MSRA Responsible Investing

Initial report by

The Environmental, Social and Governance Risk Committee
of the Maryland State Retirement and Pension System

February 20, 2018

MSRA Responsible Investing

The Maryland State Retirement and Pension System has long been active as a responsible investor in addressing Environmental, Social and Governance (ESG) risks. The System was an early signatory to the United Nations Principles of Responsible Investing (UNPRI). It is also a member of the Ceres Investor Network on Climate Risk and Sustainability. The System is also a member of the Sustainability Accounting Standards Board Alliance program, which promotes best practices in the disclosure and reporting of sustainability information. In addition to participating in these outside advocacy groups, the System's Board of Trustees has also adopted extensive proxy voting policies addressing ESG risks.

At the investment level, the System has a diverse asset allocation implemented through over 350 external accounts investing in 35,000 securities. This diverse asset allocation and implementation is the System's first line of defense from a risk management perspective. No single investment presents the System with a significant amount of concentration risk. Aside from government bonds, the largest investments represent approximately 1% of System assets. As the assets of the plan are currently externally managed, the System has relied on its asset managers to address ESG risks, including climate change risks, and evaluates both the risks and the policies addressing those risks as part of its due diligence and monitoring processes.

In 2016, the Investment Staff conducted a survey of best practices among pension systems. The results of this survey were shared with the Board and Legislature. Regarding other state plans' ESG initiatives specific to climate change, the System is more engaged than most, but less than some of the very largest plans. The methods pension plans employ to address climate change risk can be placed on a continuum of activity, from education initiatives to dedicated investments intended to facilitate transformation. Most of the activity is taking place in public and private equity and real estate asset classes. The most common practice to address climate change risk has been to incorporate the issue within the due diligence process.

Over the past two years, Investment Staff has enhanced its practices with respect to diligence of new investments, including improvements in assessing ESG risks, and explicit discussions of those risks as part of the review of the investment opportunities. These discussions highlighted the varied approaches that managers utilize, and the inconsistent practices applied to similar investments.

Discovering this inconsistency in approach prompted the formation of the ESG Risk Committee in the summer of 2017, consisting of the CIO and three investment professionals involved in three separate asset classes. The charter of the Committee is:

Charter

ESG Risk Committee

The ESG Risk Committee of the Investment Division is formed to provide thought leadership, education and reporting around the ESG issues excluding diversity, which will be the province of the Diversity Committee.

The Committee will review academic research, perform de novo research and evaluate the ESG practices of asset owners. These efforts will help formulate language for the operations manual, and provide recommendations to the Board for inclusions in the Investment Policy Manual.

The Committee will work to bring the findings of its research to the Investment Division and Board through providing educational opportunities in terms of white papers and presentations by organizations outside the division.

The Committee will document the ESG activities of the Board and Investment Division including how our diligence and oversight practice address ESG risks.

Getting started

The committee's first task was to evaluate the System with respect to its commitments under the **UNPRI Six Principles of Responsible Investing**. The evaluation concluded that, while more could be done, the System was largely adhering to its responsibilities.

PRINCIPAL #1 - Incorporating ESG issues into investment analysis and decision making processes by reviewing and evaluating ESG policies of the System's external managers

Potential Actions	MSRA Current Practice	MSRA Future Consideration
Address ESG issues in investment policy statements	• Proxy voting policies	• Update ETI language
Support development of ESG-related tools, metrics, and analyses	• SASB • Support disclosure initiatives • Climate 100+	• Focus on disclosure initiatives
Assess the capabilities of internal investment managers to incorporate ESG issues.	• N/A	• N/A
Assess the capabilities of external investment managers to incorporate ESG issues.	• Diligence item for new managers. • Disclosure item for existing managers.	• Enhance evaluation of manager practices.
Ask investment service providers (such as financial analysts, consultants, brokers, research firms, or rating companies) to integrate ESG factors into evolving research and analysis.	• Required for diligence reports from General and Specialty Consultants.	
Encourage academic and other research on this theme.	• Participate in Industry Conferences.	
Advocate ESG training for investment professionals.	• Board Education Sessions	• ESG Committee to develop additional training for Staff and Board

PRINCIPAL #2 - An active owner, incorporating ESG issues into its ownership policies through proxy voting

Potential Actions	MSRA Current Practice	MSRA Future Consideration
Develop and disclose an active ownership policy consistent with the Principles.	• Proxy voting policies	
Exercise voting rights or monitor compliance with voting policy (if outsourced)	• Proxy voting policies	
Develop an engagement capability (either directly or through outsourcing).	• External Asset Managers and PRI, CERES initiatives	• Participate in PRI, CERES et al initiatives
Participate in the development of policy, regulation, and standard setting (such as promoting and protecting shareholder rights).	• Proxy voting policies	• Joined SASB Alliance
File shareholder resolutions consistent with long-term ESG considerations.	• Through External Managers	
Engage with companies on ESG issues.	• Through External Managers	
Participate in collaborative engagement initiatives.	• CERES, PRI, SASB, etc.	
Ask investment managers to undertake and report on ESG-related engagement.	• Annual Questionnaire	

PRINCIPAL #3 - Seeking appropriate disclosure on ESG issues by the entities in which we invest through annual questionnaires submitted to managers, membership in SASB and participation in ad hoc letters sponsored by our ESG partners.

