# GREEN INITIATIVE TASK FORCE

*2015 Annual Report*
*period ending June 30, 2015*

## HIGHLIGHTING

CalSTRS environmental-themed investments and environmental risk-management efforts

CALSTRS
HOW WILL YOU SPEND YOUR FUTURE?

## MISSION

*To manage the risks and capture the opportunities associated with global sustainability issues by identifying environmentally focused strategies intended to enhance the risk-adjusted returns of the CalSTRS Investment Portfolio.*

—CALSTRS INVESTMENTS BRANCH

CALSTRS
HOW WILL YOU SPEND YOUR FUTURE?

California State Teachers'
Retirement System
Christopher J. Ailman
100 Waterfront Place, MS-04
West Sacramento, CA 95605-2807

November 4, 2015

Dear Reader:

I am pleased to present the ninth annual report from the CalSTRS Green Initiative Task Force, "The Green Team," detailing the Investments Branch activities surrounding environmental risk management and opportunity capture. This report reflects CalSTRS' recognition that environmental issues affect the performance of the CalSTRS Investment Portfolio across companies, sectors, regions and asset classes. The increasing importance of environmental considerations in investing has rarely been more evident than it is today. We are routinely being made aware of environmental-related events that impact society and the economy.

Over the past fiscal year, no issue was more prominent than the growing move for investors to divest their fossil fuel holdings. What began as a relatively unnoticed report from Carbon Tracker, published in 2012 detailing the carbon content of fossil fuel reserves, has evolved into one of the most visual and vocal environmental movements to date. And what underlies this effort—heightened attention to the risks that climate change presents—aligns closely with what CalSTRS has advocated for many years: climate change presents significant, material risks to our portfolio and we as investors need to be managing these risks.

How we approach the management of climate change risk is where we diverge from those who advocate for divestment. CalSTRS believes that constructive engagement is the better path to influencing a company's behavior. As long-term owners of a company, CalSTRS is in a unique position to request that companies pay attention to long-term issues, like climate change, as our largely passive investment style guarantees we will be owners when these long-term risks ultimately manifest themselves in a material way.

This belief in the power of engagement has driven the efforts of our Corporate Governance staff for quite some time. As in previous years, during the past fiscal year we continued to actively engage market participants on improving environmental risk management and disclosure. We focused on a variety of issues, including increasing energy efficiency capacity, managing water use in hydraulic fracturing, and understanding carbon asset risk exposure.

Since our last Green Team report, released in fall 2014, we have also continued to consider green investments, making new commitments in our Inflation Sensitive asset group and growing our investments in green bonds held in our Fixed Income Portfolio. I expect that, going forward, these asset groups will continue to increase their green investments and our other asset groups will consider ways to grow their green exposure.

I thank you for taking the time to consider this report, and I encourage you to join us and our collaborative partners as we promote environmental risk management and investment awareness throughout the global financial markets.

Sincerely,

Christopher J. Ailman
Chief Investment Officer
California State Teachers' Retirement System

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*2014 Annual Report*


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## CALSTRS INVESTMENTS COLOR GUIDE

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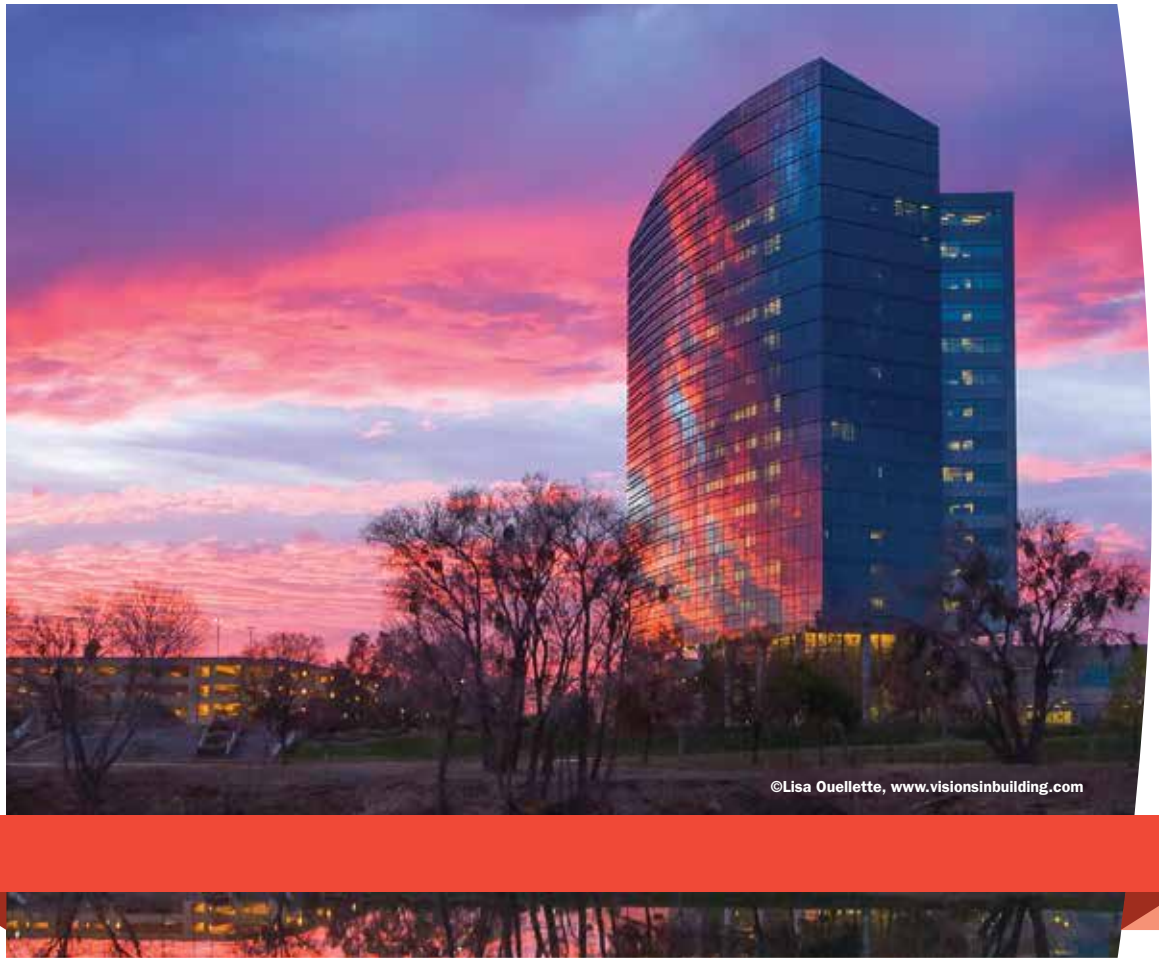
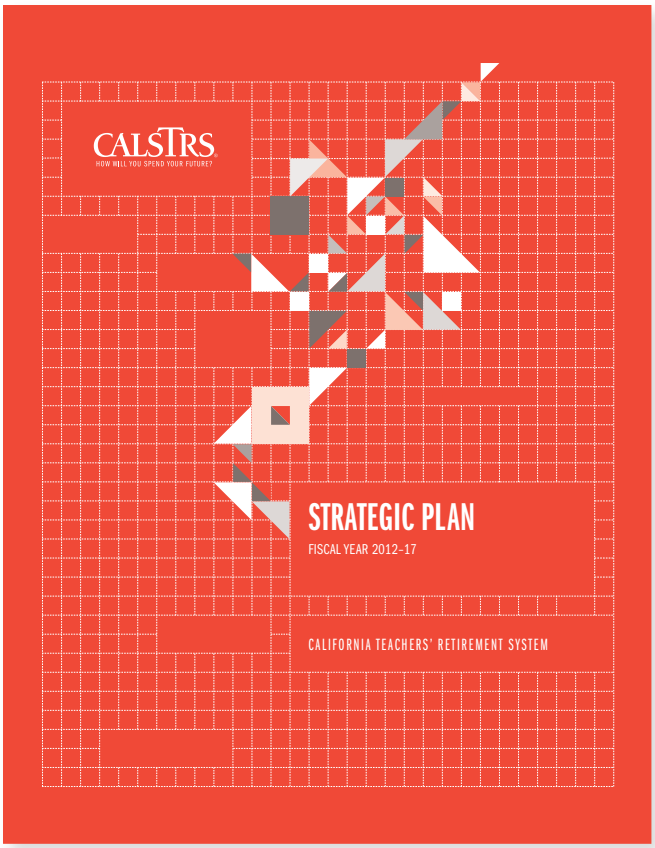



# COMMITMENT TO ENVIRONMENTAL INTEGRATION

CalSTRS' continuing commitment to environmental integration is evident in the *CalSTRS Strategic Plan*, which was adopted by the Teachers' Retirement Board in 2012. This five-year plan contains long-range goals (what CalSTRS wants to achieve), objectives (measurable ways to achieve the defined long-range goals) and initiatives (specific projects, programs, activities or actions to help CalSTRS achieve its objectives).

Goal 2 of the strategic plan is to responsibly manage risk to the organization. This risk management goal reflects CalSTRS' dedication to creating a fully sustainable organization, one that recognizes the components of sustainability such as environmental consideration. CalSTRS is committed to addressing risks and opportunities, including environmental risks and opportunities, in its approach to incorporating sustainability by transforming its business culture and practices.

The CalSTRS Investments Branch continues to work to integrate environmental, social and governance factors into and across the CalSTRS Investment Portfolio.




## Integrating ESG Into Investment Processes

As outlined in Goal 2, Objective D, Initiative 4 of the *CalSTRS Strategic Plan*, the CalSTRS Investments Branch continues to work to integrate environmental, social and governance factors into and across the CalSTRS Investment Portfolio. One key activity for fiscal year 2014–15 was developing a standardized methodology for obtaining assurance from external fund managers that each was aware of the CalSTRS 21 Risk Factors and had considered these environmental, social and governance risks when making investment decisions on behalf of CalSTRS during the past fiscal year.

Before this procedural update, the 21 Risk Factors were part of the Investments staff's due diligence process. Even though most external management agreements referenced the risk factors, and the risk factors are attachments to many partnership documents, staff had no established process to verify that external managers were considering ESG risks on an ongoing basis.

With the creation of the external manager survey, staff can now annually affirm manager awareness of ESG risk management in an efficient, homogenous manner across all asset classes. This survey can also be used as a basis for manager-staff discussions on ESG risk management efforts and techniques.

The CalSTRS 21 Risk Factors are part of the CalSTRS Investment Policy and Management Plan, which can be found at CalSTRS.com in the Investment Policies.

# RISK MANAGEMENT

*As directed by the Teachers' Retirement Board, staff has developed a variety of techniques and tools designed to mitigate the level of environmental risk that the CalSTRS Investment Portfolio faces. As a large, diversified global investor, CalSTRS needs to be mindful that it is exposed to a variety of environmental risks and therefore must engage financial market participants who might influence risk within markets that CalSTRS invests in.*

CalSTRS works with its external managers to recognize and manage environmental risks. Direct engagement with portfolio companies is also an important and effective means of managing risk, and CalSTRS is very active in this area. CalSTRS also understands that working collaboratively with other investors is an excellent way to broaden engagement reach and strives to partner with others whenever possible.

Being active owners and voting proxies also helps reduce risk. CalSTRS routinely submits environmental-related shareholder proposals to companies held in its Public Equity Portfolio to raise their level of environmental risk awareness. Staff also considers and votes all environmental-related proposals in a manner that aligns with CalSTRS' objectives of improving disclosure and mitigating risk.

## 21 Risk Factor Review Committee

As mentioned previously, when any manager, internal or external, is making an investment decision on behalf of CalSTRS, the manager must consider the CalSTRS 21 Risk Factors. The risk factors are also part of the continuous diligence process staff undertakes with existing investments and investment managers. CalSTRS' external fund managers are regularly queried on how they are factoring these risk factors into investment decisions made on behalf of CalSTRS.

