governance screens.[27]
Ghoul, Sadok El ; Guedhami, Omrane ; Kwok, Chuck C.Y.; Mishra, Dev. (2010)	Does Corporate Social Responsibility Affect the Cost of Capital?	From the report: "Using several approaches to estimate firms' ex ante cost of equity, the authors find that firms with better CSR scores exhibit cheaper equity financing. In particular, the findings suggest that investment in improving responsible employee relations, environmental policies, and product strategies contributes substantially to reducing firms' cost of equity. The results also show that participation in two "sin" industries, tobacco and nuclear power, increases firms' cost of equity. These findings support arguments in the literature that firms with socially responsible practices have higher valuation and lower risk."[28]

Fixed Income

Author(s) (year of publication)	Title of study	Abstract / Findings
Drut, Bastien (2009)	Sovereign Bonds and Socially Responsible Investment	From the report: "This paper investigates how the mean-variance efficient frontier defined by sovereign bonds of twenty developed countries is affected by the consideration of socially responsible indicators for countries in the investment decision-making. For a global rating of socially responsible performance, the authors show that is possible to build portfolios with an increased average rating without significantly harming the risk/return relationship. This result differs when considering sub-ratings related to the environment, social concerns, and public governance. The results suggest that socially responsible portfolios of sovereign bonds can be built without a significant diversification loss."[29]

[27] Gladman, Kimberly. The Corporate Library's Governance Ratings and Equity Returns. 2009. The Corporate Library. www.thecorporatelibrary.com

[28] Ghoul, Sadok El., Omrane Guedhami, Chuck C.Y. Kwock and Dev R. Mishra. Does Corporate Social Responsibility Affect the Cost of Capital? 2010. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1546755

[29] Drut, Bastien. Sovereign Bonds and Socially Responsible Investment. 2009. http://ideas.repec.org/p/sol/wpaper/09-014.html

Author(s) (year of publication)	Title of study	Abstract / Findings
Hörter, Steffen; Mader, Wolfgang; Menzinger, Barbara (2010)	E.S.G. Risk Factors in a Portfolio Context: Integrated Modeling of Environmental, Social and Governance Risk Factors	The results reveal that ESG factors have a significant impact on risk and offer important opportunities to achieve efficiency gains. The study involved building a quantitative model of ESG risk factors in a portfolio to determine their influence on risk. The authors chose carbon emission rights price changes and sector specific carbon footprint data for its environmental data inputs, social performance risk data from GES Investment Services for its social inputs, and governance ratings from RiskMetrics (now MSCI) for the governance risks. As a risk metric, a downside risk measure, the Conditional Value at Risk (CVaR) at 95%, was used. CVaR shows the average return (per annum) incurred in the 5% worst cases of the investment. For +ESG Corporate Bonds, the CVaR is estimated to be -4.9%. For a corporate bond investment that roughly equals an average ESG Equity investment, the CVaR 95% is estimated to be -8.1%. For –ESG Corporate Bonds, the CVaR is estimated to be -11.5%. The study found that at the same level of expected returns, the investor can reduce the CVaR by approximately one-third. Alternatively, the investor could enhance the expected return at similar levels of expected risk.[30]
Hann, Daniel; Bauer, Rob (2010)	Corporate Environmental Management and Credit Risk	The authors used environmental information on 582 U.S. public companies between 1995 and 2006 and found that there are economically meaningful and statistically significant relations between the environmental performance measures and both the cost of debt and credit ratings of borrowing firms. The corporate activities underlying the documented relations are mainly attributable to regulatory and climate change issues, but also to efforts to reduce environmental risk exposure, and to enhance cash flows by supplying innovative products and services with environmental benefits. The authors estimate a maximum environmental performance effect on the cost of debt of up to 64 basis points per annum. The study controlled for company and bond-specific characteristics, alternative model specifications and industry membership.[31]

[30] Hörter, Steffen; Mader, Wolfgang; Menzinger, Barbara. ESG Risk Factors in a Portfolio Context. 2010. http://www.allianzglobalinvestors.de/cms-out/kapitalmarktanalyse/docs/pdf-eng/portfoliopractice-responsible-investing-reloaded.pdf

[31] Hann, Daniel and Rob Bauer. Corporate Environmental Management and Credit Risk. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1660470

Author(s) (year of publication)	Title of study	Abstract / Findings
Weber, Olaf; Scholz, R.W. (2010)	Incorporating sustainability criteria into credit risk management	The authors analyzed the role that sustainability criteria and environmental orientation play in the commercial credit risk management process. Results show that sustainability criteria can be used to predict the financial performance of a debtor and improve the predictive validity of the credit rating process. The authors conclude that the sustainability a firm demonstrates influences its creditworthiness as part of its financial performance.

