Sarah Corr, Managing Investment Director June 20, 2023



Contents



Program Overview



Market Environment



Portfolio Performance and Risk Analysis







Role	 Real Assets' role is to provide stable and predictable cash yield, diversification of equity risk, and inflation protection Returns predominantly derived from income Real Estate provides stable cash yield under long term leases with good credit tenants Infrastructure focuses on large scale, essential and defensive assets with proven revenue models
Key Metrics	 NAV in billions*: RA \$71.2, RE \$56.8, Infrastructure \$14.1 27 Partners and 65 Partnerships
Investment Beliefs	 A long investment horizon is a responsibility and an advantage (<i>IB 2</i>) CalPERS will take risk only where we have a strong belief we will be rewarded for it (<i>IB 7</i>) Costs matter and need to be effectively managed (<i>IB 8</i>) Strong processes and teamwork and deep resources are needed to achieve CalPERS goals and objectives (<i>IB 10</i>)

*As of 3/31/23





Positioning

- Emphasis on Core is consistent with the Role
 - Real Estate targets Core, well-located assets with strong competitive positions and defensive characteristics
 - Infrastructure targets essential, durable/long-lived assets and interests in portfolio companies

Strategy

- Increase allocation to Infrastructure portfolio
- Target select tactical opportunities in Real Estate
- Focus on separate accounts, commingled funds, co-investments and directs
- Increase focus on sustainable investment opportunities including energy transition, renewables, carbonneutral and sustainability certified assets
- Restructure fees to improve alignment with managers





Current Concerns

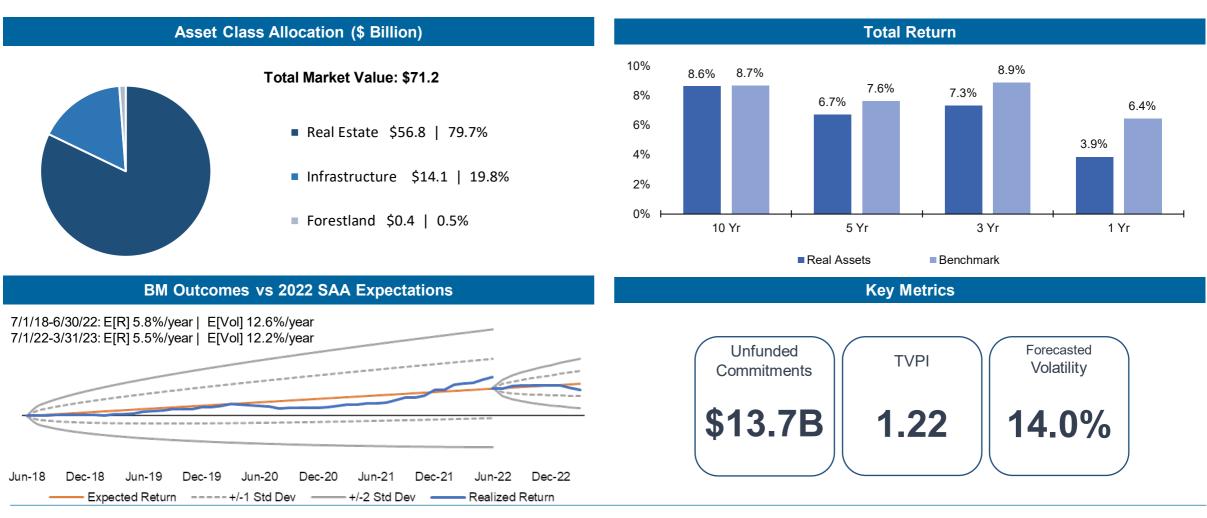
- Raising interest rates created upward pressure on cap rates which has resulted in lower asset values
- Transactions market experiencing material decline in volume, widening bid-ask spreads
- Refinancing risk in office and select retail sub-sectors
 - Decreased Office demand resulting in widening spread between Class A and Class B Office valuations
- Despite pressure on valuations, fundamentals remain stable (except for office)
 - Rising inflation led to higher rents (RE) and contractual payments (Infra) offsetting downward valuation pressure