Potential Actions	MSRA Current Practice	MSRA Future Consideration
Ask for standardized reporting on ESG issues (using tools such as the Global Reporting Initiative).	• SASB • Proxy Policy	
Ask for ESG issues to be integrated within annual financial reports.	• SASB • Proxy Policy	
Ask for information from companies regarding adoption of/adherence to relevant norms, standards, codes of conduct or international initiatives (such as the UN Global Compact).	• Through External Managers	
Support shareholder initiatives and resolutions promoting ESG disclosure.	• SASB • Proxy Policy	

PRINCIPAL #4 - Promoting acceptance and implementation of the Principles within the investment industry by requiring consultants to address the issues in their analysis where applicable, including the issues in diligence and monitoring discussions with managers, and attending conferences and seminars on the topic.

Potential Actions	MSRA Current Practice	MSRA Future Consideration
Include Principles-related requirements in requests for proposals (RFPs).		
Align investment mandates, monitoring procedures, performance indicators and incentive structures accordingly (for example, ensure investment management processes reflect long-term time horizons when appropriate).	• Annual Questionnaire	• Include Responsible Investing in Asset Allocation process
Communicate ESG expectations to investment service providers.	• Dialogue with Consultants • Engage with External Managers in areas of weakness.	
Revisit relationships with service providers that fail to meet ESG expectations.	• N/A	
Support the development of tools for benchmarking ESG integration.	• MSCI Carbon Exposure	
Support regulatory or policy developments that enable implementation of the Principles.	• SASB • Letter campaigns	

PRINCIPAL #5 - Working together (with other signatories) to enhance our effectiveness in implementing the Principals through peer to peer engagement and conference attendance

Potential Actions	MSRA Current Practice	MSRA Future Consideration
Support/participate in networks and information platforms to share tools, pool resources, and make use of investor reporting as a source of learning.	• CERES	
Collectively address relevant emerging issues.	• Work with organizations such as CERES and UN PRI	
Develop or support appropriate collaborative initiatives.	• Work with organizations such as CERES and UN PRI	

While the System was meeting most of its UNPRI commitments, disclosure and reporting represent areas of improvement.

PRINCIPAL #6 - Effectively reporting on its activities and progress toward implementing the principles

Potential Actions	MSRA Current Practice	MSRA Future Consideration
Disclose how ESG issues are integrated within investment practices.		• Annual ESG Report
Disclose active ownership activities (voting, engagement, and/or policy dialogue).	• Proxy voting record on website	
Disclose what is required from service providers in relation to the Principles.		
Communicate with beneficiaries about ESG issues and the Principles.		
Report on progress and/or achievements relating to the Principles using a comply-or-explain approach.	• Annual questionnaire	
Seek to determine the impact of the Principles.		
Make use of reporting to raise awareness among a broader group of stakeholders.	• Annual ESG Report	

Moving forward

To improve reporting, the committee has been working to:

1. Document and report the percentage of managers that have an ESG policy and incorporate ESG principals in their investment process, and assess differences between asset classes, geographies and manager types
2. Document and report the percentage of managers that are UNPRI signatories
3. Analyze and report trends in proxy voting
4. Publish the System's proxy voting experience on its website
5. Identify System investments that focus on ESG solutions

This initial work will inform next steps for the committee that will include:

1. Identifying opportunities for staff to initiate engagement to improve the percentage of managers who incorporate ESG issues in their investment process
2. Establishing a list of best practices to use in evaluating the effectiveness of manager policies and to encourage policy improvements
3. Updating the internal operations manual to reflect existing practice
4. Participate in the SASB Alliance to promote better financial disclosure, improving the information value of metrics such as carbon footprint and sustainability score
5. Creating additional education opportunities for the Board and Staff