Private Equity

Thus far, the research in private equity has focused on targeted investments such as clean technology and microfinance. True realized performance of a vintage year portfolio utilizing a high-level of ESG integration or targeting of ESG themes, is difficult to come across. Further, performance reports that do exist represent only a small sample of private equity investments.

Author(s) (year of publication)	Title of study	Abstract / Findings
Preqin (2009)	Preqin Special report: Private Equity Clenatech	In its 2009 Private Equity Cleantech Review, Preqin examined the split of Internal Rates of Return (IRRs) being targeted by over 60 private funds that invest in clean technology. Preqin found that over one-third of the funds target returns between 25% and 30% which is noted as "relatively high in comparison to the targeted returns of other private equity funds."[32]

[32] Preqin special report on Private Equity cleantech. 2010. http://reseaucapital.com/docs/Preqin_2010_Cleantech_Research_Report.pdf

Real Estate

Author(s) (year of publication)	Title of study	Abstract / Findings
Pivo, Gary; Fischer, Jeffrey (2008)	Investment Returns from Responsible Property Investments: Energy Efficient, Transit-oriented and Urban Regeneration Office Properties in the US from 1998-2007	The authors found higher income and income growth, lower capitalization rates, higher net operating income per square foot, higher market value, higher rent and lower expenses for ENERGY STAR rated properties, compared to properties with no energy efficiency rating.[33]
Eichholtz, Piet; Kok, Nils; Quigley, John M. (2009)	The Economics of Green Building	The study found that green buildings have rents and asset prices that are significantly higher than those documented for conventional office space, while controlling specifically for differences in hedonic attributes and location using propensity score weights. The authors calculate an actual rental premium of between 3 and 4 percent on US office properties for ENERGY STAR and LEED certified buildings. In addition, the findings indicate that: the average non-green building in the rental sample would be worth $5.1 M more if it were converted to green and the average non-green building sold in 2004-2007 would have been worth $5.9 M more if it had been converted to green.[34]
Eichholtz, Piet; Kok, Nils; Quigley, John M. (2010)	Sustainability and the Dynamics of Green Building: New Evidence on the Financial Performance of Green Office Buildings in the USA	The study found that office buildings with ENERGY STAR or LEED certification have rents and asset prices that are significantly higher (2% for ENERGY STAR certified properties and 6% for LEED, and 11% - 13% for asset prices).[35]
McGraw-Hill Construction (2010)	Green Outlook 2011: Green Trends Driving Growth	The report shows that green retrofits and renovation projects provide operational cost savings as well as increased asset values, return on investment improvement, occupancy increases and higher rents.

[33] Available at: http://www.responsibleproperty.net/assets/files/pivo_fisher_investmentreturnsfromrpi3_3_09.pdf

[34] Available at: http://urbanpolicy.berkeley.edu/pdf/EKQ_091510_6pm.pdf

[35] Available at: http://www.rics.org/site/scripts/download_info.aspx?fileID=8862

Infrastructure

Author(s) (year of publication)	Title of study	Abstract / Findings
Colonial First State Asset Management (2010)	Global Listed Infrastructure: Infrastructure is More Defensive with ESG Consideration	In 2010, Colonial First State Global Asset Management assessed its proprietary ESG scores for 115 infrastructure companies against total returns for the three years leading up to May 2010. The research found that infrastructure companies with the lowest ESG scores significantly underperformed over this period and top ESG scores outperformed bottom ESG by more than 20% over a 3 year period with almost half the volatility. [36]

[36] Available at: http://www.cfsgam.com.au/uploadedFiles/CFSGAM/PdfResearch/100827_Infrastructure_ESG_considerations.pdf

Appendix B

CalPERS Policy Inventory

Mercer has developed a matrix of existing internal and external policies, commitments, and guidelines which CalPERS adheres to, endorses, or otherwise supports and are relevant to IESG integration. A table is provided for each asset class, with an initial table entitled “Total Fund” including those entries that apply to all asset classes or are not asset class specific. The final table entitled “Operational/Enterprise” includes initiatives related to ESG issues that are not specific to investments, but rather apply across all CalPERS’ operations.