## CALSTRS ENVIRONMENTAL, SOCIAL AND GOVERNANCE RISK CONSIDERATIONS

| | |
|---|---|
| **Environmental Risk Assessment** | The risk associated with an investment's long-term profitability from activities and exposure to environmental matters, such as depleting or reducing air quality, water quality, land protection and usage, without regard for remediation. Consideration should be given to how a company is dealing with the impact of climate change, including whether the government is taking steps to reduce its impact or exacerbate the problem, or is oblivious to the risk. |

**The principal environmental issue staff considered was CalSTRS' exposure to fossil fuels companies and if, or to what degree, the activities of these companies presented a material risk to the CalSTRS Investment Portfolio.**

CalSTRS staff recognized that developing a set of ESG risks and ESG risk management procedures was not enough to ensure an appropriate level of risk management. A process needed to be developed that would allow CalSTRS' ESG risk management procedures to be implemented.

To that end, Investments staff developed the 21 Risk Factor Review Committee. This committee, led by the CalSTRS CIO and composed of senior staff representatives from each asset class, help the CIO evaluate exposure to ESG-related risks and take appropriate actions to ensure that external and internal managers adhere to CalSTRS policy surrounding the management of ESG risk exposure.

## CALSTRS ENVIRONMENTAL, SOCIAL AND GOVERNANCE RISK MANAGEMENT PROCEDURES

When faced with a corporate decision that violates the CalSTRS 21 Risk Factors, at the direction of the Investment Committee or at the the discretion of the CIO, the Investments staff will directly engage management to seek a change in that corporate behavior in the following manner.

| | |
|---|---|
| 1 | CalSTRS will actively engage, in a constructive manner, corporate management whose actions are inconsistent with this policy. All forms of engagement are used, including letter writing, meetings, participation in advocacy groups, media campaigns and proxy voting. |
| 2 | After all reasonable efforts have been made to constructively engage corporate management and there is a clear nexus between the corporate behavior and the CalSTRS policy violation, and, in the CIO's opinion, the corporate remedies are insufficient or nonresponsive, CalSTRS will inform its active investment managers that to the extent suitable alternate investments are available and their inclusion in the portfolio would result in no diminution in portfolio return or increase in risk, the managers will invest in these alternatives until the CalSTRS policy violations cease. |
| 3 | Upon remedy of the policy violation, CalSTRS will inform the active investment managers and passive managers that the securities can be purchased and report this action in writing to the Investment Committee. |

**Staff is still evaluating the portfolio's exposure to fossil fuels and continues to engage companies involved in fossil fuel exploration and production.**

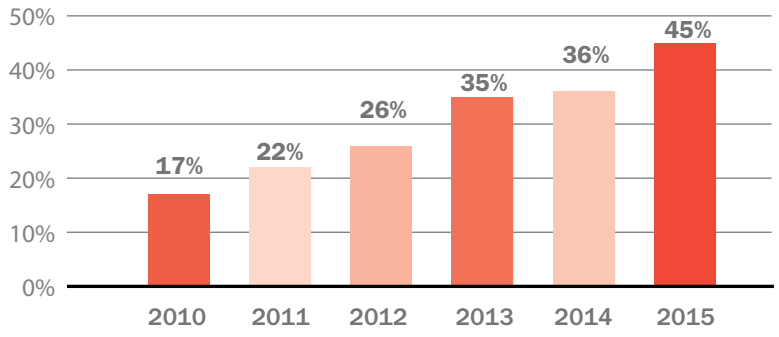
Environmental risk consideration is part of the CalSTRS 21 Risk Factors and during fiscal year 2014–15, the committee considered environmental-related issues that potentially violated the 21 risk factors. The principal environmental issue staff considered was CalSTRS' exposure to fossil fuels companies and if, or to what degree, the activities of these companies presented a material risk to the CalSTRS Investment Portfolio. Presently staff is still evaluating the portfolio's exposure to fossil fuels and continues to engage companies involved in fossil fuel exploration and production.

## Fixed Income Benchmark Review

The Fixed Income Unit performed its annual comparison of CalSTRS' Fixed Income holdings to the Barclays MSCI US Aggregate Sustainability Index. This index positively screens fixed rate, investment grade corporate bond issuers for a "best in class" ranking to their peer group and determines how effective they are managing ESG risks. Of the $44.9 billion in assets that the CalSTRS Fixed Income Unit manages, including assets held by internal and external managers and internally managed securities lending, CalSTRS holds approximately $20.4 billion, or 45 percent, of debt securities that are included in the Barclays MSCI US AGG Sustainability Index. For more information on MSCI ESG Research, visit msci.com/products/indexes/esg/.

## CALSTRS FIXED INCOME HOLDINGS IN A SUSTAINABILITY INDEX

The following chart shows how the percentage of Fixed Income assets represented by a sustainability index has changed historically. From 2010 to 2012, the Fixed Income Portfolio was analyzed relative to an internal, customized sustainable index; since 2013, the Barclays MSCI sustainability index has been used.




## Infrastructure: Environmental Risk Considerations in the Investment Process

The Infrastructure staff considers environmental risk assessment to be an integral part of the investment process. The Infrastructure Policy mandates that staff consider and appropriately mitigate the risks outlined in the CalSTRS 21 Risk Factors, which explicitly contain environment risk. Environmental risks are particularly salient to infrastructure investing for multiple reasons. The energy, power and water sectors, which constitute a significant portion of the infrastructure investment universe, are highly regulated and exposed to the risk of policy change resulting from environmental concerns. Additionally, infrastructure assets by their nature tend to be large, permanent structures that are not easily adapted to environmental changes. For these reasons, staff incorporates environmental risks into its investment decisions and asset monitoring process. To ensure external managers are complying with the 21 risk factors, Infrastructure staff annually surveys each manager.

## Global Equity External Manager Engagement

### Background and Responses

Since 2010, all Global Equity external investment managers have been polled annually to assess the level of climate considerations in their respective processes. From 2010 through 2012, questions asked included:

1. Do you explicitly incorporate climate risk into your investment process?

2. Is climate change a primary factor?

Beginning in 2012, the following question was added:

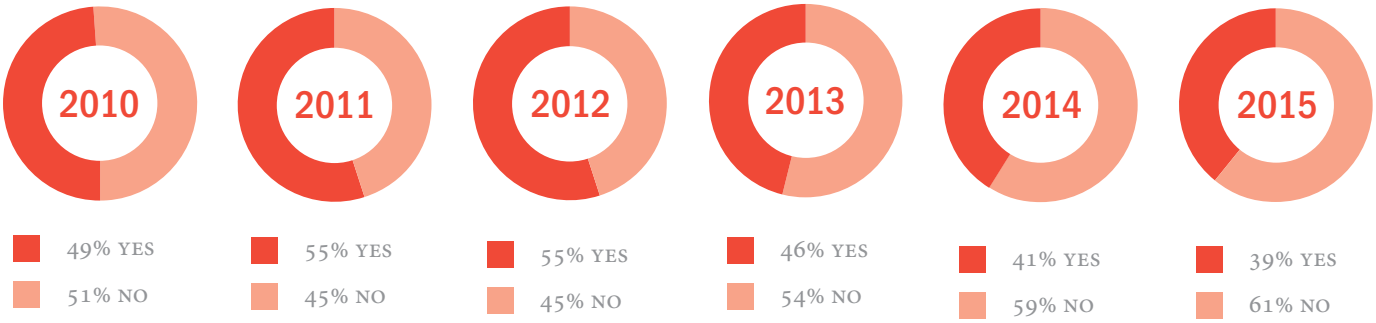
3. Have you taken steps to better incorporate climate risk into your investment process since last year?

Starting in 2014, the Global Equity external managers were also asked:

4. Is your organization a UNPRI signatory?

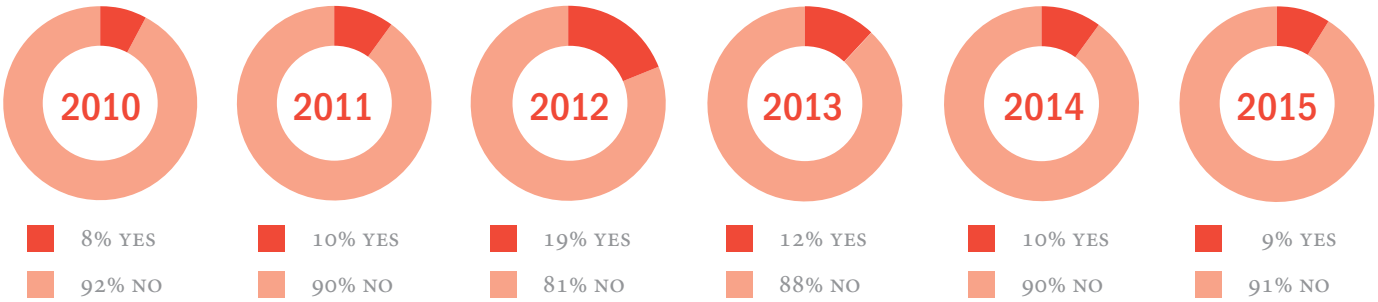
## 1. DO YOU EXPLICITLY INCORPORATE CLIMATE RISK INTO YOUR INVESTMENT PROCESS?

In response to the question of incorporating climate change into investment consideration, **for 2015, 39 percent of the Global Equity external managers indicated that they incorporated climate change into their processes**. The following chart provides a historical perspective of external manager responses to this question:



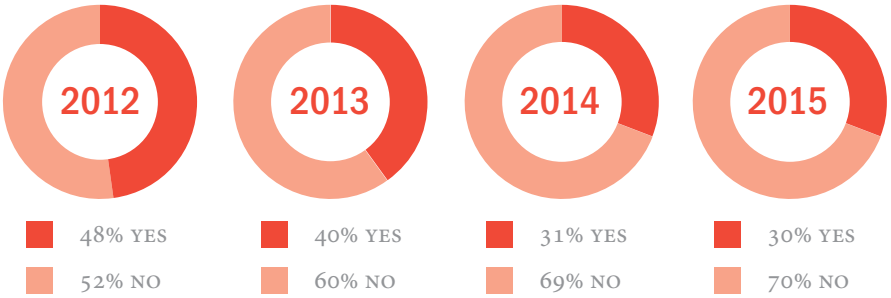

## 2. IS CLIMATE CHANGE A PRIMARY FACTOR?

In response to the question of whether climate change was a primary factor in investment considerations, **for 2015, only 9 percent of the Global Equity external managers indicated that they made climate change a primary factor in their investment considerations.** The following chart provides a historical perspective of external manager responses to this question:



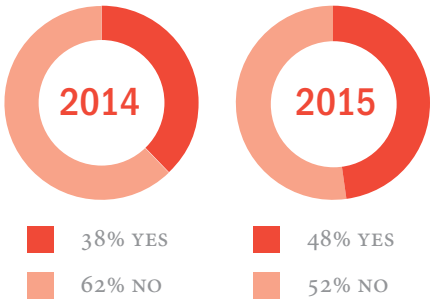
## 3. HAVE YOU TAKEN STEPS IN 2014–15 TO BETTER INCORPORATE CLIMATE RISK INTO YOUR INVESTMENT PROCESS?

In response to the question of whether managers had taken steps to better incorporate climate risk over the past year, **for 2015, 30 percent of the Global Equity external managers reported that they had**. The following chart provides a historical perspective of external manager responses to this question:




## 4. IS YOUR ORGANIZATION A UNPRI SIGNATORY?

In response to the question of whether external managers were signatories to the United Nations-supported Principles for Responsible Investment initiative **for 2015, 48 percent of external managers indicated that they were signatories.** The following chart gives a year-over-year comparison for this question:



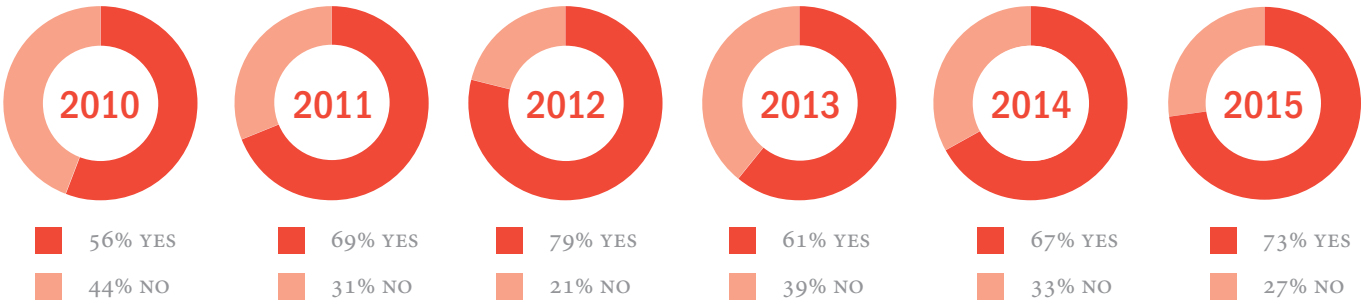
## Analyzing the Results

Between 2010 and 2012, there was a slight rise in the number of managers who incorporated climate change risk into their investment processes, with 55 percent of managers incorporating climate change in 2012, up from 49 percent in 2010. However, over the past three years, the percentage of managers who incorporate climate change considerations has dropped considerably, down to 39 percent in 2015.