Deployment Themes

- Increased allocations to private assets leading to high levels of dry powder, tempered by denominator
- Market participants continue to favor Industrial, Multifamily and Digital Infrastructure
- Higher interest rates have sidelined investors that rely on leverage
- · Near term RE debt more attractive due to banks withdrawing from the market



Portfolio Performance and Risk Analysis*



*3/31/23 performance based on 12/31/22 financial statements

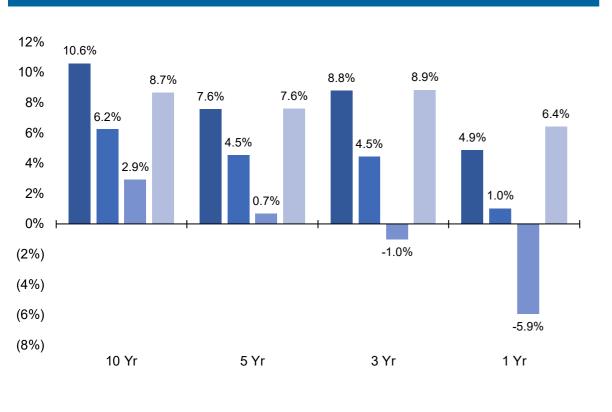
CalPERS

¹Chart shown from 7/1/2018, the effective date of the asset allocation approved during FY 17/18. Cumulative expected return and standard deviation are based on the 2017 SAA expectations for the period 7/1/2018-6/30/22 and on the 2021 SAA expectations for the period 7/1/2023.

Performance and Allocation Analysis

Total Return

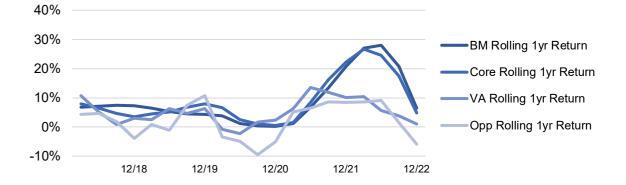
Exposure by Risk (\$ Billion)