Each table has four columns. The first, “cross-ESG” relates to initiatives that do not focus on a specific issue or reference ESG issues more broadly. The environmental, social and governance issue columns contain entries relevant specifically to those issues. In some cases, initiatives appear in multiple columns.

Relevant CalPERS documents are hyperlinked (where available) and sub-bullets indicate component or related policies. Text colors indicate whether entries are internal or external, legislative, and how they relate to CalPERS according to the color key below. We have also indicated where it is clear that an ESG-related capital commitment is involved. Endnotes indicate dates of publication or other details related to the entries, in order to highlight where or how they apply.

Color Key

Internal policy or mandate resulting in capital commitment related to ESG
Internal policy or mandate
Compliance with state legislation
Letter of support or endorsement
Commitments to external initiatives
Adherence to external guidelines
Underlined documents contain hyperlinks

Total Fund

Cross-ESG	Environmental	Social	Corporate Governance
Global Reporting Initiative Sustainability Reporting Guidelines *** Principles for Financial Regulation Reform: A Model for Change[i] Statements of Investment Policy ▪ Affiliate Funds ▪ Asset Allocation ▪ Benchmark Modification and Benchmark Details ▪ Derivatives – External Money Managers ▪ Development of Derivatives Strategies ▪ Developmental Investment Fund ▪ Divestment ▪ Ethics Policies ▪ Leverage ▪ Opportunistic Program ▪ Risk Management Program ▪ Supplemental Income Plans and Target Retirement Date Funds ▪ Total Fund United Nations Principles for Responsible Investment US Financial Reform: The Investors' Perspective[ii] Guidance on Responsible Business in Conflict-Affected and High-Risk Areas[iii] Statement of Investment Policy for Asset Allocation Strategy Statement of Investment Policy for Risk Management Program	Global Investor Statement on Climate Change: Reducing Risks, Seizing Opportunities & Closing the Climate Change Investment Gap (2010)[iv] INCR Call to Action[v] INCR Climate Risk Action Plan[vi] 2009 Investor Statement on the Urgent Need for a Global Agreement on Climate Change[vii] Mercer Climate Change Strategic Asset Allocation Project	Economically Targeted Investment Program Policy[viii]	Commitment to Diversity[ix] ▪ Diversity Datasource[x] ▪ Robert Toigo Foundation[xi] Women in Investments Conference[xii]

Global Equity

Cross-ESG	Environmental	Social	Corporate Governance
Global Sullivan Principles of Corporate Responsibility ***[xiii] Statements of Investment Policy ▪ Corporate Governance Program ▪ Divestment ▪ Emerging Equity Markets Principles[xiv] ▪ Externally Managed Strategies ▪ Global Equity Emerging Manager Fund of Funds ▪ Global Proxy Voting ▪ Internally Managed Affiliate Equity Index Funds ▪ Internally Managed Global Equity Index Funds ▪ Internally Managed Global Enhanced Equity Strategies ▪ MDP and Manager Transitions ▪ Monitoring Externally Managed Portfolios ▪ Risk Managed Absolute Return Strategies UN Global Compact Ten Principles ***	Corporate Governance: Environmental Strategy[xv] ▪ Carbon Disclosure Project* ▪ Environmental Initiative on Utility Industry Transparency*[xvi] ▪ Global Framework for Climate Risk Disclosure*[xvii] *** ▪ Water Disclosure Project* Internally Managed Global Enhanced Equity Strategies[xviii] ▪ Environmental Model Portfolio Investors' Statement on Transparency in the Extractives Sector[xix] 14 Point Ceres Climate Change Governance Checklist ***	*Compliance with State Legislation* ▪ *Holocaust Era* ▪ *Iran Related Investments* ▪ *Northern Ireland* ▪ *Investing in Companies that do Business in Sudan*[xx] Fair Labor Practices ▪ Global Sullivan Principles of Corporate Responsibility *** ▪ ILO Declaration on the Fundamental Principles and Rights at Work[xxi] ▪ UN Global Compact Ten Principles *** Internally Managed Global Enhanced Equity Strategies[xxii] ▪ Tobacco restriction Internally Managed Global Equity Index Funds ▪ Tobacco restriction	Commitment to Diversity[xxiii] ▪ Emerging Manager Fund of Funds ▪ Fund of Emerging Hedge Fund Managers Program ▪ Improved Brokerage Model[xxiv] ▪ Manager Development Program (MDP)[xxv] Corporate Engagement ▪ Focus List Program[xxvi] Corporate Governance Director Nominations Policy Corporate Governance Program Investment Policy Diverse Director Datasource Global Principles of Accountable Corporate Governance[xxvii] ▪ CII Corporate Governance Policies *** ▪ ICGN Corporate Risk Oversight Guidelines *** ▪ ICGN Global Corporate Governance Principles *** [xxviii] ▪ ICGN Remuneration Guidelines *** ▪ ICGN Securities Lending Code of Best Practice *** ▪ ICGN Statement and Guidance on Anti-Corruption Practices *** ▪ ICGN Statement and Guidance on Non-financial Business Reporting *** ▪ ICGN Statement of Principles on Institutional Shareholder Responsibilities ***

