

Real Assets - GRESB Overview -

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Real Assets

March 13, 2023

GRESB| Overview

- Global Real Estate Sustainability Benchmark (GRESB) is a comprehensive ESG benchmark, providing an in-depth analysis of key ESG characteristics and performance metrics to allow investors to understand and measure important ESG metrics
- GRESB was established in 2009 with a focus on Real Estate. More recently GRESB launched an Infrastructure assessment tool
- Staff encourages Real Assets managers to participate in the GRESB survey to provide a consistent ESG framework for reviewing the portfolio

GRESB| Survey Components

GRESB is comprised of both:

- a Management component that consists in 5 sections common across all surveys, and
- a Performance component for the Real Estate and Infrastructure Assets surveys that consists in sector specific sections

Each section is further comprised of sub-categories and performance metrics that are each assessed and rated with weighting varying depending on materiality

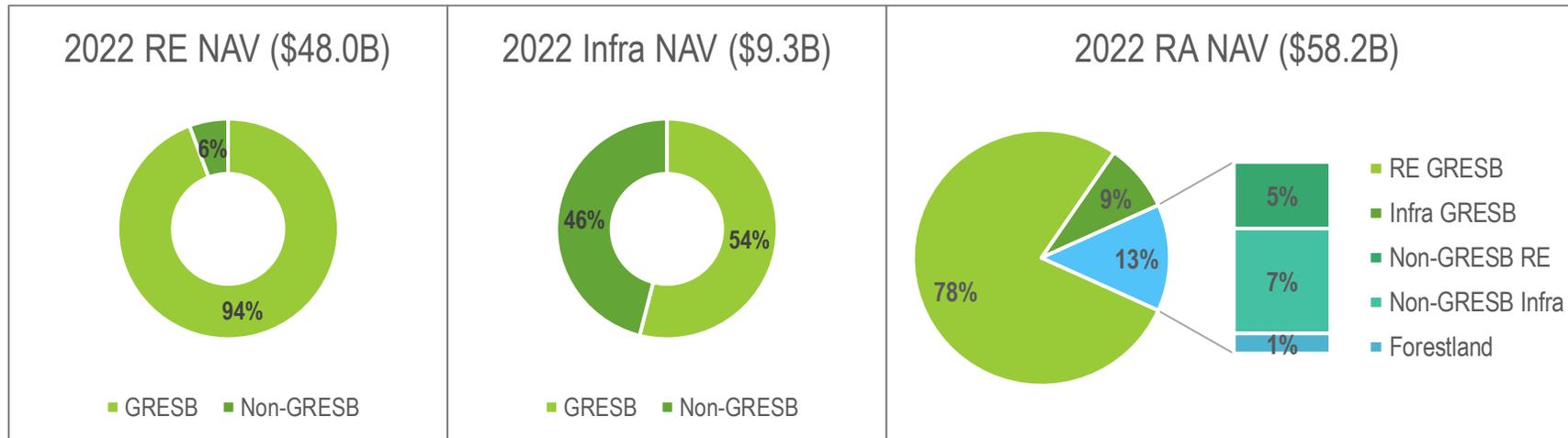
	Real Estate - Key Categories	Infrastructure Assets – Key Categories
Management Component	Leadership	Leadership
	Policies	Policies
	Reporting	Reporting
	Risk Management	Risk Management
	Stakeholder Engagement	Stakeholder Engagement
Performance Component	Reporting characteristics	Implementation
	Risk Assessment	Output and Impact
	Targets	Energy
	Tenants and community	Emissions
	Energy	Air Pollution
	CHG	Water
	Water	Waste
	Waste	Biodiversity and Habitat
	Data monitoring	Health and Safety
	Building Certifications	Employees
		Customers
		Certifications and Awards

GRESB| Portfolio Roll-Out



2022 marked the sixth year both Real Estate and Infrastructure managers participated in the GRESB annual survey. In 2022 (representing 2021 calendar year operations), managers completed GRESB submissions representing the following:

- Real Estate: \$45.3 billion (or 94% of RE Portfolio NAV)
- Infrastructure: \$5.0 billion (or 54% of Infra Portfolio NAV).
 - The infrastructure survey is still very new with lower adoption in the industry compared to Real Estate.
- Overall, Real Assets managers' GRESB submissions represent 87% of Real Assets NAV

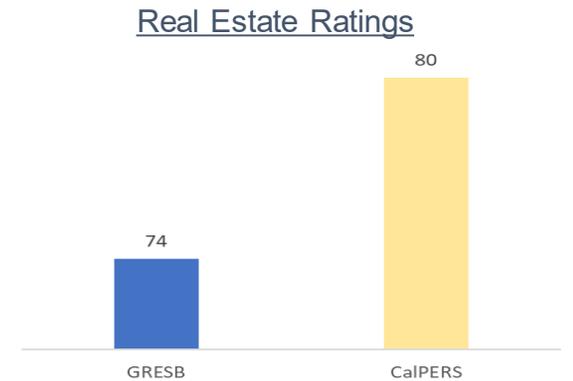


GRESB| Results Overview

While the relevance of the scores and benchmark tool is still a work in progress, CalPERS' Real Assets investments reporting into GRESB have consistently ranked in the top quartile reflecting CalPERS' high standards and effective ESG processes

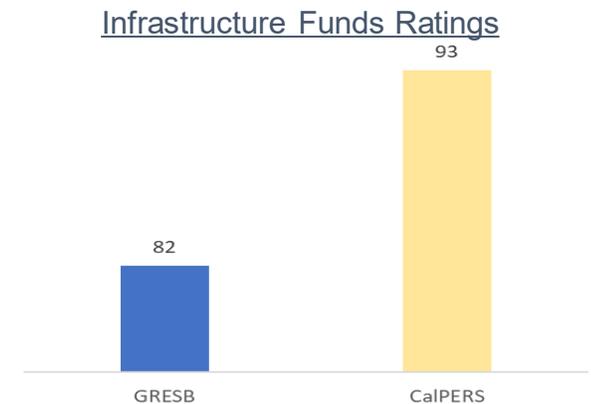
Real Estate

- 2022 Fund Assessment
 - Real Estate managers' collectively achieved scores above GRESB average, with several ranking in the top 3 among peer groups, including high rise office, residential, low rise multifamily, and industrial distribution / warehouse sectors. All managers were rated at/above the GRESB average of 74 with an average of 80 for CalPERS' portfolio



Infrastructure

- 2022 Fund Assessment
 - Infrastructure managers' participation in the GRESB survey is still very limited however all CalPERS funds reporting were above average and in the top quartile with an average score of 93 compared to a GRESB average of 82



GRESB| Challenges and Merits

Challenges	Merits
<p>Resource intensive</p> <ul style="list-style-type: none"> Depending on the number of assets and complexity of the portfolio some managers have reported spending up to 250 hours completing the survey <p>Costly</p> <ul style="list-style-type: none"> High submission prices; GRESB price keep increasing year on year Managers often need to use external consultants to assist with their submission <p>Still a work in progress for infrastructure</p> <ul style="list-style-type: none"> Platform was constructed primarily for Real Estate and still needs to be adapted Struggle with the idiosyncratic nature of the industry trying to benchmark non-comparable assets against each other <p>Survey is still more process oriented than qualitative</p> <ul style="list-style-type: none"> Survey still focused on transparency, existence of policies and procedures rather than actual performance 	<p>Most advanced ESG survey</p> <ul style="list-style-type: none"> Despite challenges and areas for improvements, GRESB is still the most referenced and advanced ESG survey in the industry <p>Consistent and comprehensive ESG framework</p> <ul style="list-style-type: none"> Provides consistent and extensive ESG framework that can help Managers set standards and design ESG policies and procedures <p>Fosters communication and engagement</p> <ul style="list-style-type: none"> Between the managers and their portfolio companies Between CalPERS and its managers