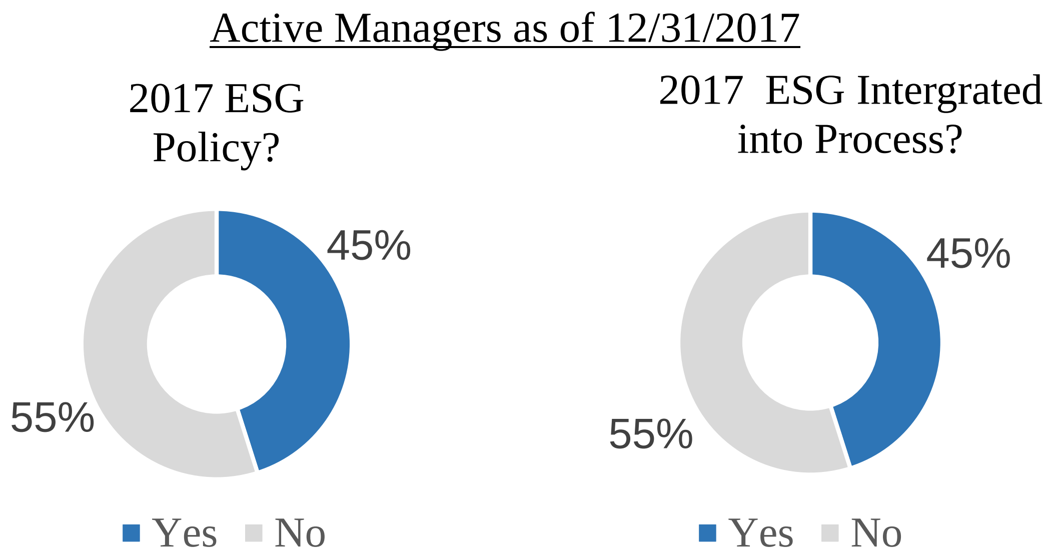
It is important to note that, at this point, the System utilizes an outsourced model to engage directly with underlying companies and to engage in sponsoring proxy initiatives. The long-term vision is to incorporate ESG elements in a comprehensive risk system on a real time basis. In the meantime, risk at the portfolio level is evaluated by assessing asset class risks through our asset allocation review with Meketa Investment Group, the System's general consultant. Staff expects to work with Meketa to progressively incorporate these risks into the analysis over the next few review cycles.

The following sections summarize the initial steps of the ongoing evaluation Staff will conduct in order to assess the effectiveness of our efforts managing ESG risks by working through the System's outsourced model.

Public Investments

Annual Compliance Questionnaire – Active Managers

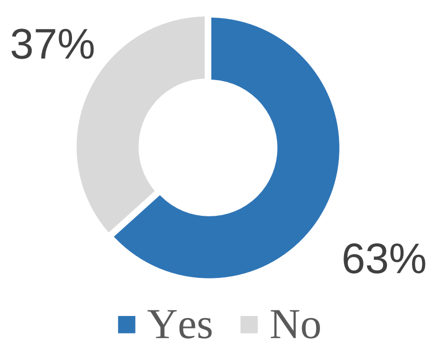
Beginning in 2016, as part of public manager and hedge fund Annual Compliance Questionnaires, Staff added a request for a copy of managers' ESG policies and details regarding how managers integrate ESG risk factors into investment decision making processes.



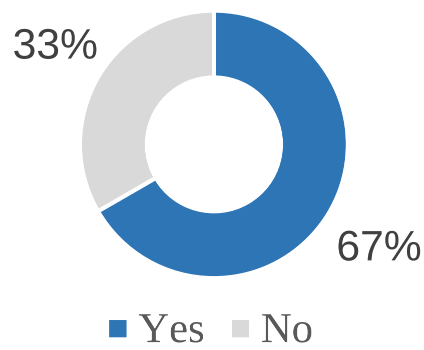
The percentages shown in the charts above are heavily impacted by the System's hedge funds, a high percentage of which do not have a formal ESG policy and do not specifically integrate ESG factors into their decision making processes.

Active Mangers x-Hedge Funds as of 12/31/17

2017 ESG Policy?



2017 ESG Intergrated into Process?



As shown above, the percentages increase significantly when hedge funds are excluded. The percentage of mangers with an ESG policy did not change from 2016, but the percentage that integrate ESG factors into the decision making process increased to 67% from 60%. The largest increases occurred in developed and emerging market equities.

Results by % of System Assets

"Yes" Responses as % of System Assets	**2017**		**2016**	
assets as of 12/31/2017	**ESG Policy?**	**Integrated?**	**ESG Policy?**	**Integrated?**
Total Active Management	60%	59%	60%	53%
Total x-Hedge Funds	71%	73%	71%	65%
Developed Market Equities	61%	62%	61%	56%
Emerging Market Equities	68%	62%	68%	39%
Developed Market Fixed Income	87%	94%	87%	94%
Emerging Market Fixed Income	65%	65%	65%	65%
Hedge Funds	18%	11%	18%	11%