Global Equity cont'd			
Cross-ESG	Environmental	Social	Corporate Governance
			▪ CalPERS Joint Venture Governance Guidelines *** ▪ 14 Point Ceres Climate Change Governance Checklist*** Representation on Corporate Boards of Directors [xxix] The 21st Century Corporation: The Ceres Roadmap for Sustainability UK Stewardship Code

Global Fixed Income

Cross-ESG	Environmental	Social	Corporate Governance
Statements of Investment Policy ▪ Barclays Aggregate Program ▪ Supplemental Income Plans ▪ Credit Enhancement Program ▪ Currency Overlay Program ▪ Global Fixed Income Program ▪ Low Duration Fixed Income Program ▪ Securities Lending ▪ Treasury Inflation Protected Securities Program		Statement of Investment Policy for Global Fixed Income Program ▪ Tobacco restriction[xxx]	Commitment to Diversity[xxxi] Corporate Governance Program Investment Policy[xxxii]

Alternative Investments

Cross-ESG	Environmental	Social	Corporate Governance
ILPA Private Equity Principles **Statements of Investment Policy** ▪ **Alternative Investment Management Program** ▪ **Restricting AIM Investments in Public Sector Outsourcers**	**AIM Environmental Technology Program** ▪ **CalPERS Clean Energy and Technology Fund**[xxxiii]	**California Initiative**[xxxiv]	**Commitment to Diversity**[xxxv]

Inflation-linked

Cross-ESG	Environmental	Social	Corporate Governance
Statements of Investment Policy ▪ **Inflation-Linked Asset Class**	**Statement of Investment Policy for the Inflation-Linked Asset Class**[xxxvi] ▪ **Infrastructure Program Policy** ▪ **Forestland Program Policy**	**Responsible Contractor Policy**[xxxvii] **Statement of Investment Policy for the Inflation-Linked Asset Class**[xxxviii] ▪ **Infrastructure Program Policy** ▪ **Forestland Program Policy** ▪ **Tobacco restriction**	**Commitment to Diversity**[xxxix] **Statement of Investment Policy for the Inflation-Linked Asset Class**[xl] ▪ **Infrastructure Program Policy**

Real Estate

Cross-ESG	Environmental	Social	Corporate Governance
Statements of Investment Policy ▪ Agricultural Land Real Estate Program ▪ Real Estate	Agricultural Land Real Estate Program [xli] Hines CalPERS Green Development Fund [xlii] Statement of Investment Policy for Real Estate[xliii] Real Estate Environmental Strategies ▪ Core Real Estate Portfolio Energy Reduction Goal[xliv] ▪ Guidelines for Non-Developed Market Investments[xlv]	Neutrality Trial Responsible Contractor Policy[xlvi] Policy on Rent-Regulated Multifamily Housing Statement of Investment Policy for Real Estate ▪ Guidelines for Non-Developed Market Investments[xlvii] Responsible Contractor Policy[xlviii]	Commitment to Diversity[xlix] ▪ California Urban Real Estate Program[l] Statement of Investment Policy for Real Estate ▪ Guidelines for Non-Developed Market Investments[li]

Operational/Enterprise

Cross-ESG	Environmental	Social	Corporate Governance
Governance, Ethics, Disclosure Guidelines and Policies ▪ Board of Administration Governance Principles [lii]	CalPERS Headquarters Expansion Project Commitment to Sustainable Operations		CalPERS Diversity Outreach Program Office

* Component of Corporate Governance Environmental Strategy, developed 2005
*** Component of Global Principles of Accountable Corporate Governance, updated March 2010

[i] Developed 2009

[ii] Published in July 2009, CalPERS voted in favor of the Council of Institutional Investor's endorsement