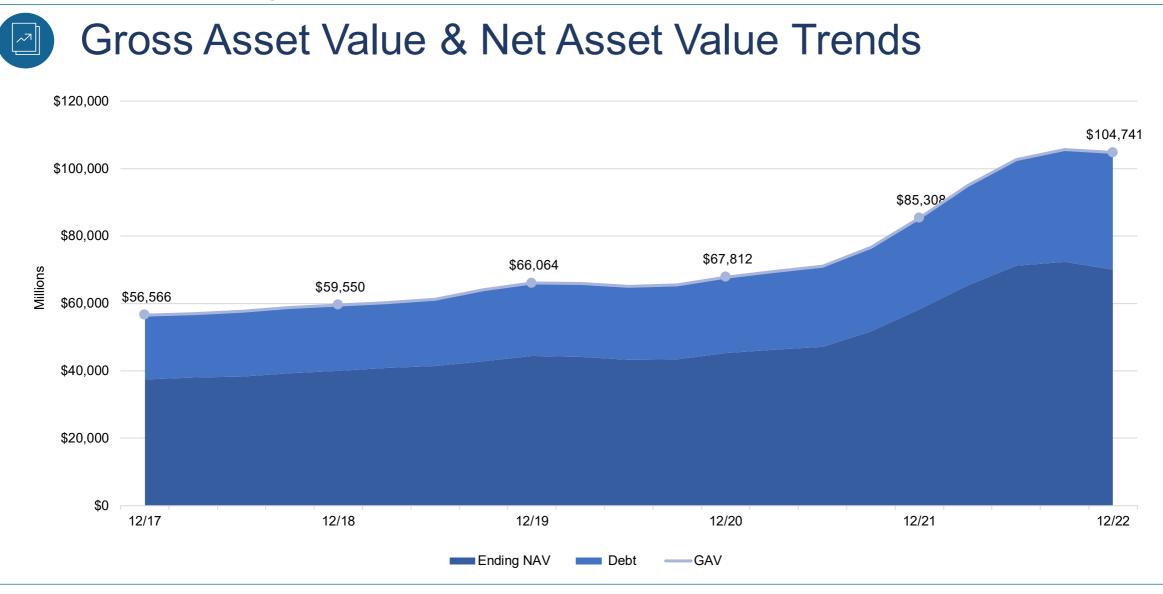


Rolling 1-Year Net Returns vs Policy Benchmark*



*As of 12/31/22

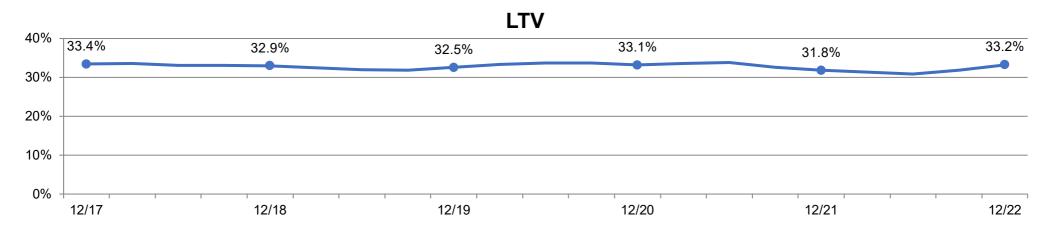




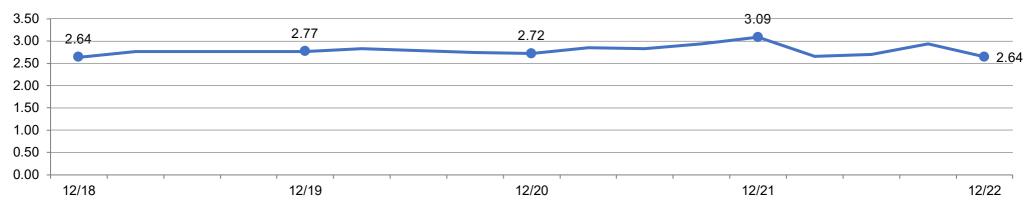