Further analysis of these numbers shows that the recent decline in managers who incorporate climate change risk in their investment process continues to come from U.S.-based external managers.

The following chart shows the percentage of non-U.S. based managers who were incorporating climate change risk between 2010 and 2015.

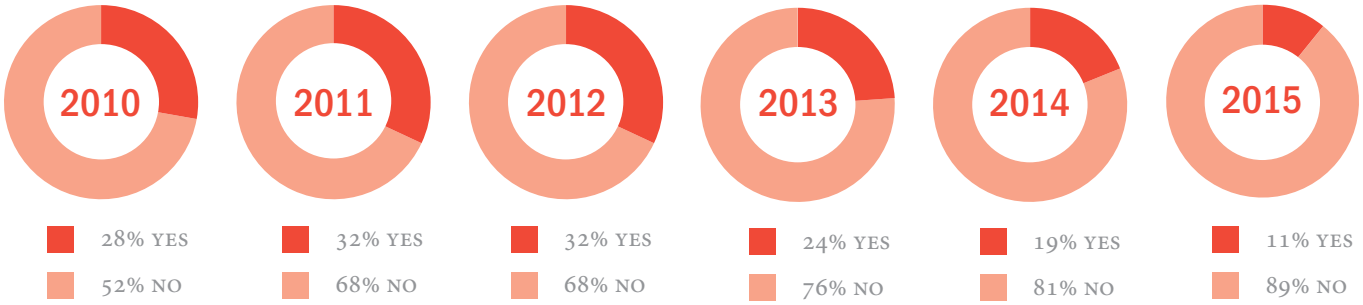
**Non-U.S. Based Managers Incorporating Climate Change Risk 2010–2015**




As the chart shows, **the number of non-U.S. managers rose substantially from 2010 to 2012, to 79 percent.** More recent survey results show non-U.S. manager incorporation of climate change considerations fell to the low- to mid-60 percent ranges before rising up to 73 percent in 2015.

The following chart shows U.S. manager response to the same question over the same time period.

**U.S. Based Managers Incorporating Climate Change Risk 2010–2015**

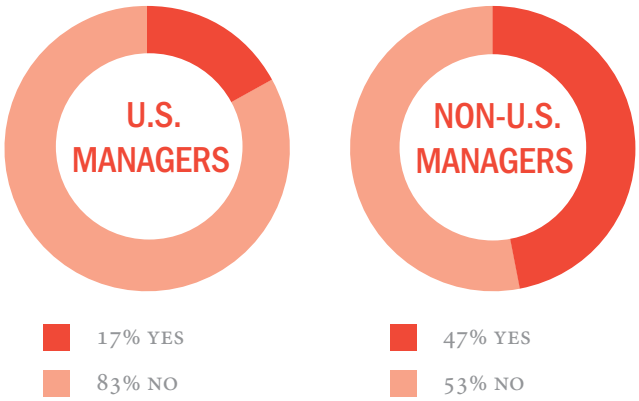



As the chart shows, **the number of U.S.-based managers incorporating climate change considerations has fallen from a high of 32 percent in 2012 to a low of 11 percent in 2015**. When viewed from a policy perspective, these numbers are not surprising. U.S. reticence to adopt climate change-related policies and regulations likely lessen the perceived investment risks associated with climate change. Conversely, regions outside the U.S., particularly Europe, have adopted policies and regulations surrounding carbon emissions and clean energy generation, likely influencing the perceived risk levels associated with high carbon and clean energy investment.

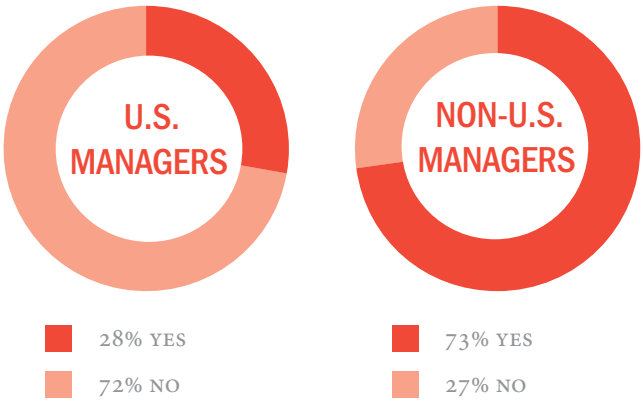
The response associated with question 2 demonstrates a low level of consideration regardless of geographical orientation. Collectively, **only 9 percent of managers indicated that climate change was a primary factor in their investment considerations. Breaking down this data, we find that about 6 percent of U.S. managers make climate change a primary factor while about 13 percent of non-U.S. managers elevate climate change to primary status.** It would seem that most managers do not perceive climate change to be an immediate risk.

There appears to be regional variance surrounding questions 3 and 4. **In 2015, a significant percentage of non-U.S. managers surveyed indicated they had taken steps to better incorporate climate risk into their investment processes and nearly three-quarters of the non-U.S. managers surveyed said they were PRI signatories.** Conversely, in 2015, an overwhelming majority of U.S. managers had not taken steps to better incorporate climate risk into investment processes and most were not PRI signatories.

## HAVE YOU TAKEN STEPS TO BETTER INCORPORATE CLIMATE RISK INTO YOUR INVESTMENT PROCESS?




## AS OF 2015, WERE YOU A PRI SIGNATORY?




This regional variance in responses to questions 3 and 4 **is likely explained by the variance in investor attitude associated with environmental risks, particularly climate change risk, in the U.S. and abroad. U.S.-based investors do not seem to put as much emphasis on environmental risk integration as their non-U.S. counterparts** and this divergence of attitudes is likely reflected in the managers that serve each of these regions.

> You will find sample responses to these climate risk management questions received from Global Equity external managers in the appendix.

## Corporate Engagement

### Carbon Risk Engagement

*During fiscal year 2014–15, staff continued to engage oil and gas companies held in the Global Equity Portfolio concerning their rationale behind capital allocation into long-term projects aimed at increasing fossil fuel reserves. This effort is the evolution of staff's earlier engagement of fossil fuel companies regarding how their fuel reserves were valued and whether companies considered the possibility that some portion of their reserves could become stranded as described in stranded asset theory.*

Stranded asset theory states that companies in the oil and gas and coal industries are overvalued because their value is based on a level of fossil fuel reserves that, if burned, would increase atmospheric levels of carbon dioxide such that global temperatures would rise to a level that could not support human society. Some experts have predicted that between 40 percent and 60 percent of fossil fuel reserves would need to be sequestered if global temperatures were to remain within tolerable limits.

Were this sequestration to occur, theorists claim, then the valuations of oil and gas and coal companies would dramatically decline.

Carbon risk engagement takes the position that with so many theorists saying current levels of fossil fuel reserves cannot become commercially viable, what is the financial reasoning behind the oil and gas industry spending hundreds of billions of dollars in an effort to grow reserve levels even more?

**Some experts have predicted that between 40 percent and 60 percent of fossil fuel reserves would need to be sequestered if global temperatures were to remain within tolerable limits.**

Investor Network on CLIMATE RISK a project of Ceres

Signatory of: PRI Principles for Responsible Investment

### Carbon Risk Engagement—Collaborative Efforts

Much of CalSTRS' work on carbon risk during fiscal year 2014–15 was in collaboration with fellow members of the Investor Network on Climate Risk, a Ceres-led investor group that focuses on managing climate change risks. This engagement effort focused on how fossil fuel producing companies were considering issues, such as expected future energy demand, anticipated future prices of oil and gas, introduction of new technologies and potential regulatory impacts, when making decisions on allocating substantial shareholder capital to new exploration projects that will take many years, if not decades, to achieve profitability.

CalSTRS joined many other institutional investors in this engagement, which was focused on approximately 45 companies held in the CalSTRS Global Equity Portfolio. CalSTRS holdings in these companies have a combined portfolio value of approximately $4 billion. During fiscal year 2014–15, staff led or participated in engagements with Exxon Mobil, Chevron, Occidental Petroleum, Apache Corporation and Hess Energy.

### Hydraulic Fracturing Engagement—Collaborative Efforts

CalSTRS staff has been engaging portfolio companies involved in natural gas exploration and production for many years because these companies are exposed to significant environmental risks. Staff believes it is important to engage these companies to ensure that their environmental risk exposure is being properly managed.

During fiscal year 2014–15, CalSTRS continued to be part of a Principles for Responsible Investment-led collaborative engagement of natural gas producing companies that focused on the risks associated with hydraulic fracturing. CalSTRS is a signatory to PRI and often joins PRI collaborative engagements that align with CalSTRS' long-term, value accretion philosophy.

This engagement focused on 56 companies held in the Global Equity Portfolio. CalSTRS holdings in these companies have a combined portfolio value of approximately $4.6 billion. Staff expects to continue in this engagement throughout the 2015–16 fiscal year.

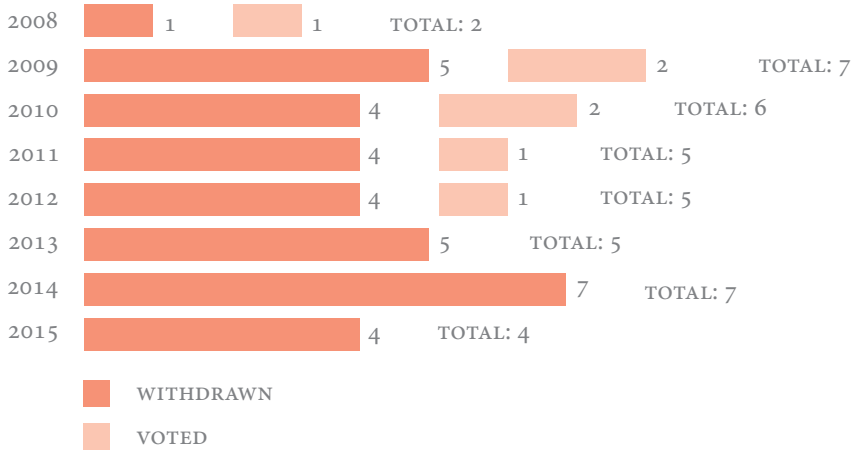
**Hydraulic fracturing engagement is focused on 56 companies held in the CalSTRS Global Equity Portfolio. CalSTRS holdings in these companies have a combined portfolio value of approximately $4.6 billion.**

## CalSTRS Environmental Risk Shareholder Proposals

When staff believes a company is not willing to make the necessary progress toward managing environmental risks, staff will strongly consider exercising CalSTRS equity ownership rights by filing a shareholder proposal with the company, calling on it to improve its environmental-risk management efforts. The intent of the proposal is to bring CalSTRS' concerns to the company's shareholders and generate enough support from the investor base to convince the company to commit to CalSTRS' recommendations. Often, the filing of a proposal will increase a company's willingness to engage further with staff and lead to a commitment to improve risk management efforts.

Since 2008, CalSTRS has filed 41 environmental-related shareholder proposals that called on companies to improve their environmental risk-management disclosure efforts. Thirty four of those proposals were ultimately withdrawn before the annual meetings because staff was able to negotiate a mutually agreeable outcome with each company. The seven proposals considered by shareholders received, on average, approximately 25 percent support.

## CALSTRS ENVIRONMENTAL SHAREHOLDER PROPOSALS FILED 2008–2015




For the fiscal year 2014–15 proxy season, CalSTRS filed four shareholder proposals that called on selected real estate investment trusts to report on their energy use management strategies. REITs were targeted for engagement because real estate properties present tremendous opportunities for energy efficiency gains.

Engagement candidates were identified through an analysis of REITs held in the CalSTRS Russell 1000 Index. The level of involvement with and disclosure of energy efficiency initiatives was the driving factor behind which REITs were ultimately engaged.