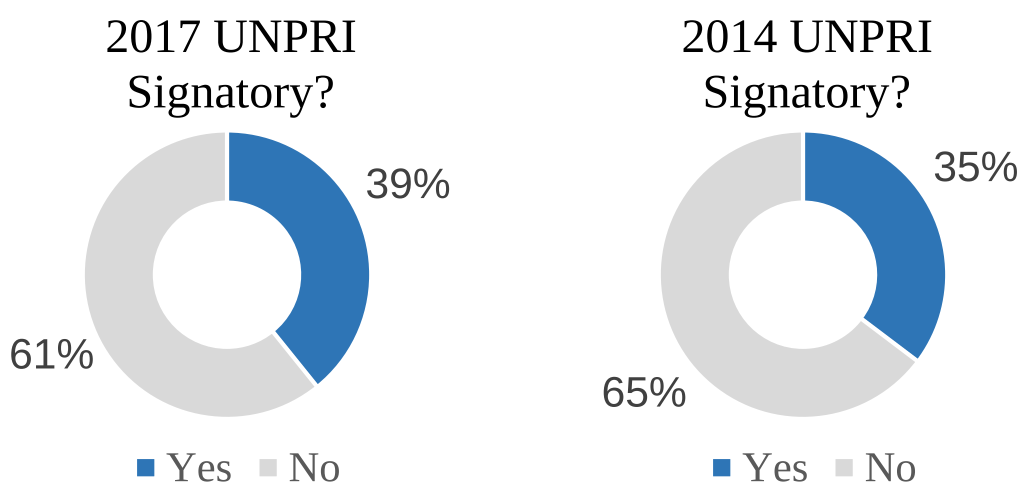
Another way of looking at the results is shown in the table above, which uses System assets and active managers as of 12/31/17. Across all of the asset classes, the percentage of assets with an ESG policy did not change 2016 to 2017. But as can be seen by the area shaded in blue, the percentage of assets where managers integrate ESG risk factors into investment processes rose in 2017 versus 2016.

Specifically, the percentage of the System's developed market and emerging market equity assets managed with investment processes that integrate ESG factors has increased.

UNPRI Signatories – Active Managers

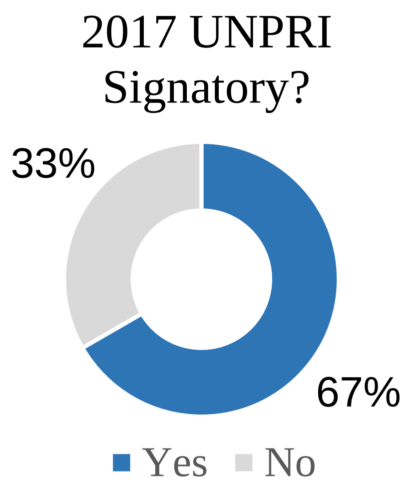
The System has been a UNPRI signatory since 2008. Staff encourages equity managers, general partners and consultants to become signatories. UNPRI is a leading independent proponent of responsible investment.

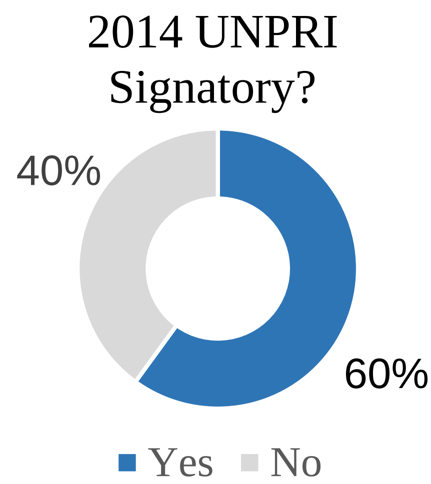
Active Managers as of 12/31/17



As shown in the charts above, the percentage of the System's managers that are UNPRI Signatories has increased from 2014 to 2017, but is under 50%.

<u>Active Mangers x-Hedge Funds as of 12/31/17</u>





As with the percentage of managers with ESG policies, the percentage of managers that are UNPRI signatories increases significantly when hedge funds are excluded. This is not surprising as many hedge fund strategies have shorter term investment horizons.

<u>Results by % of System Assets</u>

	UNPRI Signatories as % of System Assets			
assets as of 12/31/2017	**2017**	**2016**	**2015**	**2014**
Total Active Management	58%	58%	45%	45%
Total x-Hedge Funds	75%	75%	58%	58%
Developed Market Equities	60%	60%	60%	60%
Emerging Market Equities	68%	68%	68%	68%
Developed Market Fixed Income	94%	94%	44%	44%
Emerging Market Fixed Income	100%	100%	100%	100%
Hedge Funds	0%	0%	0%	0%

The table above uses total System assets and active managers as of 12/31/17. The percentage of assets breakout by category increases with respect to UNPRI signatories from 2014 to 2017. The most significant increase occurred in Developed Market Fixed Income.

Note on Terra Maria Managers (the System's emerging manager program) – while only 13% of the System's Terra Maria managers have explicit ESG policies, and only 20% are UNPRI signatories, over 50% of the System's investments within the Terra Maria program are managed by investment teams who integrate ESG risk factors into their investment decision making processes. While this percentage is below that of non –Terra Maria managers, it was expected given the size of these managers and the additional resources larger managers devote to ESG.

Note on Passive Managers – the System has two passive managers with multiple mandates totaling over $11 billion. One of the managers has a firm wide ESG policy. The System votes all proxies for passively managed holdings.