Loan to Value & Debt Service Coverage Ratio Trends











Real Estate

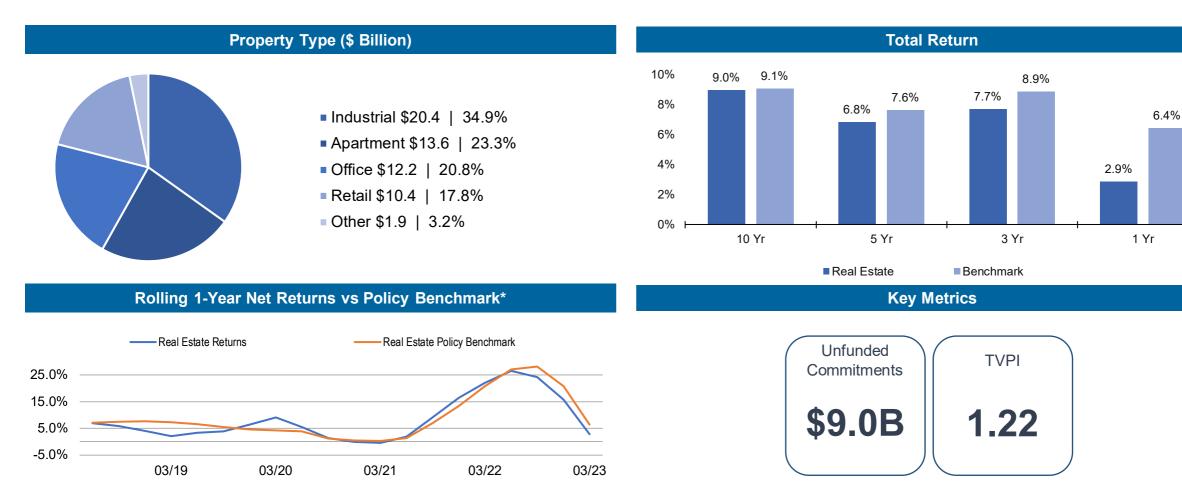






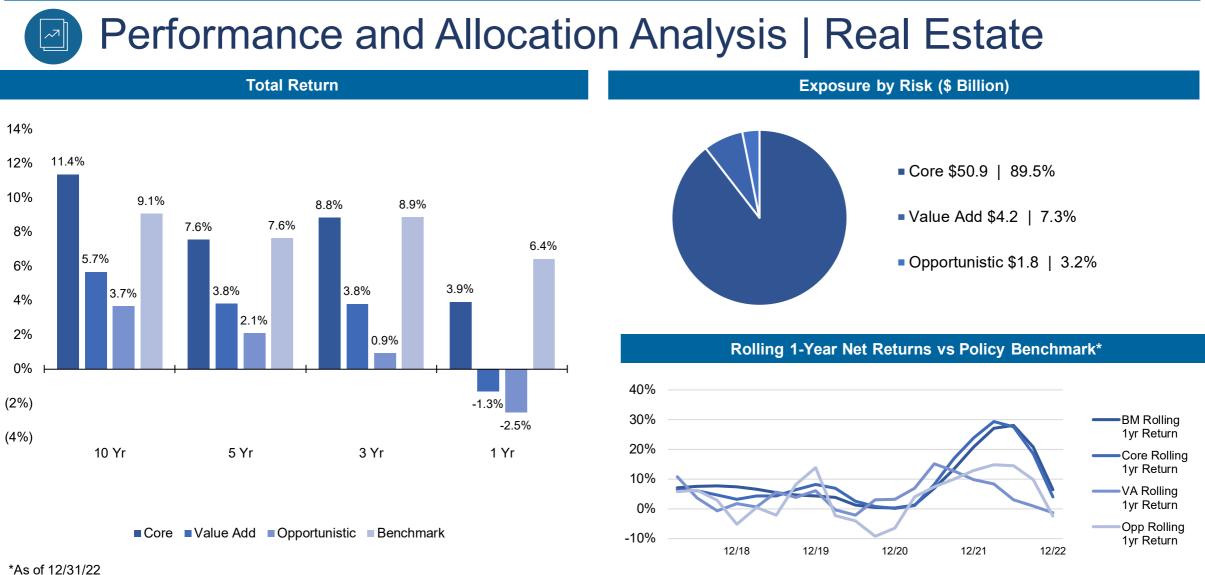


Portfolio Performance | Real Estate