Staff identified 14 REITs believed to be most in need of engagement on implementing and disclosing energy efficiency efforts. Staff sent engagement letters to these 14 REITs, which had a combined portfolio value of approximately $690 million at the time of the analysis.

Staff sent engagement letters to **14** REITs, which had a combined portfolio value of approximately $690 million at the time of the analysis.

The engagement letters outlined CalSTRS' belief that companies need to be cost effective, that incorporating efficiency initiatives into business plans would be beneficial from a financial and reputational perspective, and that disclosure surrounding the company's efforts at efficiency could be improved.

Eight of the 14 REITs targeted responded to staff's engagement letter. These eight REITs demonstrated sufficient attention to energy efficiency and a commitment to improve disclosure of these efficiency efforts. The four REITs that received proposals were among the REITs that did not respond to CalSTRS' engagement letter and were determined to be more likely to respond positively to the receipt of a proposal. Staff's analysis proved correct because subsequent to receiving the shareholder proposal, all four REITs chose to engage CalSTRS and either demonstrated that energy efficiency was being considered or agreed to implement energy efficiency reviews of their operations. For this reason, all four proposals were withdrawn.

## Proxy Voting

Voting corporate proxies is a fundamental and important way to manage the risks associated with public equity ownership. Voting proxies is also a duty of all fiduciaries. The responsibility for voting CalSTRS proxies has been delegated by the Teachers' Retirement Board to staff. The CalSTRS Corporate Governance Principles are guidelines that staff uses to assist it in making proxy vote decisions. Appendix B to the principles is the Statement of Shareowner ESG Responsibility, which provides direction in determining how ESG-related proposals should be considered. The board regularly reviews, revises and approves the CalSTRS Corporate Governance Principles.

Over the course of any fiscal year, staff considers dozens of environmental-related shareholder proposals that cover a variety of issues and ask for varying levels of action. Environmental proposals cover issues such as greenhouse gas emissions, energy efficiency, waste disposal and recycling. These proposals request actions such as report preparation, establishing emissions targets, and setting waste reduction goals. During the 2014–15 fiscal year, CalSTRS considered 90 environmental proposals, supporting 43 of them and voting against 47. The table on the next page provides a breakdown of the various issues considered and the votes cast per issue.

## ENVIRONMENTAL PROPOSALS VOTED, JULY 1, 2014–JUNE 30, 2015

| Issue Description | Votes per Issue | Votes For | Votes Against |
|---|---|---|---|
| Comprehensive Recycling Strategies | 6 | 0 | 6 |
| Bioengineering/Nanotechnology Safety | 6 | 1 | 5 |
| Formation of Environmental/Social Committee | 9 | 1 | 8 |
| Misc. Energy/Environmental Issues | 7 | 3 | 4 |
| Action on Climate Change | 13 | 5 | 8 |
| Reducing Greenhouse Gas Emissions | 24 | 12 | 12 |
| Review Energy Efficiency & Renewables | 2 | 0 | 2 |
| Review Nuclear Facility/Waste | 1 | 0 | 1 |
| Sustainability Report | 22 | 21 | 1 |
| **Total** | **90** | **43** | **47** |
| **Percentage** | | **48%** | **52%** |

The vote percentages in the preceding table reflect CalSTRS' desire to support proposals that staff believes will add value to the investment. The environmental proposals not supported were considered to be lacking shareholder value or were substantially involving the day-to-day management of the company. Traditionally, CalSTRS supports proposals that call for improved environmental risk reporting, unless CalSTRS believes that the company already adequately discloses these risks. Generally speaking, CalSTRS does not support environmental proposals intended to substitute for management's operational judgments. CalSTRS believes that companies should be managing environmental risk but also believes that companies should be the ones to decide how to design and implement risk management systems.

During the 2014–15 fiscal year, CalSTRS considered **90** environmental proposals.

# INVESTMENT MANAGERS & MANAGER INVESTMENTS

## GLOBAL EQUITY INVESTMENT MANAGERS

*The following are overviews from some of the managers in the Global Equities Sustainable Investment Program, along with a summary of a company from those portfolios.*

AGF Investments America Inc. is a global equity manager that invests in securities that fit its proprietary environmental concept of sustainable development to meet its sustainable global equity strategy. AGF believes that companies focused on innovative products and services that use resources more efficiently are being increasingly rewarded by investors. AGF's investment strategy employs thorough due diligence on company fundamentals and emphasizes companies with viable business models derived from sustainable competitive advantages. The portfolio focuses on four themes within which market relevant subthemes are identified. The four themes are energy and energy efficiency, water and waste water solutions, waste management and pollution control, and environmental, health and safety. The portfolio will contain early-stage to mature-stage companies.

AGF is a pioneer in sustainable development investment in Canada, having launched the AGF Clean Environment Fund in 1991. Martin Grosskopf, the portfolio manager for this strategy, is responsible for sustainable investing at AGF and has more than 20 years of experience in financial and environmental analysis. His prior experience includes work as an environmental scientist at Acres International Limited.

### WhiteWave Foods (AGF)

WhiteWave Foods, one of AGF's investments, is a consumer packaged food and beverage company that manufactures, markets, distributes and sells plant-based food and beverages, coffee creamers and beverages, and organic dairy products throughout North America and Europe. The company's brands include Silk plant-based foods and beverages, International Delight and Land O'Lakes coffee creamers and beverages, as well as Horizon Organic dairy products, Alpro and Provamel.

AGF believes the company is well-positioned to benefit from continuing healthy eating trends. Broadly speaking, the natural and organic food industry is growing at approximately 10 percent per year, driven by consumer demand for healthier diets and lifestyles. More specifically, for Whitewave, plant-based food and beverages have numerous health benefits—for instance, soymilk is high in calcium, low in saturated fat, and cholesterol-free, and has been recognized by the FDA for its role in maintaining heart health. The category continues to take market share—from 2009–2012, plant-based beverages grew from 5.3 percent to 6.9 percent of total milk sales in the U.S. grocery industry, while U.S. household penetration of refrigerated plant-based beverages grew from 16 percent to 25 percent between 2008 and 2012.

From a sustainability perspective, plant-based foods also have lower environmental impacts associated with production. For instance, producing a carton of Silk soymilk, almond milk or coconut milk uses 77 percent less water and produces 47 percent fewer greenhouse gases than a carton of dairy milk. Furthermore, WhiteWave has policies and programs in place to manage its raw material sourcing risks, as the company sources more than 90 percent of its dairy from sustainable farms in the U.S. and is one of the first U.S. companies to source sustainable palm oil. The company's ongoing efforts to minimize its environmental footprint is evidenced by the fact it has reduced CO2 emissions by 32 percent, reduced waste to landfill by 28 percent, and reduced non-ingredient water usage by 6 percent on a per gallon of product basis since 2006.

WhiteWave Foods continues to execute well, having grown its top line at double digit rates for the last 15 quarters in a row while delivering 3 percent in productivity savings per year, increasing operating margin. The company continues to support growth through new innovation (for example, almond milk and omega-3 milk) and expanding into selective geographies, notably into China and Brazil, which are expected to account for an increasing portion of soy-based beverage sales in the coming years. Overall, AGF believes the company deserves consideration as a long-term core holding for sustainability investors.

From a sustainability perspective, plant-based foods also have lower environmental impacts associated with production.

# generation

Generation Investment Management LLP was established in April 2004. Former Vice President Al Gore, co-founder and chairman, has long been a leading advocate for confronting the threat of global warming. Co-founder David Blood is a senior partner and previously served as CEO of Goldman Sachs Asset Management. Mr. Blood's current role is focused on Generation's commitment to long-term investing and integrated sustainability research. Generation is one of CalSTRS' non-U.S. sustainable managers.

Generation uses a global investment strategy to identify public equity companies that fit its concept of sustainable investments. Generation believes investment results for equity strategies are maximized by taking a long-term investment horizon. Furthermore, it believes that sustainability issues can impact a company's ability to generate returns and therefore must be fully integrated into its investment process, along with rigorous fundamental equity analysis, to achieve optimal long-term investment results. Generation uses the term "sustainability research" as the analysis of shareholder value implications of long-term environmental as well as economic, social and geopolitical challenges.

**Ingersoll-Rand (Generation)**

Ingersoll-Rand designs, manufactures, sells and services a portfolio of industrial products. The company has transformed from an industrial conglomerate to a more focused temperature control and air compression business. Energy efficiency and environmental impact are key factors in two major segments it operates in: the HVAC—heating, ventilation and air conditioning—and refrigeration industries. Generation believes Ingersoll-Rand has embedded sustainability into its business, which will provide it with the license to deploy capital steadily and profitably for years to come.

Generation has long understood the importance of increasing the energy efficiency of buildings through their design, materials, equipment and systems. Sustainability solutions around urbanization trends have been a key area of focus and led Generation's roadmap work on urbanization trends and its implications in early 2014. It is clear to Generation that urbanization is happening at an unprecedented scale and pace: the worldwide urban population is predicted to double by 2050. In China some 230 million people will be moving to Chinese cities over the next 10 to 15 years. Major sustainability challenges for the world's resources and solutions that focus on the growing built environment, particularly in emerging markets, will become increasingly relevant.

Generation's research has identified the HVAC of buildings as the most energy intensive function in commercial and residential buildings, accounting for up to 50 percent of total energy use. As a key building feature, providers of more energy efficient systems can have a meaningful impact on the environment. Generation believes that Ingersoll-Rand is a leader in energy efficiency products and that its management team has integrated sustainability, which will provide tailwinds across all business segments. By 2020, Ingersoll-Rand projects almost half of the company's global portfolio will be tailored toward efficiency solutions. Among its refrigerants business—less than 20 percent of its total revenues—Ingersoll-Rand supports the transition to refrigerants with lower global warming potential that are safe, energy efficient, cost-effective and environmentally sound.

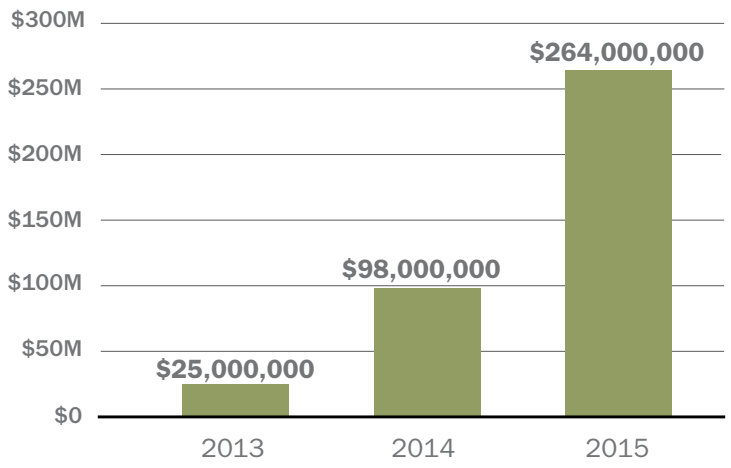
Major sustainability challenges for the world's resources and solutions that focus on the growing built environment, particularly in emerging markets, will become increasingly relevant.

# FIXED INCOME–GREEN BOND GROWTH

The green bond market has continued to grow this year but at a slower pace than in 2014. According to the Climate Bonds Initiative's report, *Bonds and Climate Change: The State of the Market in 2015*, $36.6 billion in labeled green bonds were issued in 2014 and another $14 billion were issued as of June 10, 2015. The $14 billion in green bonds issued is less than expected and approximately 24 percent less than what was issued last year during the same time period. The Climate Bonds Initiative still expects issuance to reach $70 billion for the year, with a surge in issuance expected around the UN Climate Change Conference in Paris in December 2015. Though 2015 has not been as robust as 2014, total labeled green bonds outstanding were approximately $65 billion as of June 10, 2015. You will find the report online at climatebonds.net/resources/publications/bonds-climate-change-2015.

The growth of the green bond market is reflected in the growth in green bonds held in the CalSTRS Fixed Income Portfolio. The following chart shows the tremendous increase in CalSTRS' exposure to this type of investment.

## CALSTRS GREEN BOND HOLDINGS




CalSTRS exposure to green bonds has grown more than tenfold in just the past two years. More information on CalSTRS green bond investments can be found in the *Investment Portfolios & Performance* section of this report.