Proxy Voting

In the following analysis we focused on proposals related to climate change and other environmental issues. In future reports other ESG issues will be included. The System's proxy voting policy with respect to climate change and the environment is included in the System's Investment Policy Manual (updated July 2017). The System will "generally vote for proposals requesting reports on the level of greenhouse gas emissions from the company's operations and products", and "generally vote for shareholder proposals requesting the company adopt greenhouse gas reduction policies and/or emissions reductions goals". A company's lines of business, current policies and practices are considered. The System will typically vote for greater disclosure.

In each of the past three years, the System voted on over 70,000 proxy proposals. The number of environmental/climate related proposals increased from 101 in 2015 to 150 in 2017. The table below lists environmental/climate related categories and the System's voting record on these proposals over the past three years.

Proposal Category	2015 #	2015 +	2015 -	2015 +M	2015 -M	2016 #	2016 +	2016 -	2016 +M	2016 -M	2017 #	2017 +	2017 -	2017 +M	2017 -M
Est E/S Board Committee	8	1	7	7	1	3	0	3	3	0	33	0	33	33	0
Require E/S Qual for Director	8	2	6	6	2	3	3	0	0	3	3	2	1	1	2
Climate Change	22	16	6	12	10	28	22	6	12	16	34	20	14	14	20
Climate Change Action						2	0	2	2	0	3	0	3	3	0
Community -Environ Impact	10	5	5	5	5	9	5	4	4	5	16	12	4	5	11
GHG Emissions	24	18	6	6	18	18	13	5	5	13	15	10	5	5	10
Renewable Energy	9	3	6	6	3	19	8	11	11	8	13	5	8	8	5
Report on Environ Policies											1	1	0	0	1
Sustainability Report	20	20	0	0	20	14	14	0	0	14	32	13	19	19	13
Total	101	65	36	42	59	96	65	31	37	59	150	63	87	88	62
% Total		64%	36%	42%	58%		68%	32%	39%	61%		42%	58%	59%	41%

Notes: + For; - Against; +M with Management; -M against Management; E/S Environmental/Social

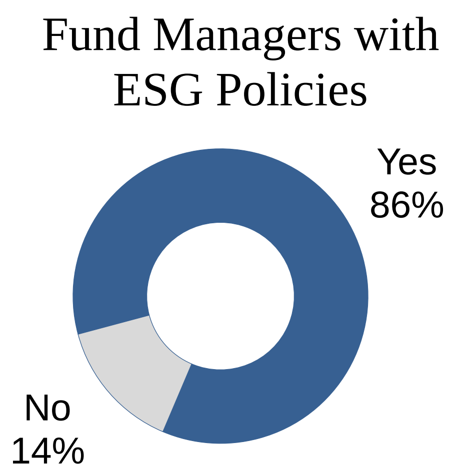
Some of the more significant changes to the System's voting pattern over the past three years are highlighted in the table above. The percentage of "for" votes from the System on environmental/climate related proposals has decreased since 2015, and the percentage of "with management" has increased. The drivers of voting "against" the proposal and "with management" more frequently are the "Est E/S Issue Board Committee" (Establish Environmental/Social Issue Board Committee) proposals, where existing Board structures were deemed sufficient, and "Sustainability Report" proposals, where there were a higher number of proposals deemed unnecessary. In the latter category, the System's votes for reporting on sustainability and other environmental issues were for the proposal and against management in all cases. For the Climate Change category, the increase in votes that were for the proposal and against management in 2017 was due to the increase in the number of proposals for companies to assess the portfolio impacts of policies to meet the 2 degree scenario. The System voted for these proposals in all cases.

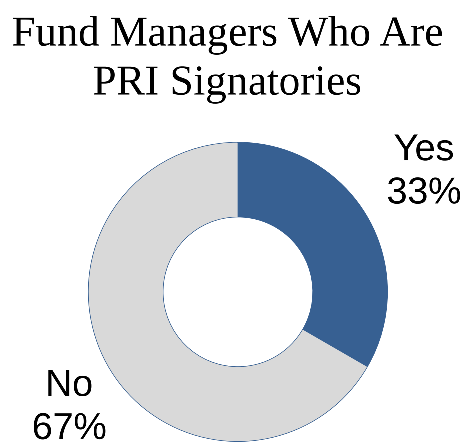
Private Investments

Private Equity, Real Assets and Credit

Investment Staff and the System's private market consultants include the assessment of ESG risks in the diligence of new investments, and have explicit discussions of these risks with managers as part of the review of investment opportunities. For example, Staff requires potential energy managers to complete an ESG due diligence questionnaire, which questions the managers' ESG-related policies and procedures. In the System's side letter, energy managers are asked to include ESG guidelines that they use to evaluate new deals and in the monitoring of investments. Also in the side letter is a requirement that managers provide Staff with an annual ESG report.

In the charts below, the one on the left shows the percentage of private equity, energy and credit managers having explicit ESG policies as of 12/31/2017. The chart on the right shows the percentage of private equity, energy and credit managers who are PRI Signatories.