*3/31/23 performance based on 12/31/22 financial statements





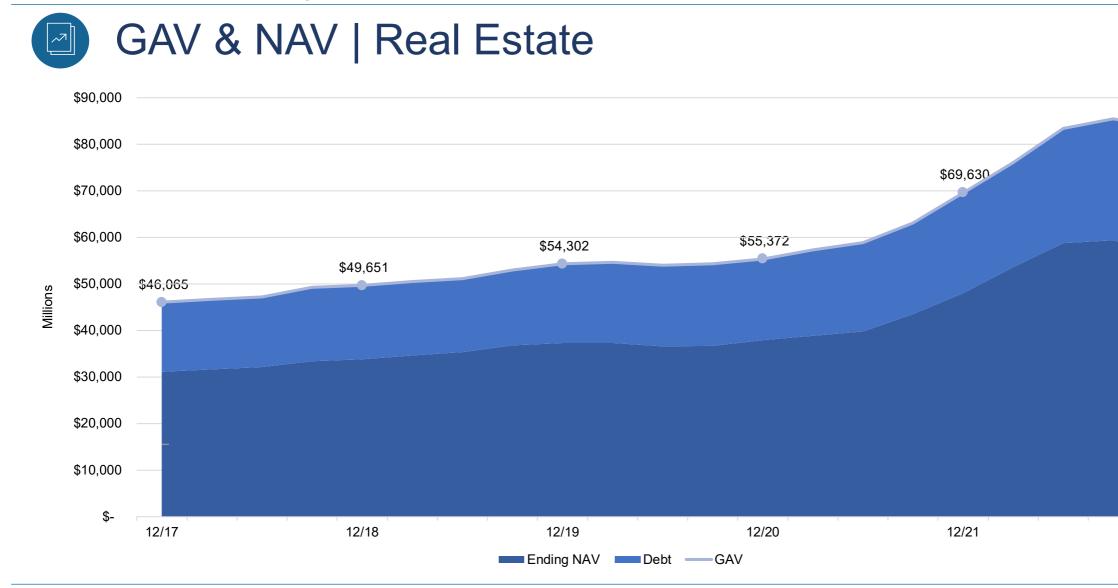
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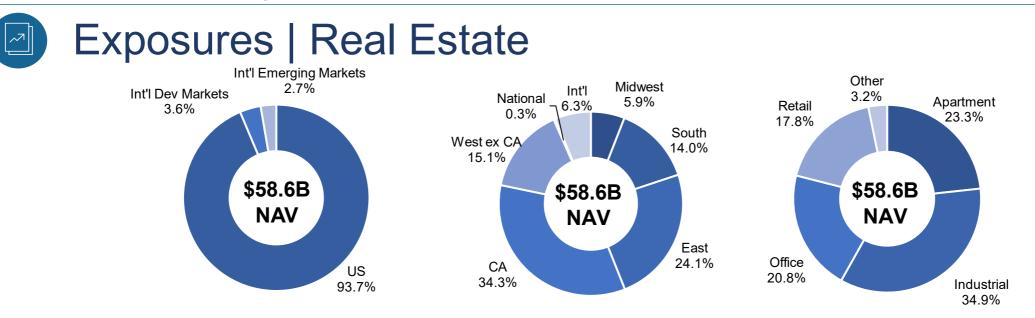
\$83,449