### Green Bond Memberships

The CalSTRS Fixed Income Unit continues to be a guiding member of climate-related groups such as the Climate Bonds Initiative and the International Capital Market Association's Green Bond Principles.

**$36.6 billion** in labeled green bonds were issued in 2014 and another $14 billion were issued as of June 10, 2015.

CalSTRS is on the Climate Bond Standards Board of the Climate Bonds Initiative, which is a multidisciplinary and multimember nonprofit organization that seeks to establish standards along with a certification schedule for issuers and underwriters interested in issuing green bonds. A number of technical and working groups are attempting to establish rigorous standards in areas ranging from solar energy to biofuels. The Fixed Income Unit continues to work closely with CalSTRS Corporate Governance on this initiative.

### Green Bond Principles

In January 2014, the International Capital Market Association's Green Bond Principles were developed through guidance from issuers, investors and environmental groups and serve as voluntary guidelines for the development and issuance of green bonds. The 2015 edition of the Green Bond Principles was released earlier this year after a consultation period with members and observers, including more than 130 institutions active in the green bond market. 2015 also saw the Green Bond Principles First Annual General Meeting and Conference, which took place in London. Currently, the CalSTRS Fixed Income Unit is an executive committee member and the International Capital Market Association serves as secretariat. Executive committee membership is based on a rotating election. Additional information on the International Capital Market Association and the Green Bond Principles can be found at icmagroup.org/Regulatory-Policy-and-Market-Practice/green-bonds/.

The CalSTRS Fixed Income Unit will continue to expand its leadership role in the green bond market and to meet with peers, bankers and issuers to better define the green bond space. The unit will also serve as a resource to others looking to enter the field as an investor or issuer.

## Green Bond Investments

Details on some of the projects funded by green bonds as well as information regarding the issuer's green bond program follow.

### Morgan Stanley

In June 2015, Morgan Stanley issued its inaugural $500 million green bond issue. Like other issuers, Morgan Stanley issued its bonds following the guidelines of the Green Bonds Principles. One of the projects included in its green bond portfolio is the Briscoe Wind Farm, currently under construction. The Briscoe Wind Farm, located in Texas, is expected to provide 150 megawatts in wind power. A second project still under construction in Texas, the Rattlesnake Wind Energy Center, is expected to provide 207 megawatts of wind power when completed. For additional information on Morgan Stanley's Green Bond program, visit morganstanley.com/articles/green-bond-program/.

### Regency Centers

In May 2014, Regency Centers Corporation issued its first REIT green bond in the amount of $250 million. Though this bond was issued in the previous fiscal year, Regency published its first Green *Bond Use of Proceeds and Management Report* in March 2015. As a REIT, Regency owns, operates and develops retail centers anchored by a grocery store. Bond proceeds were used for eligible green projects with a LEED certification rating. An example of one of its projects is the Market at Colonnade in Raleigh, North Carolina, a center anchored by Whole Foods Market. Here are some highlights of the center:

- LEED Silver certification.
- "Innovative Low Impact Design," which captures and reuses up to 300,000 gallons of storm water runoff for site irrigation and plumbing.
- 87 percent of waste generated during construction was recycled.
- LEED Gold certification of the shopping center's anchor, Whole Foods Market.
- 2015 U.S. Environmental Protection Agency Region 4 Rain Catcher Award.

Additional information on this project and Regency Centers can be found at regencycenters.com/company_information/environmental.php#.VYsh60ZOVFo.

### NRG Yield

In August 2014, NRG Yield issued its first green bond in the amount of $500 million to fund the acquisition of the 947 megawatt Alta Wind facilities in Tehachapi, California. This wind facility expects to generate enough clean, renewable energy to power more than 750,000 California homes during peak energy times. NRG Yield estimates annual environmental benefits include the avoidance of 1.5 million metric tons of greenhouse gases and savings of 300 acre-feet of water. More information on NRG Yield can be found at http://investor.nrgyield.com.

# PRIVATE EQUITY INVESTMENT MANAGERS

*The following is an overview of a manager in the CalSTRS Private Equity Clean Technology and Energy Program as well as an overview of one of the program's investments.*

### Advent International

Advent International is a global buyout investment firm with offices in London, Boston, Madrid, New York, Mumbai, Mexico City, Warsaw, Prague, Paris, Frankfurt, Sao Paulo, Shanghai and Bogota. CalSTRS has invested $263 million in Advent International GPE VI (global buyout) and $99 million in Advent Central Eastern Europe IV.

### Investment – BOS Solutions

BOS Solutions is a portfolio company investment that was made in October 2010 by Advent International (Advent GPE Fund VI). BOS Solutions provides fluid treatment and recovery to the oil and gas industry in North America. During horizontal fracture drilling and hydraulic fracturing, large volumes of oil, chemical or water-based fluids are required to maintain well integrity and remove natural debris. As a by-product, contaminated solid and liquid waste is created and must be treated before being disposed. Traditionally, this treatment involved large open liquid-reserve pits that would store contaminated waste but be susceptible to environmental contamination. BOS eliminates the waste-disposal pit by treating fluids directly from the drilling rig. This leads to lower drilling costs as materials are recycled, less material in landfills or pits, reduced trucking costs, improved site safety, and the elimination of a potential environmentally harmful waste-disposal pit.

Pictured above is a BOS Tank System to treat drilling fluid.

Advent International invested $111 million in BOS Solutions in October of 2010. The investment in BOS Solutions is valued at $173, which represents a 1.6 times unrealized return of invested capital. This performance is driven by BOS' expansion of its operations across most major oil and gas regions in North America since October of 2010.

# REAL ESTATE: BUILDING GREEN

*The following are examples of efficiency projects that one of the managers in the CalSTRS Real Estate Portfolio has successfully completed.*

CBRE GLOBAL INVESTORS

CBRE Global Investors has been a Separate Account Real Estate adviser to CalSTRS since September, 1987. CBRE currently manages office properties for CalSTRS valued at $2.4 billion and located across the U.S. Most of the office buildings are in primary, gateway cities, including New York, Boston, Los Angeles, San Francisco, Seattle, Houston and Denver. CBRE is Real Estate's second largest manager and one of its oldest standing relationships.

Corporate responsibility is at the heart of CBRE's business practices and the firm seeks to be recognized as much for its commitment to responsible business as for the quality of its commercial real estate services. CBRE has an environmental strategy that leverages key areas of environmentally sound performance in its operations and client services.

Most of CalSTRS' office property investments with CBRE are through the separate account mandate, which means CalSTRS owns the assets 100 percent outright and CBRE collects an annual asset management fee based on the appraised gross asset value (GAV) of the building.

## ATLANTA PLAZA/ ATLANTA, GA

Atlanta Plaza is a premier office property located within the Buckhead area of Atlanta, Georgia. Offering a striking architectural design and dramatic views, Atlanta Plaza is LEED Silver and Energy Star certified.

## METROPOINT 1 / DENVER, COLORADO

Metropoint 1 is located in Denver, Colorado, and boasts more than 85 thousand square-feet of office space. Built in 1986 and renovated in 2004, Metropoint 1 is Energy Star rated.

# INFLATION SENSITIVE: GREEN INFRASTRUCTURE

*The following are two examples of green investments currently held in the Inflation Sensitive Portfolio.*

## BALFOUR BEATTY INFRASTRUCTURE FUND

### McEwan Power

McEwan Power is a portfolio of 10 United Kingdom-based solar power installations with a total capacity of 71 megawatts owned and operated by Balfour Beatty Infrastructure Partners. BBIP acquired the installations throughout 2013 and 2014. From acquisition to June 30, 2015, McEwan Power has generated approximately 134 gigawatt hours of clean electricity, enough energy to power 40,000 homes for one year, and saved approximately 58,000 metric tons of carbon dioxide relative to conventional power generation.

## Atlantic Energias Renovaveis S/A

Atlantic Energias Renováveis S/A is a renewable energy company that plans to buy and build 675 megawatts of wind and hydropower generation infrastructure throughout Brazil by 2018. The Brazilian government altered its regulatory framework to encourage renewable energy investment in order to increase the country's energy capacity while reducing its reliance on coal and fossil fuels. Capitalizing on this regulatory environment, Actis made its first commitment to Atlantic in September 2013. Currently, Actis has committed $355 million to Atlantic and owns 60 percent of the company.

Atlantic is successfully executing its strategy. Atlantic and Actis as a co-investor currently control a portfolio of 652 megawatts of renewable power generation projects. Of this, 70 megawatts have been in operation since second quarter of 2014 and an additional 30 megawatts are scheduled to enter commercial operation in August 2015. Construction on the other projects has begun or is scheduled to begin over the next nine months.

# INVESTMENT PORTFOLIOS & PERFORMANCE

## 1. GLOBAL EQUITY SUSTAINABLE INVESTMENT PROGRAM

*All the investments listed in this report were made as part of the normal course of business, received the same level of due diligence as any investment made by CalSTRS, and were made with the primary objective of receiving a maximum rate of return commensurate with an acceptable level of risk.*

The non-U.S. Sustainable Portfolio has enhanced the return of the Global Equity Portfolio by generating **3.82 percent** of excess return.

Within the active components of both the U.S. and non-U.S. Public Equity portfolios, the CalSTRS Global Equity team is pursuing the "double bottom-line" goals of both competitive returns and sustainable investing through allocations to three investment managers.

### Program Summary

In 2007, CalSTRS initiated the Global Equity Sustainable Investment Program with a $500 million aggregate commitment to the strategy. As of June 30, 2015, the aggregate value of this portfolio was more than $820 million. Since inception, the existing managers in the U.S. Sustainable Portfolio have added 0.08 percent of excess return to the Global Equity Portfolio while the non-U.S. Sustainable Portfolio has enhanced the return of the Global Equity Portfolio by generating 3.82 percent of excess return. Staff will continue to evaluate allocations to and within the Sustainable Investment Program.

In addition, Global Equity staff actively engages the core investment managers about their continued consideration of the CalSTRS 21 Risk Factors, as set forth by the Investment Policy and Management Plan, when making investment decisions. The Global Equity managers provide their insights on the 21 risk factors as they relate to the invested countries and companies. Environmental risk is one of the 21 risks listed in the policy that addresses key themes within the sustainability program–climate change, air quality, water quality and land protection.

In further efforts to raise awareness of environmental considerations when investing, all external equity investment managers are surveyed annually to assess how they consider climate change risk in their investment process. The results of this year's survey are discussed in the Risk Management section of this report.

## PROGRAM ASSETS

| Manager Name | Funded | Market Value (In Millions) | Benchmark | Comments |
|---|---|---|---|---|
| New Amsterdam Partners | 2007 | $0.62 | Russell 1000 Custom Index | New Amsterdam screens for environmental performance factors after it passes through the fundamental phase of the investment process. |
| AGF Investments America | 2007 | $243.6 | MSCI World Custom Index | AGF Investments invests in companies with viable business models categorized as environmental innovators, environmental leaders, and environmentally benign companies. |
| Generation Investment Management | 2007 | $577.0 | MSCI World Custom Index | Generation believes sustainability issues can impact a company's ability to generate returns, therefore, sustainability must be fully integrated with rigorous fundamental equity analysis to achieve optimal long-term investment results. |
| **Total** | | **$821.2** | | |

*Source: St eet as of June 30, 2015*

## PROGRAM PERFORMANCE

| Annualized Performance Since Inception | | | | |
|---|---|---|---|---|
| **Manager Name** | **Inception Date** | **Portfolio Return** | **Benchmark Return** | **Net Excess Return** |
| New Amsterdam Partners | 7/1/2007 | 6.71 | 6.63 | 0.08 |
| **U.S. Sustainable Composite** | **5/1/2007** | **6.71** | **6.63** | **0.08** |
| AGF Investments America | 8/1/2007 | 2.31 | 3.59 | -1.28 |
| Generation Investment Management | 6/1/2007 | 9.86 | 3.13 | 6.73 |
| **Non-U.S. Sustainable Composite** | **6/1/2007** | **6.95** | **3.13** | **3.82** |

*Source: State Street as of June 30, 2015*

**Investment managers are mandated with a "double-bottom line" goal, which includes both a dedication to sustainable investing and competitive returns.**

These investment managers are mandated with a "double-bottom line" goal, which includes both a dedication to sustainable investing and competitive returns. Evaluating these managers on traditional benchmarks is problematic because these mandates intentionally overweight sustainable stocks that may face short-term headwinds. While this mismatch is noted, these managers are expected to contribute to the excess return target over the policy benchmarks in the long term.