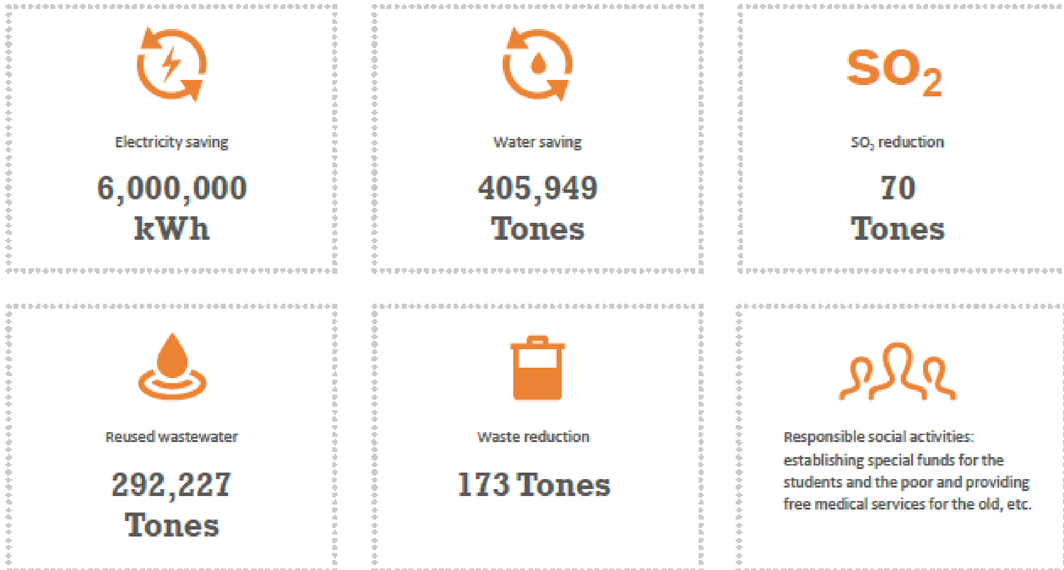
While only about 1/3 of the System's private equity, real assets and credit managers are currently UNPRI signatories, the majority have ESG policies and many continue to improve reporting and transparency on ESG related issues.

Below are two examples of how this is working through the System's managers.

1. The following is taken from the CDH 2016 ESG Report (CDH is a Chinese private equity firm)

ESG Highlights of CDH Portfolio Companies in 2016

As a part of our ESG management program, we have continuously provided financial support and resources to our investee companies to improve their ESG performance after investment. We have conducted a series of ESG initiatives to enhance energy and resource efficiency, reduce pollutant discharge and improve community relationships. In addition, we have regularly monitored the progress and results of our ESG initiatives. For example, seven of our portfolio companies have obtained the following achievements in 2016:



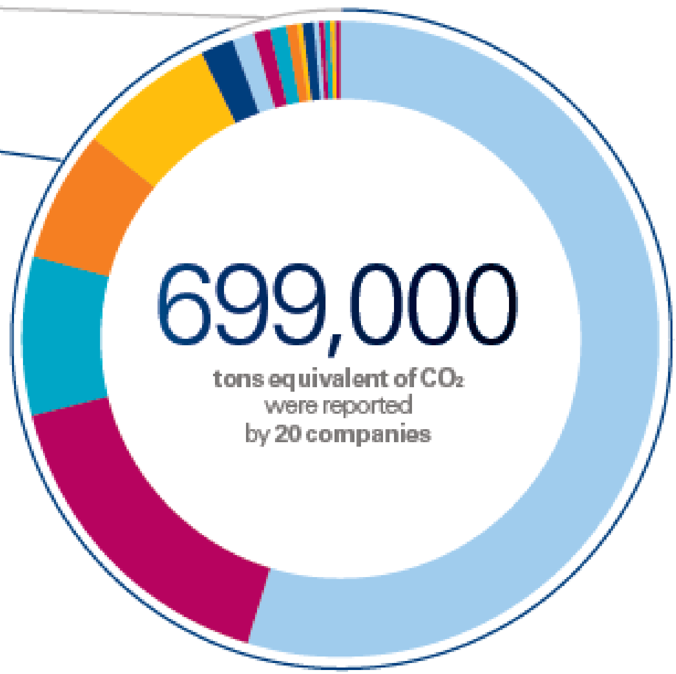
2. The following is taken from the Apax Partners 2016 Sustainability Report

(Apax is a European private equity firm)

Breakdown of CO_2 emissions

14 companies reported 5% of CO_2 emissions

6 portfolio companies reported 95% of CO_2 emissions



Resources usage The Apax Funds portfolio consists of an increasing number of "asset light" businesses which do not have a significant environmental impact. The majority of resources usage is reported by a small number of companies. In 2016, 95% of CO_2 emissions were reported by only 6 portfolio companies with the other 14 portfolio companies reporting energy data accounting for the remaining 5%.