[iii] Published in 2010 by the UN Global Compact and the Principles for Responsible Investment, applies to public and private companies

[iv] Sponsored by the Institutional Investors Group on Climate Change (IIGCC), the Investor Network on Climate Risk (INCR), the Investor Group on Climate Change, the UNEP Finance Initiative and the Principles for Responsible Investment (PRI)

[v] Sponsored by Ceres' INCR, Developed 2005

[vi] Sponsored by Ceres' INCR, Developed 2008

[vii] Sponsored by the Institutional Investors Group on Climate Change (IIGCC), the Investor Network on Climate Risk (INCR), the Investor Group on Climate Change, and the UNEP Finance Initiative

[viii] Developed February 2009, assists in the improvement of national and regional economies

[ix] Published for the fiscal year 2008 – 2009, Fixed Income program incorporates emerging brokers and dealers and invests in pools of Community Reinvestment Act mortgages

[x] Database of emerging managers and financial service providers, developed with CalSTRS

[xi] Awards scholarships to students of diverse backgrounds preparing to enter the financial profession

[xii] One day conference held in February 2009

[xiii] Also a component of the Emerging Equity Markets Principles

[xiv] Does not apply to external managers of the Corporate Governance Program

[xv] Investment Committee first approved in February 2005

[xvi] Developed September 2005

[xvii] Developed via the Climate Risk Disclosure Initiative and the Electric Utilities Greenhouse Gas Reporting Project

[xviii] Environmental Model Portfolio is based on the HSBC Climate Change Index, Updated May 2010

[xix] Sponsored by the Extractive Industry Transparency Initiative

[xx] Update given during September 2005 Investment Committee meeting

[xxi] Component of the Emerging Equity Markets Principles

[xxii] Updated May 2010

[xxiii] Published for the fiscal year 2008 - 2009

[xxiv] Seeks to create opportunities for minority, women, disabled and veterans (MWDV) brokers

[xxv] Takes ownership position in small and emerging public equity managers in order to foster their development

[xxvi] CalPERS Board approved domestic corporate engagement strategy, designed to improve total stock return and governance practices

[xxvii] Updated March 2010 to reflect the 2009 ICGN Corporate Governance Principles

[xxviii] Revised and ratified by the ICGN membership in 2009

[xxix] Updated February 2009

[xxx] Applicable to dollar denominated fixed income investments

[xxxi] Published for the fiscal year 2008 – 2009, Fixed Income program incorporates emerging brokers and dealers and invests in pools of Community Reinvestment Act mortgages

[xxxii] Corporate Governance Funds may include investments in the fixed income asset class

[xxxiii] A private equity partner within the AIM Program who is dedicated to investing across the spectrum of the global clean energy and technology value chain

[xxxiv] An initiative under the AIM Program, developed in 1990, that invests in portfolio companies in underserved markets

[xxxv] Published for the fiscal year 2008 - 2009

[xxxvi] The Infrastructure and Forestland Program attachments explicitly incorporate environmental, social and governance considerations, updated May 2010

[xxxvii] Developed 2005, applicable to infrastructure investments

[xxxviii] The Infrastructure and Forestland Program attachments explicitly incorporate environmental, social and governance considerations, updated May 2010

[xxxix] Published for the fiscal year 2008 - 2009

[xl] The Infrastructure and Forestland Program attachments explicitly incorporate environmental, social and governance considerations, updated May 2010

[xli] Explicitly incorporates environmental considerations, established August 2004

[xlii] Created in 2006 in order to develop sustainable office buildings that will be certified through the Leadership in Energy and Environmental Design Core & Shell (LEED-CS) program

[xliii] Explicitly incorporates environmental criteria, updated April 2010

[xliv] Energy reduction goal of 20% in the core real estate portfolio

[xlv] Identifies CalPERS Emerging Equity Market Principles and the UN PRI as guidelines

[xlvi] Developed 2010

[xlvii] Identifies CalPERS Emerging Equity Market Principles and the UN PRI as guidelines

[xlviii] Developed 2005, applicable to domestic real estate investments
[xlix] Published for the fiscal year 2008 - 2009
[l] Established in 2001 to provide California-focused urban real estate investment in urban infill, low-to moderate income housing, community redevelopment, and rehabilitation of core properties
[li] Identifies CalPERS Emerging Equity Market Principles and the UN PRI as guidelines
[52] Updated December 2009

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