## 2. PRIVATE EQUITY CLEAN TECHNOLOGY AND ENERGY PROGRAM

As of June 30, 2015, CalSTRS Private Equity has committed **$692.9 million** to clean technology and clean energy investments.

*The Private Equity Clean Technology and Energy Portfolio is a diversified portfolio of venture and buyout investments across the clean technology and clean energy universe. Private Equity intends to be a long-term investor in the clean technology and energy sector with superior domain expertise. The program is global in scope and includes both fund investments and co-investments.*

*Potential investments are screened and selected using the same processes and decision-making criteria consistent with the Private Equity Program as a whole. Investments are considered side-by-side along all other private equity opportunities and are held to the same standards with respect to risk-expected return profiles and due diligence procedures and requirements.*

## PORTFOLIO STATUS AS OF JUNE 30, 2015

**As of June 30, 2015, CalSTRS Private Equity has committed $692.9 million to the following private equity investments in the clean technology and clean energy sector:**

| Investment Name | Year | Commitment (In Millions) | Type | Comments |
|---|---|---|---|---|
| Co-investment #1 | 2005 | $30.0 | Co-investment | Start-up company provides financing to small-scale alternative energy projects throughout the U.S. |
| NGEN Enable Technologies Fund II | 2005 | $15.0 | Venture Capital Fund | Materials sciences focus; headquartered in Santa Barbara. |
| VantagePoint Cleantech Partners | 2006 | $15.2 | Venture Capital Fund | New practice group for CalSTRS longtime venture capital partner; headquartered in San Bruno. |
| Craton Equity Investors I | 2006 | $30.0 | Venture Capital Fund | Los Angeles-based firm specializing in clean technology growth companies. |
| Carlyle-Riverstone Renewable Energy Infrastructure Fund | 2006 | $50.0 | Buyout Fund | Specialty product for mainline energy investment firm. Finances renewable energy projects globally but primarily in the U.S. |
| Hg Renewable Power Fund | 2006 | $60.8 | Buyout Fund | Specialty investment for London-based buyout firm. Finances renewable energy projects, primarily wind assets in Europe. |
| Co-investment #2 | 2006 | $12.5 | Co-investment | Company installs and operates facilities to convert landfill gas to electrical power. |
| USRG Power & Biofuels Fund II | 2007 | $60.0 | Buyout Fund | Focus on small renewable power and biofuels projects in North America; headquartered in Santa Monica, CA and White Plains, NY. |
| Co-investment #3 | 2008 | $6.0 | Co-investment | Waste to energy company that uses a proprietary plasma technology to convert municipal solid waste into an energy-rich fuel—syngas. |
| Riverstone/Carlyle Renewable & Alternate Energy Fund II | 2008 | $ 300.0 | Buyout Fund | Focus on worldwide buyout and growth capital control investments involving renewable and alternative energy companies. |
| Co-investment #4 | 2010 | $ 36.0 | Co-investment | Company is a developer of utility-scale solar thermal power plants. |
| Hg Renewable Power Fund II | 2010 | $62.1 | Buyout Fund | Specialty product for London-based buyout firm. Finances renewable energy projects, primarily wind assets in Europe. |
| Craton Equity Investors II | 2012 | $15.3 | Venture Capital Fund | Los Angeles-based firm specializing in clean technology growth companies. |
| **Total** | | **$692.9** | | |

The current Clean Technology and Energy Portfolio accounts for 1.5 percent of the overall Private Equity Portfolio in terms of total dollars committed. About 79.6 percent of the current Clean Technology and Energy Portfolio is committed to buyouts and the remaining 20.4 percent is committed to venture capital. Co-investments account for 10.3 percent of the overall contributed capital to the clean energy/technology portfolio.

## Portfolio Performance

All data is based on first quarter 2015, cash-flow adjusted as of June 30, 2015.

As of June 30, 2015, the average age of the underlying investments in the Clean Technology and Energy Portfolio is approximately 7.7 years. Approximately 87.4 percent of total commitments have been called to date, with about 2.1 percent contributed within the last year. Nearly all (81.3 percent) of the unfunded capital are in two buyout funds: Riverstone/Carlyle Renewable and Alternative Energy II and Hg Renewable Power Fund II. Capital drawdowns have continued to slow down compared to the prior reporting period and reflect the maturity of the portfolio and slower new investment activity since 2010. The latter is primarily due to the absence of compelling investment opportunities available in this sector that continues to lack support from the capital markets.

**87.4 percent of total commitments have been called to date.**

Approximately 40.2 percent of the contributed capital has been realized (distributed). Similar to the last annual reporting period, approximately 78 percent of total realizations to date have come from investments in buyout funds and the remaining 22 percent from venture capital funds. Since June 2014, we have received additional distributions of $42.5 million, compared to $38.3 million during the prior year. The overall distribution pace has been steady over the prior years, as several of the funds approach the end of their fund term.

As shown in the table below, overall buyout performance declined slightly, though the underlying individual fund level performance stayed relatively flat. Venture capital performance declined significantly during the 13-month period ending June 30, 2015, primarily due to a substantial mark down in one of the underlying investments.

## CALSTRS CLEAN TECHNOLOGY AND ENERGY PORTFOLIO PERFORMANCE COMPARISON: MAY 2014–JUNE 2015

| Clean Technology and Energy Portfolio—Multiple of Cost | | |
|---|---|---|
| | June 30, 2015 | May 31, 2014 |
| Venture Capital | 0.73x | 0.90x |
| Buyout | 0.94x | 0.96x |

The more mature funds, raised prior to the financial crisis of 2008, are currently valued at 0.45 times cost. The majority of the pre-2008 commitments went to venture capital funds, which in general have performed below expectations across all sectors. Unlike most other sectors, which have recovered since the recession, the clean tech sector continues to be lackluster. Staff believes there is potentially remaining value yet to be realized in some of the portfolio companies and expects some recovery on a multiple of money basis; however, the internal rate of return may end up below expectations.

The funds invested during and after 2008 were slower to deploy capital and so have younger portfolios that are currently valued at 1.23 times cost. Approximately 87 percent of the invested capital contributions are in buyout funds, which engage in several value creation initiatives that generally take time to reflect valuation increases. Staff expects the performance of this portfolio to remain steady as these investments mature.

# 3. REAL ESTATE SUSTAINABLE RETURNS PROGRAM

*The goal of the CalSTRS Real Estate Green Program is to increase the risk adjusted returns by incorporating conservation and sustainability in the development and management of the Real Estate Portfolio.*

## STEPS TO SUSTAINABLE RETURNS

| | |
|---|---|
| 1 | Incorporate conservation and sustainability into the planning cycle for the existing portfolio. |
| 2 | Establish benchmarks to track energy use, develop capital improvement plans, make energy efficiency upgrades, and measure the benefits by reduced consumption of energy. By reducing resource consumption, value is added to the portfolio. |
| 3 | Include sustainability measures in investment decisions, including new development projects. |
| 4 | Practice conservation and sustainability within the CalSTRS-occupied buildings. |

## PROGRAM SUMMARY

*Incorporate conservation and sustainability into the planning cycle for the existing portfolio.*

In 2003, CalSTRS Real Estate staff directed all separate account investment managers to include a "Conservation/Sustainability Assessment" in their annual planning and budgeting process. The goal was to enhance value, create awareness and become more socially responsible investors. The planning process challenges managers to assess strategies relating to "green buildings," which are defined as "structures that are designed, built, renovated, operated or reused in an ecological and resource-efficient manner."

While staff encourages green-related programs in the planning and budgeting process, all capital expenditures must be supported by appropriate return on investment measures and payback periods. A detailed list of CalSTRS separate account, building-specific green projects is available upon request.

*Establish benchmarks to track energy use, develop capital improvement plans, make energy efficiency upgrades and measure the benefits by reduced consumption of energy. By reducing resource consumption, value is added to the portfolio.*

## THE RATING SYSTEMS: ENERGY STAR AND LEED

### The Energy Star Rating System

In 2005, CalSTRS entered into a partnership with the Environmental Protection Agency's ENERGY STAR® program. Energy Star is used by leaders within the real estate industry. This partnership has provided CalSTRS with a tool to take control of energy use by providing the best information and resources for improving energy and environmental performance.

Energy Star uses a scale of 1–100 to rate the relative energy performance of new and existing buildings. The rating, which is certified by a professional engineer, is based on the amount of energy the building uses over a 12-month period, as evidenced by utility bills, the amount of CO2 it emits, the nature and intensity of its occupancy, and its location. A score of 75 or more qualifies a building for an Energy Star label. This means the building is in the top 25 percent of like structures in energy efficiency for the year rated.

**78%**

**of CalSTRS Separate-Account office buildings are Energy Star certified and ranked in the top quartile of energy-efficient buildings.**

## Energy Star Rating System Results

As of June 30, 2015, 78 percent of the CalSTRS Separate Account office buildings were Energy Star certified and ranked in the top quartile of energy-efficient buildings. As the following table shows, the 78 percent of office buildings certified is a decrease from the 86 percent certified as of June 30, 2014. This decline in percentage of Energy Star-rated buildings is largely due to turnover in the Real Estate Portfolio.

## ENERGY STAR RATING SYSTEM RESULTS

| Report Date | Number of Separate Account Properties | Number of Buildings With an Energy Star Rating at or Above 75 | Percentage of Buildings With an Energy Star Rating at or Above 75 |
|---|---|---|---|
| 2007 | 28 | 13 | 46% |
| 2008 | 28 | 22 | 79% |
| 2009 | 28 | 23 | 85% |
| 2010 | 33 | 28 | 85% |
| 2011 | 31 | 28 | 90% |
| 2012 | 28 | 26 | 93% |
| 2013 | 33 | 27 | 82% |
| 2014 | 43 | 37 | 86% |
| 2015 | 40 | 31 | 78% |

## The LEED Certification Green Building Rating System

The LEED, Leadership in Energy and Environmental Design, Green Building Rating System is the nationally accepted benchmark in the U.S. for the design, construction and operation of high performance green buildings. Established by the U.S. Green Building Council, LEED addresses different types of development with distinct rating systems, among them LEED for New Construction and Major Renovation, LEED for Commercial Interiors, and LEED for Existing Buildings: Operations and Maintenance.

The LEED rating systems and the four levels of LEED recognition—Certified, Silver, Gold and Platinum—reflect projected or actual performance beyond certain prerequisites in five critical areas of environmental sustainability: sustainable site development; water savings; energy efficiency; materials selection; and indoor environmental quality.

The rating systems for the various types of development—and from property to property—require and reward somewhat different technologies and strategies, and they give different relative weight to the sustainability categories. Consistently, however, almost 50 percent of the points are at stake in the areas of energy and water conservation.

The table on the next page displays the CalSTRS assets in the Separate Account Portfolio that have achieved LEED certification as of June 30, 2015. As the table shows, the number of LEED buildings in this portfolio fell from 31 last year to 27 this year; and the percentage of buildings with LEED certification dipped slightly from 72 percent last year to 68 percent this year. As with the percentage change seen in CalSTRS Energy Star buildings, the decline in the percentage of LEED buildings is largely attributable to turnover in the Real Estate Portfolio.

## THE LEED CERTIFICATION GREEN BUILDING RATING SYSTEM

| Report Date | Number of Separate Account Properties | Number of Buildings With LEED Certification | Percentage of Buildings With LEED Certification |
|---|---|---|---|
| Fall 2007 | 28 | 0 | 0% |
| Fall 2008 | 28 | 1 | 4% |
| Fall 2009 | 28 | 9 | 32% |
| Fall 2010 | 33 | 13 | 39% |
| Fall 2011 | 31 | 22 | 71% |
| Summer 2012 | 28 | 22 | 79% |
| Summer 2013 | 33 | 24 | 73% |
| Summer 2014 | 43 | 31 | 72% |
| Summer 2015 | 40 | 27 | 68% |

As of June 30, 2015, **68 percent** of CalSTRS Separate Account properties were LEED certified.