Electricity usage in the ESG Group reduced by 24% with 6 portfolio companies accounting for over 83% of the Group's electricity usage and 17% of usage being reported by 12 portfolio companies. On a like for like basis the 16 companies reporting data both in 2015 and 2016 reported a decrease in electricity usage of 9% or 50 million kwh.

Overall CO_2 emissions by the ESG Group decreased by 23% in 2016 due to a large number of exits from the portfolio accounting in total for over 11% of 2015 emissions combined with a decrease in like for like reported CO_2 emissions of 10% and a number of new joiners in the portfolio not yet reporting CO_2 data.

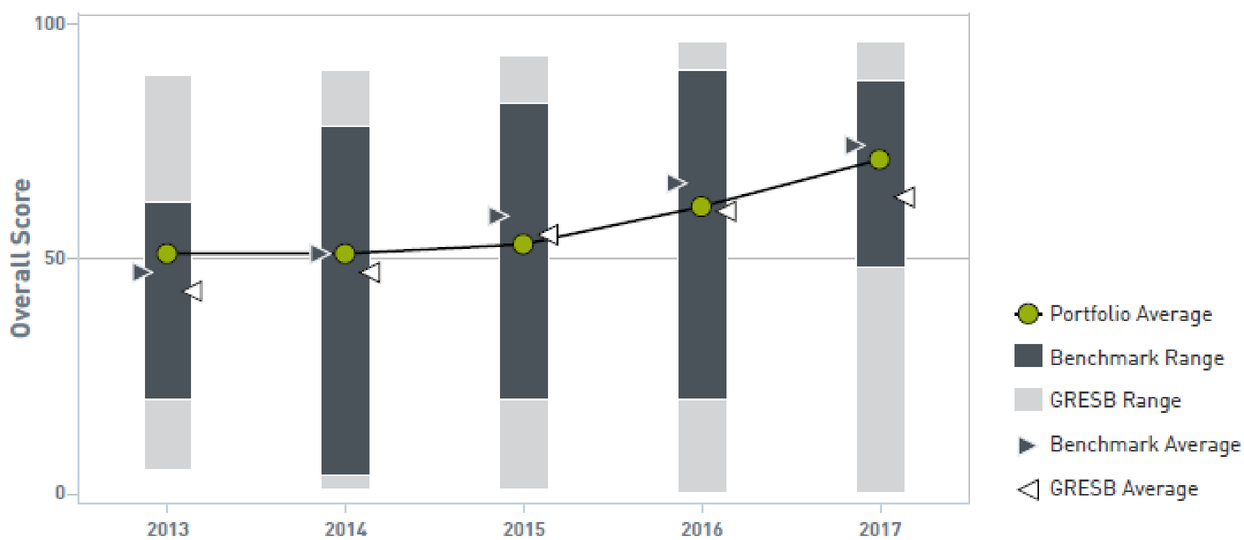
The Apax Funds' portfolio is focused on reducing its global environmental impact with over two thirds of portfolio companies reporting to have energy reduction initiatives in place in 2016. The insight into where the main part of the usage in the portfolio is enables the Operational Excellence Practice to work with the largest users and identify reduction initiatives.

The portfolio's environmental stewardship initiatives will help protect the planet while improving efficiency, reducing costs and preserving their ability to do business in the future. Sustainability is not just the right thing to do, it can also boost innovation and profitable growth. This is why we continue to see it as a key differentiator and a competitive advantage.