12/22

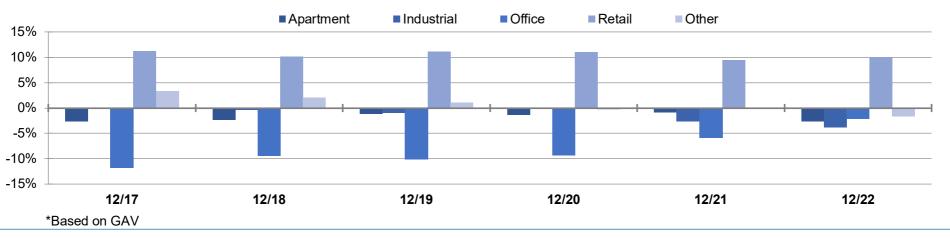
Real Assets Annual Program Review







Difference versus Property Type Benchmarks*







Infrastructure

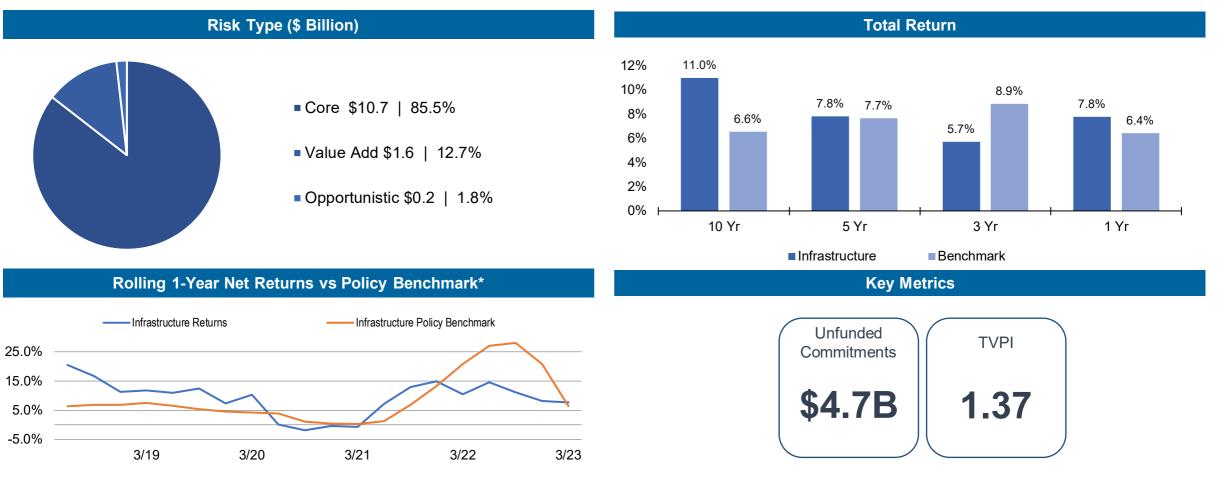








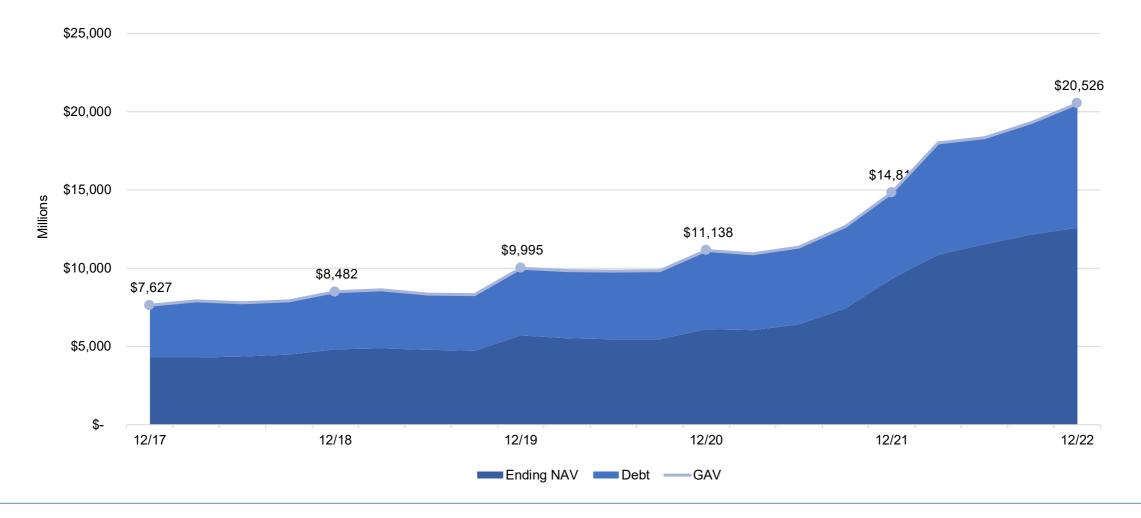
Portfolio Performance | Infrastructure



*3/31/23 performance based on 12/31/22 financial statements



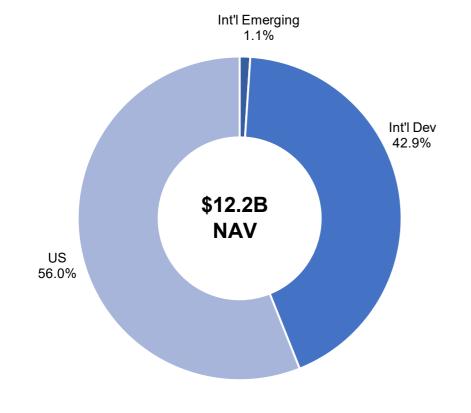


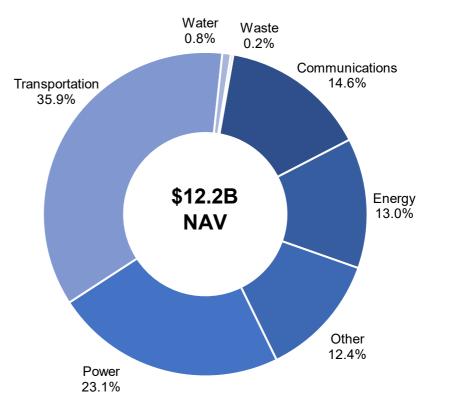






Geography & Asset Type* | Infrastructure





*As of 12/31/22





- Program comprised of high-quality, essential assets in defined target markets with stable cash flows has held up through business cycles. Portfolio delivered 8.6% over 10-Yr period
- Conservative leverage characteristics facilitate stability
- Expansion of relationships with best-in-class infrastructure managers
- Continue resource planning to effectively manage a growing portfolio
- Review system requirements to support expanded portfolio management needs and growing portfolio complexity
- Continue to align with Total Fund objectives and Real Assets' standardization of reporting, evaluation of climate risk tools, Energy Optimization for Real Estate and third party assessments (i.e. GRESB)



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Key Initiatives Integration of Governance and Sustainability				
Sustainable Investment Activities	Description / Status			
Global Real Estate Sustainability Benchmark (GRESB)	 87% of the portfolio submitted into GRESB Assessment in 2022 			
Energy Optimization (EO) Initiative for Real Estate	 Ongoing identification of accretive EO opportunities, reducing carbon intensity and generating cost savings over time 			
Climate Risk & Energy Transition Research	 Climate risk assessment completed for the domestic Real Estate portfolio in collaboration with Total Fund research Energy Transition Review for Infrastructure included an evaluation of potential risks and opportunities 			
National Council of Real Estate Investment Fiduciaries (NCREIF)	 CalPERS represented on NCREIF PREA's Reporting Standards Council 			