# 4. FIXED INCOME GREEN PROGRAM

*In keeping with CalSTRS' commitment to sustainability, the Fixed Income Unit continues to manage risks and seek investable opportunities around environmental issues, such as climate change, across the portfolio.*

## Program Summary

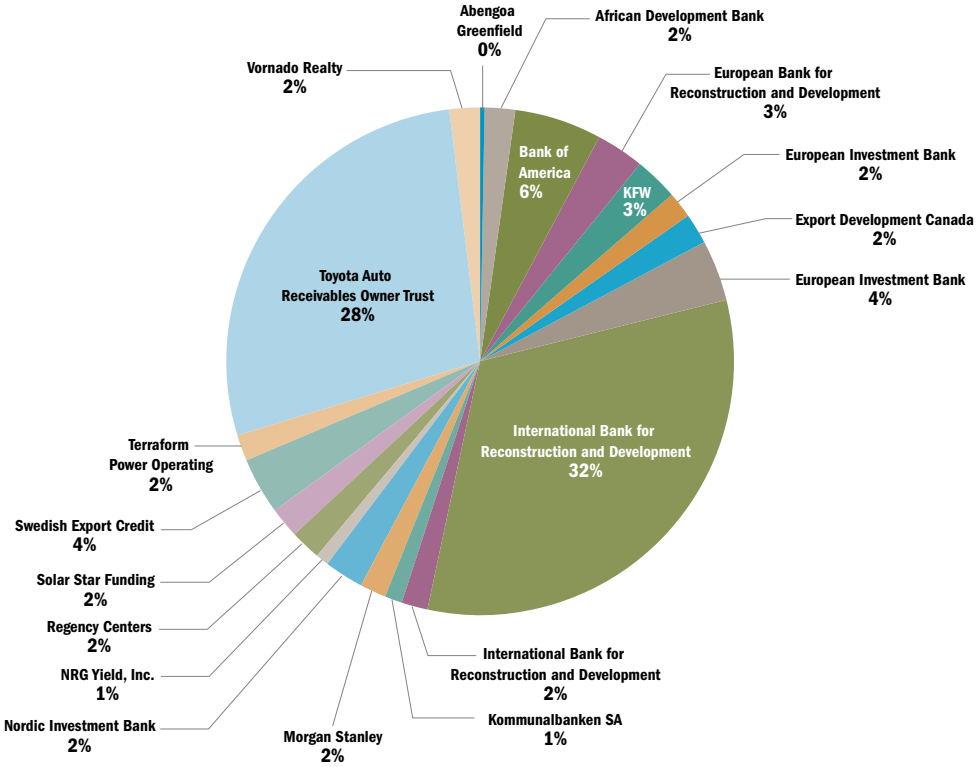
The CalSTRS Fixed Income Unit continues to screen and monitor its holdings for companies involved with sustainability initiatives. As more companies accept climate change and realize the potential for cost savings in their organizations, the adoption of sustainability architecture as part of a company's business operations becomes more commonly observed and accepted in the marketplace. Additionally, the Fixed Income Unit continues to put an emphasis on investments in green bonds.

The Fixed Income Unit held **$264.4 million** in green bonds, an increase of 170 percent from the previous year.

## Green Bond Portfolio

The Fixed Income Unit continues to purchase green bonds as part of its Investment Grade and Short-Term portfolios and, for the first time this year, in its High Yield portfolio. The first high-yield green bond was issued in August 2014 by NRG Yield and was followed by a few others in the high-yield market. As of June 30, 2015, the Fixed Income Unit held $264.4 million in green bonds, an increase of 170 percent from the previous year. Though the green bond market has grown dramatically over the last 12 months, 2014 was definitely more active than 2015. For the fiscal year ending June 30, 2015, the short-term portfolios accounted for more than half of new investments in green bonds. There were several issuers in the market for the first time in U.S. dollar deals, including Morgan Stanley, Swedish Export Credit, KFW and the European Investment Bank.

The chart below and the table on the next page illustrate the issuer diversity in Fixed Income's green bond holdings.



## CALSTRS GREEN BONDS ISSUERS AS OF JUNE 30, 2015

| Issuer | Year Issued | Use of Proceeds |
|---|---|---|
| **Export-Import Bank of Korea** | 2013 | Promotion of transition to low-carbon and climate resilient growth |
| **Solar Star Funding** | 2013 | Solar generating facilities financing |
| **European Bank for Reconstruction and Development** | 2013 | Green project portfolio |
| **African Development Bank** | 2013 | Climate change adaption and mitigation |
| **International Finance Corporation** | 2013 | Renewable energy and energy efficiency |
| **Kommunalbanken** | 2013 | Green project portfolio |
| **Bank of America** | 2013–2014 | Renewable energy projects |
| **Export Development Canada** | 2014 | Special environmental projects |
| **Toyota Motor Corporation** | 2014–2015 | Financing hybrid/electric vehicles |
| **Regency Centers** | 2014 | Eligible green projects |
| **Vornado Realty Trust** | 2014 | Eligible green projects |
| **NRG Yield, Inc.** | 2014 | Renewable energy projects |
| **Nordic Investment Bank** | 2014 | Environmentally sustainable projects |
| **KFW** | 2014 | Environmental and climate protection projects |
| **European Investment Bank** | 2014 | Renewable energy and energy efficiency |
| **International Bank for Reconstruction and Development** | 2014 | Mitigation of climate change and/or adaption |
| **Terraform Power Operating** | 2015 | Renewable energy projects |
| **Morgan Stanley** | 2015 | Renewable energy and energy efficiency projects |

## 5. INFLATION SENSITIVE

*The CalSTRS Infrastructure Program targets essential service assets that primarily are operating and cash generating. Some late-stage development assets are considered under the CalSTRS Infrastructure Policy. The side letter of a fund's closing documents specifies that the manager is required to consider the CalSTRS 21 Risk Factors. The fund documents also encourage the adding of green features/technologies to new builds and existing assets. Solar energy projects, wind energy projects, hydropower and other energy efficiency-based assets are part of the current Infrastructure portfolio. The following table highlights the green investments held in the Inflation Sensitive Portfolio.*

## GREEN INVESTMENTS IN INFLATION SENSITIVE PORTFOLIO AS OF MARCH 2015

| Investment Name[A] | Year of Investment[B] | Approximate Investment Value (In Millions)[C] | Investment Description |
|---|---|---|---|
| **Aela Energia** | 2013 | $2.5 | Wind power in Chile |
| **Atlantic Energia Renováveis** | 2013 | $9.8 | Wind and hydropower in Brazil |
| **Eneo** | 2014 | $1.5[D] | Power generation (includes ~79% hydropower) and transmission in Cameroon |
| **Zuma** | 2014 | $1.4 | Wind power in Mexico |
| **Ostro** | 2014 | $2.9 | Wind power in India |
| **Lekela Power** | 2015 | $1.7 | Wind and solar power in Africa |
| **McEwan Power** | 2013 | $17.9 | Solar power in the U.K. |
| **SunEdison Reserve** | 2010 | $12.0 | Solar power in Europe and North America |
| **Renovalia Reserve** | 2011 | $24.7 | Wind power in Europe and Mexico |
| **Dublin Waste-to-Energy** | 2014 | $0.0 | Waste-to-energy in Ireland under construction |
| **Kingfisher Wind** | 2015 | $2.0 | Wind power in Oklahoma |
| **Long Beach Courthouse** | 2010 | $9.0 | LEED Gold certified courthouse in California |
| **Montreal University Hospital Research Centre** | 2010 | $1.9 | LEED Gold certified healthcare research facility in Canada |
| **Presidio Parkway** | 2012 | $3.9 | LEED Gold certified O&M Center & pursuing Greenroads certification for the highway |
| **Pacific Hydro** | 1996 | $12.3 | Wind and hydropower in Australia and South America |
| **Total Investment** | | **$103.7** | |

[A] Includes asset where a minimum of 25 percent of value is derived from green assets.
[B] Year fund made initial investment—may predate CalSTRS' investment in the fund.
[C] All Valuations as of March 31, 2015. Only the value of the green portion of an asset is reported.
[D] Eneo's value of investment is based on hydro representing approximately 78.5 percent of power generation and power generation representing approximately 45 percent of total asset base.

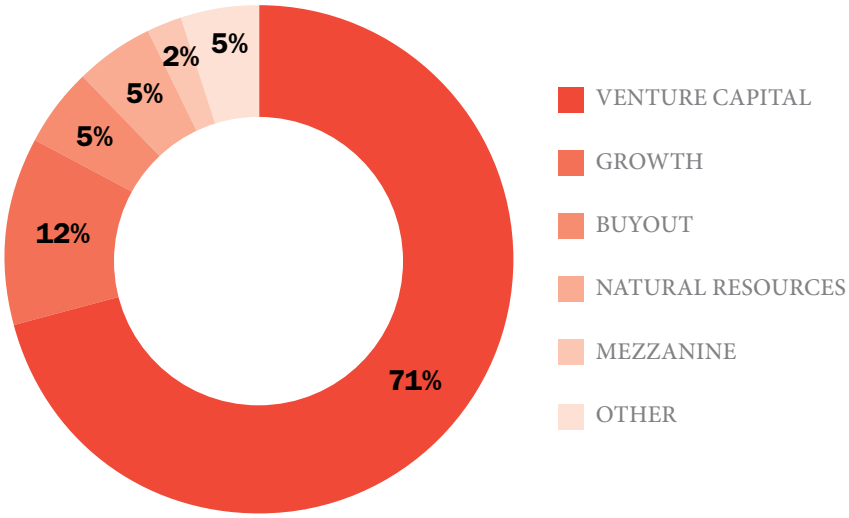
# ISSUES, OUTLOOKS & INITIATIVES

## Private Equity—Current Industry Overview & Future Investment Outlook[1]

According to Preqin's database of more than 104 private equity firms that focus predominantly on the clean technology sector, the majority of these firms are based in developed geographic regions, with 51 percent located in North America and 36 percent in Europe. Many governments of these regions provide subsidies and offer tax credits for investments in renewable or alternative energy.

[1] Material and charts are adapted from "Cleantech Private Equity Fund Managers–July 2015," Simon Li, Prequin, July 22, 2015.

### SOLELY CLEAN TECH-FOCUSED PRIVATE EQUITY FUND MANAGERS BY MAIN INVESTMENT STRATEGY




*Source: Preqin Fund Manager Profiles*

By the end of 2014, more than **26,000** buildings displayed an EPA Energy Star plaque and more than 1.9 billion square feet of commercial space was LEED certified

The majority of clean tech-focused firms pursue venture capital investments, as shown in the chart on the previous page. The other clean tech-focused firms pursue a mixed range of strategies, with growth investments being the second largest category of investment type.

Over the past few decades, there has been an increase in environmental awareness driven by environmental organizations, nongovernmental organizations and governmental dialogue. As a result, clean tech investments were initially met with high levels of exuberance. However, it seems these investments have not fully lived up to their expectations and fundraising has begun to decline. Despite the weakening preference for clean tech investments, reasons for optimism remain. The price of solar panels and other clean technologies are continuing to fall, the usage of electric cars, predominantly in Europe, is increasing, and technology-related to energy storage continues to improve, making it easier for businesses to adopt clean energies.

Based on the investment environment highlighted above, CalSTRS continues to carefully review the fund offerings and focus on the risk-reward of each investment opportunity on a case-by-case basis and alongside the geography, sector and strategy diversification needs of the overall Private Equity Portfolio.

### Real Estate: Looking Forward

By the end of 2014, more than 26,000 buildings displayed an EPA Energy Star plaque and more than 1.9 billion square feet of commercial space was LEED certified. To measure the spread of these certification symbols, CB Richard Ellis again published the Green Building Adoption Index to document the growth of full building LEED certification and Energy Star labels in the top 30 U.S. markets between 2005 and 2014. According to this study, at the end of 2014 more than 13 percent of all buildings representing more than 38 percent of all space now holds an Energy Star or full building LEED certification, compared to 1.3 percent and .1 percent at the end of 2005.

However, the spread is unevenly distributed across housing markets with several markets close to or above 50 percent, led by Minneapolis at 70.4 percent, San Francisco at 70 percent and Chicago at 63.7 percent. At the opposite end of the spectrum were Kansas City at 10.9 percent, Stamford at 12.9 percent and Pittsburg at 13.3 percent.