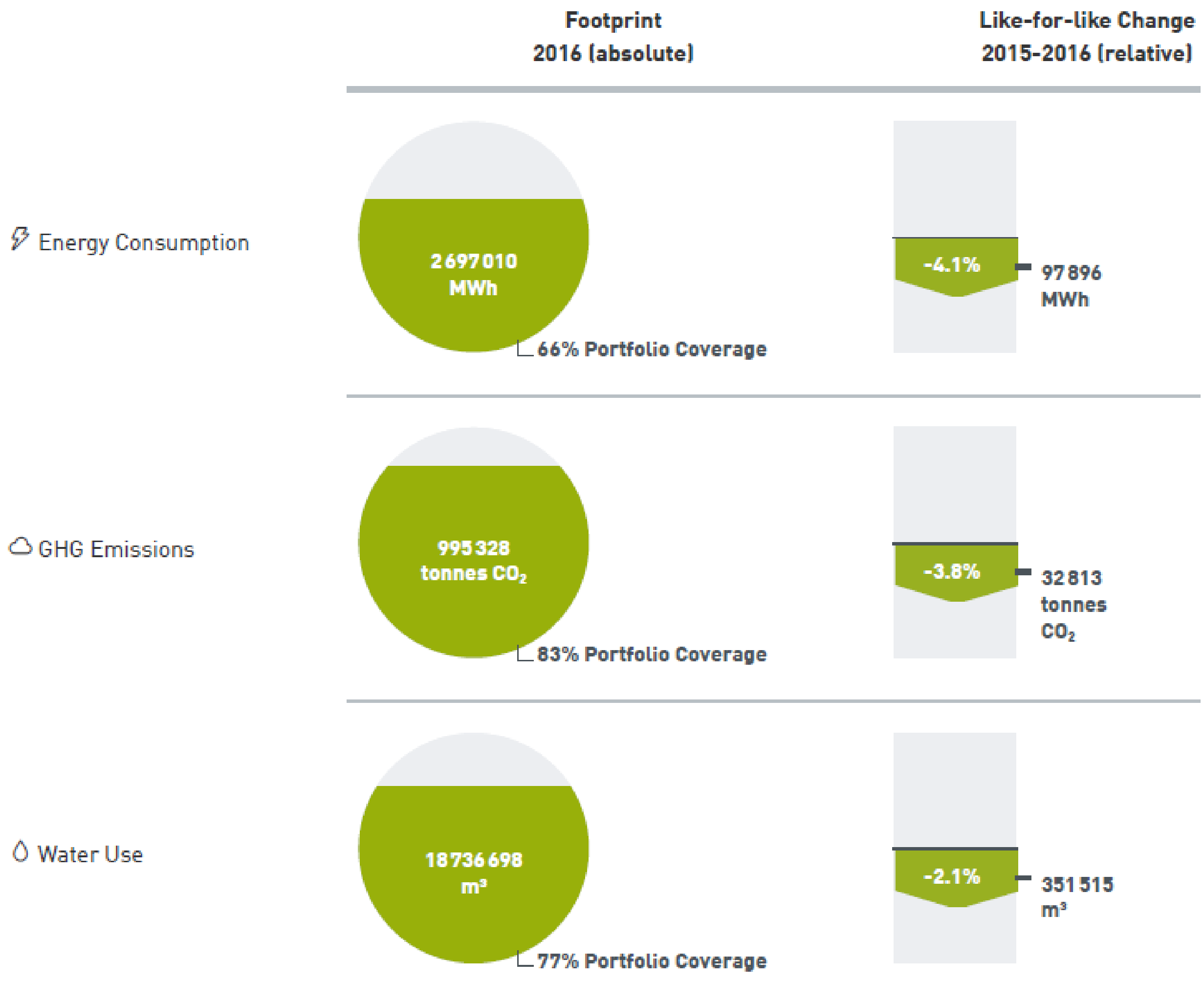
Private Real Estate

The System utilizes the Global Real Estate Sustainability Benchmark (GRESB) to assess the ESG performance of its core real estate portfolio. GRESB is an investor-driven organization committed to assessing the ESG performance of real assets globally. GRESB runs annual assessments on participating companies and funds to capture information regarding the ESG performance and best practices of real estate portfolios. The assessments provide a consistent, global framework for investors to engage with managers on their ESG performance.

The System measures the performance of its core real estate managers, as this comprises 71.1% of the System's private real estate portfolio as of June 30, 2017. Core investments are primarily stabilized assets which are intended for a longer term hold, compared with investments in the Value-Added and Opportunistic portfolios. Value-added and opportunistic funds have shorter term hold periods, which make annual comparisons less informative and potentially misleading. These characteristics make the year to year comparisons in the core portfolio less noisy and more meaningful. The System's core real estate managers have been steadily improving their GRESB scores over the past 5 years. Staff is engaging with managers to discuss ESG issues to learn more about their strategies to address these risks in the future.



Managers have significantly reduced same property energy, greenhouse gas, and water usage in 2016 vs. 2015.



System's Investments focusing on ESG solutions

While the System does not have a dedicated ESG fund or a target allocation to investments focusing on ESG solutions or transformation, there are many examples of the beginning of these types of exposures throughout the System's portfolio.

- Green bonds in the Fixed Income and Credit portfolio
- Solar, Wind and Hydro investments in the Private Equity, Private Real Assets and Private Credit portfolios
- Senior loans to homebuilders to finance solar installations in the Private Credit portfolio
- Infrastructure and Timber investments in the Private Real Assets portfolio

Summary and Next Steps

In summary, approximately 60% of the System's investments are managed by firms that have at least one of the following characteristics: maintains an explicit ESG policy, integrates ESG risk factors into the investment process, are a current UNPRI signatory. Asset classes or strategies with short investment horizons, such as certain hedge funds or value-add real estate, are less likely to have formal systems and reporting processes for ESG related risks. Small managers may also lack the resources to formalize their ESG policies and reporting systems. This does not necessarily mean that ESG risks are completely ignored by these managers.

As described earlier in this report, the following are the Committee's next steps:

1. Identify areas for staff to initiate engagement to improve the percentage of manager incorporation of ESG in their process
2. Establish a list of best practices to use in evaluating the effectiveness of manager policies and to encourage improvements in practice
3. Update the internal operations manual to reflect existing practice
4. Participate in the SASB Alliance to promote better financial disclosure, improving the information value of metrics such as carbon footprint and sustainability score
5. Create additional education opportunities for the Board and Staff