 Contributed to the development of "ESG Principles of Reporting for Private Real Estate"



Pension Real Estate Association

(PREA) Reporting Standards



Key Initiatives | Responsible Contractor Program (RCP) Policy

Purpose

- The RCP Policy supports fair market wages and benefits based on local conditions for workers employed by contractors and subcontractors, subject to fiduciary principles^{*}
- Applies when the Real Assets program makes investments in the service, maintenance, development, and improvement of CaIPERS' domestic Real Estate and Infrastructure assets

Scope

- U.S. Real Estate and Infrastructure assets where CaIPERS holds > 50% interest
- Contracts of \geq \$100k
- Managers provide an annual RCP compliance and certification report

Successes

- Track record of consistent manager compliance (at or near 100% since the Policy was enhanced and revised in 2015)
- Established bidding and notification process, leading to over \$980 million paid to certifying responsible contractors FY22

Challenges

- Ongoing training and administration along with portfolio growth
- Time and resource intensive process, particularly for new investment managers learning how to implement the Policy

*Responsible Contractor Policy Update November 14, 2022 Agenda Item 6d - Attachment 1 (ca.gov)





Key Initiatives | Sustainable Investment Practice Guidelines*

- ESG considerations are integrated into Real Assets' processes around selection, contracting, and monitoring
- Where CalPERS has governance, managers utilize an ESG Matrix during due diligence to ensure that ESG related risks and opportunities are systematically considered.
- Examples of ESG factors include the following:

Environmental	Social	Governance
Climate risk	RCP Policy Compliance	Alignment of Interest
Resilience of surrounding infrastructure	Safety & Wellness	Control Rights
Energy Efficiency & Emissions	Community relations	Transparency/reporting
Resource use (including water)	Accessibility	

*https://www.calpers.ca.gov/docs/real-assets-sustainable-investment-guidelines.pdf

