Investment Office Roadmap Update

Theodore Eliopoulos, Chief Investment Officer Wylie Tollette, Chief Operating Investment Officer Investment Committee

December 14, 2015



Agenda

Today's Objective

Review the following with the Investment Committee:

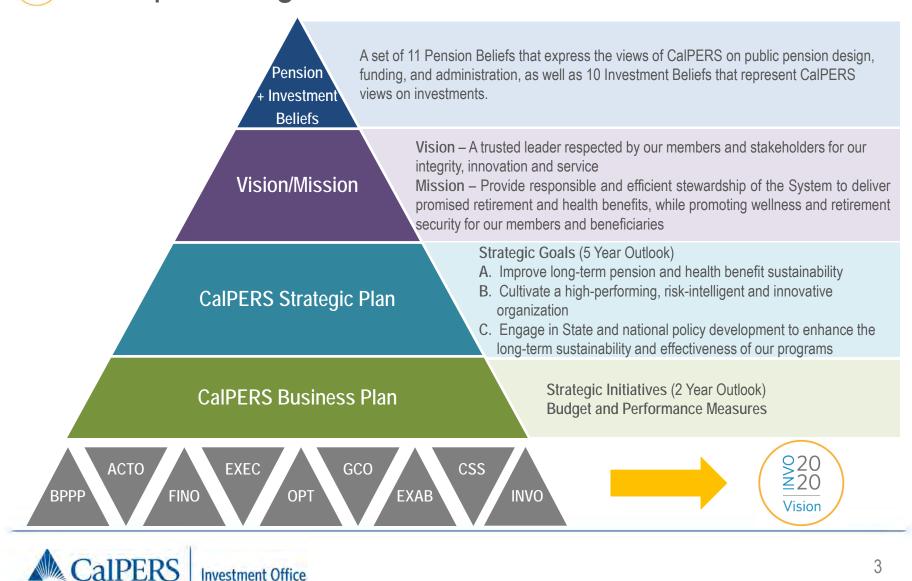


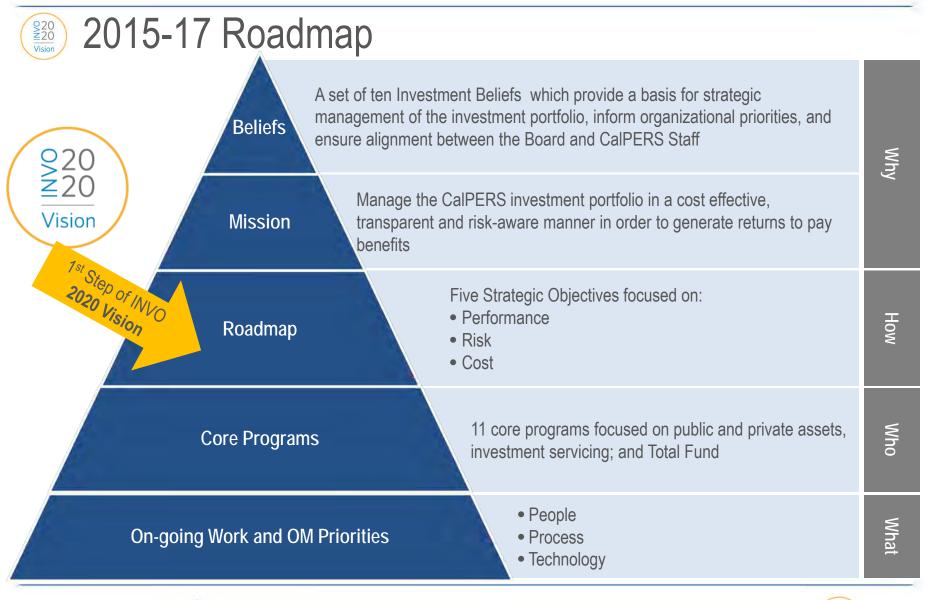
Progress on the Investment Office "2020 Vision"