In addition to these market gaps, the study also revealed a significant gap between buildings of different sizes; 44.4 percent of buildings between 250,000- and 500,000-square feet hold certification while 62.3 percent of buildings more than 500,000-square feet also hold certification. By comparison, only 4.67 percent of buildings smaller than 100,000-square feet, by far the most common size, are certified green. Only 3.3 percent of these buildings hold an Energy Star label and even fewer are LEED certified. In essence, the green building movement is largely a big building phenomenon.

The study also looked at individual market details to better understand the specific dynamics that were working to cause some markets to have high numbers of sustainable buildings and others to not. Apparently there are a number of relevant factors that combine to heighten market performance. These factors include the presence of many big buildings mostly owned by large institutional owners with offshore capital sources. These big buildings are also often managed by large professional management firms that tend to have deeper resources and inhouse sustainability management capabilities. Additionally, these higher performing markets tended to attract those businesses that most often seek and occupy sustainable space, such as technology, financial and government. Finally, the markets themselves are often within communities that have long histories of environmental activism, demonstrated by general and building specific laws and regulations.

How do the most sustainable, greenest buildings in the market differentiate themselves when everyone is also green? There is a widening understanding that occupancy itself in a sustainable building or space may actually enhance a company's bottom line far in excess of any financial savings from energy efficiency programs alone. Most energy efficiency and LEED-related elements are primarily structural or building system in nature. Most improvements in energy usage are gained through capital improvements to energy consuming systems or processes like lighting, mechanical or building controls. Engineers and architects have traditionally played a dominant role in defining, designing and specifying sustainable building characteristics and certification standards. But the emphasis is now changing from "bricks and mortar" to practices, processes and workplace solutions.

In real estate, there is a widely quoted ratio that demonstrates the relative cost elements of a typical real estate space: $3 average cost per square for energy; $30 average cost per square foot for rent; $300 average cost per square foot for salaries. Although the specific numbers may vary some by market, the ratio tends to hold. The point is that the singular focus on lower energy costs is changing and the focus going forward will be on occupants and their outcomes. A minor improvement in occupant productivity can significantly outpace any improvement in energy costs, up to and including the opportunity to save the entire cost of energy and significantly more.

Promoting and advancing this theory is complicated, however, by the fact that while it is easy to calculate the savings derived from a change to lower wattage light fixtures, it is more difficult to accurately calculate and connect future savings on employee health insurance policies due to improved ergonomics and airflow. However, one view emerging is that the choice of office space may have great influence over many important aspects of a company's performance, including sick days, health care costs, employee recruitment and retention, employee satisfaction and productivity gains. These aspects have the opportunity to drive significant value.

Going forward, this new emphasis on the economic benefits of occupancy in sustainable or high performance buildings will likely drive the conversation around green buildings, and owners who can best understand and promote these features may again be able to successfully differentiate their buildings in a more competitive green marketplace.

## Infrastructure Looking Forward

Globally, concern over climate change continues to grow as does the need for additional power generation. Against this backdrop, governments throughout the world are instituting policies to reduce greenhouse gas emissions by increasing both renewable power generation capacity and the efficiency of existing power plants. To achieve these goals, there will need to be increased infrastructure investment within the power industry.

Here in the U.S., there is a recent example of such a policy. In August 2015, the Environmental Protection Agency released the final version of the Clean Power Plan. This policy targets reductions of carbon dioxide emissions from the power sector, so that by 2030 emissions are 32 percent below 2005 levels. States can achieve these targets through a combination of increasing the efficiency of existing power plants, increasing the usage of lower-emitting power plants, and increasing the usage of zero-emitting renewable energy sources.

Significant investment in infrastructure will be required to meet mandates such as the Clean Power Plan and similar policies in other countries. Increased investment in wind and solar power generation will be necessary to expand zero-emission energy capacity. Additional capital will be required to expand and upgrade the electric power grid, so that the additional wind and solar power loads can be accommodated. Investments in existing plants will be necessary to reduce their carbon emissions or, in some cases, replace them entirely. The need for capital to expand and improve the power sector will likely increase the number of infrastructure investment opportunities.

With these changes also comes increased risk. Regulatory changes can both directly and indirectly alter the return profile of existing and future infrastructure investments. Governments may modify incentives and taxes causing decreased revenues and increased expenses for currently operating projects or those under consideration. As the energy mix changes to include a greater share of renewables, with their near-zero marginal cost of production, the price of energy may fluctuate more dramatically depending on when the sun is shining and wind is blowing. As these risks increase, they become a larger factor in investment decisions.

The Infrastructure staff continues to monitor energy policy and its effects within the power sector. Climate change and operational efficiencies toward green and sustainable investing is a key focus during investment due diligences and asset management.

# GREEN INITIATIVE TASK FORCE STRATEGIC PLAN

**The CalSTRS Green Team has identified several initiatives it believes will allow the team to achieve its goals of incorporating environmental considerations into investment risk management and opportunity capture. Over the past few years, team members have been working on the following initiatives:**

| | |
|---|---|
| 1 | Continued education on environmental risk issues and environmental-themed investment opportunities. |
| 2 | Integration of environmental risk factors into manager procurement processes and ongoing due diligence efforts. |
| 3 | Improved ability to consider increased allocations to environmental-themed investments. |
| 4 | Integration of environmental considerations into asset allocation processes. |

During the past fiscal year, Green Team members feel that initiative one was substantively undertaken as staff brought in several environmental experts to discuss risk management and investment opportunity capture. Representatives from Bloomberg and the Sustainable Accounting Standards Board met with Green Team staff during fiscal year 2014–15. For fiscal year 2015–16, staff will continue to seek educational opportunities and work to grow its knowledge base.

Consideration of initiative two was also seen during fiscal year 2014–15. The Global Equity Unit continued to engage external managers on environmental issues, and environmental consideration is part of manager selection efforts. Additionally, as discussed in the *21 Risk Factors* section of this report, staff developed a reporting mechanism to affirm that external mangers were considering environmental risks.

Commitment to initiative three was also seen during fiscal year 2014–15. The Fixed Income Unit substantially grew its green bond holdings and the Inflation Sensitive Unit, through its Infrastructure Program, added new green investments to the CalSTRS Investment Portfolio. For fiscal year 2015–16, Green Team staff will continue to consider additional green investments that meet CalSTRS risk and return requirements.

Progress was also seen regarding support for initiative four. CalSTRS was a participant in Mercer Consulting's 2014–15 climate change asset allocation study, which analyzed how various asset classes would be expected to perform under differing climate change scenarios. A detailed report on the potential impacts to the CalSTRS Investment Portfolio was expected to be provided in fall 2015 and more information on this study is expected to be provided in next year's report.

**For fiscal year 2015–16, Green Team staff will continue to consider additional green investments that meet CalSTRS risk and return requirements.**

# CONCLUSION

*Consistent with CalSTRS' commitment to manage environmental risks and take advantage of appropriate environmental-themed investments, the Green Initiative Task Force will continue to work at identifying environmentally focused strategies intended to enhance the risk-adjusted returns of the overall CalSTRS Investment Portfolio. It will also continue to search for new investment opportunities while providing leadership and maintaining CalSTRS' position at the front of the green movement.*

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# APPENDIX

## SAMPLE RESPONSES TO QUESTIONNAIRE

Three anonymous responses to the 2015 CalSTRS Global Equity Climate Risk Survey are provided below. These examples do not include responses from the global equity sustainable managers, as ESG factors are an integral part of their investment process. Rather, these sample responses come from CalSTRS' mainstream public equity managers. Manager's names and other confidential information, such as holdings, have been removed from the responses.

| Question | Manager A |
|---|---|
| **Do you explicitly incorporate climate risk in your investment process?** | Consideration of the full spectrum of risks most applicable to a given company or industry is incorporated into our global investment analysts' ultimate recommendations on a company's securities. A factor such as climate change risk (or conversely, the business opportunity created as a result of climate change) is explicitly incorporated into our long-term expectations of company performance for those securities where we believe this factor is measurable and material. |
| **Is climate change a primary factor and are you aware of climate change issues when making stock selection?** | Generally speaking, we would not characterize climate change as a primary factor in our analytical frameworks. There are exceptions, primarily within our alternative energy and utilities teams. |
| **What steps have you taken to better incorporate climate risk into your process?** | The increasing prominence of the movement to divest fossil fuels has caused us to have more frequent internal discussions on this campaign specifically and climate change risk more generally. Our ESG team worked with our Natural Resources team to publish an internal report on the stranded assets thesis and the divestment movement. We also are having an increased level of dialogue with our clients on these issues because of their questions about exposure to fossil fuels. While we have not changed our investment approach because of this issue, the increased frequency of our internal dialogue about it has strengthened our ability to incorporate these considerations into our research process. |
| **Is your organization a UNPRI signatory?** | Yes, since 2010. |

## SAMPLE RESPONSES TO QUESTIONNAIRE

| Question | Manager B |
|---|---|
| **Do you explicitly incorporate climate risk in your investment process?** | Yes we do. We note that specific sectors of the market are directly affected by plans to reduce the level of carbon emissions in an effort to slow the rate of climate change, among other issues. Climate change is therefore an explicit factor in determining revenue and earnings growth profiles of certain companies and/or sectors, relative to others. |
| **Is climate change a primary factor and are you aware of climate change issues when making stock selection?** | The primary factors in our investment process are identifying interesting longer-term earnings growth profiles and using valuation metrics to determine appropriate opportunities to buy or sell particular holdings. Climate change is one of a number of secondary factors that can be significant in altering the primary factors in our investment process. |
| **What steps have you taken to better incorporate climate risk into your process?** | We have an iterative investment process that adapts to developing global issues—including climate change—at a macro and a micro level. The rigorous debate that this entails takes place through our regular investment strategy meetings. We consider this the best way to continue to incorporate new and ongoing risks and opportunities into our investment strategy. |
| **Is your organization a UNPRI signatory?** | We are not a UNPRI signatory. |

## SAMPLE RESPONSES TO QUESTIONNAIRE

| Question | Manager C |
|---|---|
| **Do you explicitly incorporate climate risk in your investment process?** | Climate change is a topic of increasing focus in our investment and ESG research over the last five years. As bottom-up investment managers, consideration of climate change is incorporated into our fundamental analysis of stocks where we feel it has the potential to directly, or indirectly, impact the investment case over the longterm. As part of the research process the Emerging Markets Equities Team will consider and debate the investment case for companies where changes in environmental policy may potentially impact the industries in which they operate, or companies where we are concerned that poor environmental practices with resulting climate change effects may hamper their ability to deliver good returns for shareholders over the long term.<br><br>We consider the supply and demand sides of the energy equation, as well as environmental and energy policy developments at a country and regional levels. |
| **Is climate change a primary factor and are you aware of climate change issues when making stock selection?** | Climate change is an important factor for some industries, notably oil and gas, utilities, renewables, logistics, metals and mining, agriculture and chemicals. Our priority is to identify and invest in companies that we believe will be able to deliver decent long-term returns for shareholders. This analysis incorporates the consideration of a broad range of qualitative and quantitative factors and climate change is one of the factors we consider.<br><br>When reviewing oil and gas companies or those in the metals and mining sector, we consider the absolute, and percentage of, revenue derived from different fuel types, and the carbon intensity. For example, we consider thermal coal and tar sands (highly carbon intensive) through a different lens to gas (lower carbon intensity). |
| **What steps have you taken to better incorporate climate risk into your investment process?** | Yes. We have recruited an experienced analyst with specialist practical and regulatory climate change knowledge. This individual joined our firm in March 2015 as an analyst in the Corporate Governance team bringing expertise in climate change, resource governance and European policy assessments gained through previous roles with the Carbon Disclosure Project as technical director of Reporting and as a research associate with University College London's Institute for Sustainable Resources. This has significantly increased the climate change knowledge and research capabilities in the corporate governance team. Our new analyst is working with all the investment teams to ensure we are fully aware of the climate-related investment risks and to ensure that all opportunities have been fully considered.<br><br>We were also a partner organization in the Mercer's report, "Investing in a Time of Climate Change." We believe that it is important to develop the conversation about climate change within the investment industry, and this report expands the research base on this topic providing a solid starting point for developing research and more thoughtful analysis and engagement. |
| **Is your organization a UNPRI signatory?** | Yes. We became a signatory in 2007 and we are continuing to develop our internal resources and overall approach to ESG research and integration as per the PRI guidelines. |

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