- 2015-17 INVO Roadmap
- 2014-16 INVO Roadmap Accomplishments



Enterprise Alignment







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FROM	TO – 2020 Vision	Current State	Status (Est.)
Long-term, static asset allocation framework	More dynamic framework, responsive to market conditions	Still relatively static. Enhancements needed and underway.	
Risks not transparent & understood	Key risks understood & managed	Risks better understood as key driver of portfolio and organization. Governance, private proxies, benchmarks and research framework need further development	
Tactical, asset class-based approaches to building strengths & competencies	Clear sense of our strengths & competencies we want to develop	Better understanding of competencies and competitive advantages. Need to continue Total Fund-focus	
Bottom up approach to value creation, sizing of investment strategies at asset class level	Integrated strategies for value creation that blend cross-asset class approaches, scaled for the total fund	Good focus on "bottom up" value creation. Need to execute cross-asset class approaches (Business Model)	
Inadequate reporting systems & data for effective cost management	Automated expense tracking & reporting systems, & improved cost effectiveness	Cost management reporting is now automated and timely. Increased knowledge of total costs being incurred to manage the portfolio	





Strategic Vision

FROM	ТО	Current State	Status (Est.)
Lack of common systems, processes & analytics	Clear target operating model – strong operational data, governance, systems & controls	Strengthened processes and controls. Transitioned to "Investment Operating Model"	\bigcirc
Inconsistent culture & employee experience, diversity is valued but unmeasured	High performance culture & quality employee experience, includes diverse perspectives, views, skill sets and backgrounds	Improved focus on CaIPERS/"One-Voice" culture. Increased awareness of varying experiences and diversity within asset classes	\bigcirc
Uneven approach to ESG, ever expanding requests, reactive, and focused on new commitments	Unified, holistic approach to assessing & engaging on ESG risks & opportunities Gaps continue to	Newly developed manager expectations in place. Effective corporate engagement and proxy voting initiatives	
	drive Roadmap initiatives		
CalPERS Investme	nt Office		6



Investment Office



INVO 2020 Vision 20 20 20 Vision Refined Strategic Objectives Better alignment with goals of the broader organization New Mission and Vision Vision statements Active Liquidity management

Mission

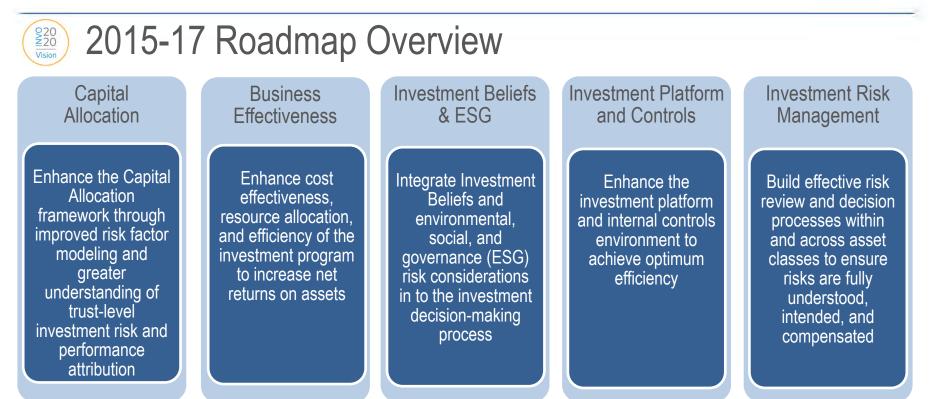
Manage the CalPERS investment portfolio in a costeffective, transparent and risk-aware manner in order to generate returns to pay benefits.

Vision

- The Investment Beliefs and CalPERS Core Values are the guiding principles underlying our investment decisions.
- We operate with a focus on repeatable, predictable, and scalable portfolios and practices.
- We see alignment of interests with our primary stakeholders, our business partners, and ourselves.
- We use clearly articulated performance, risk, and cost metrics to evaluate our value-add to the funds.
- Our investment and business activities are supported by a solid platform of effective risk management and controls.



2015-2016



- 5 Strategic objectives that support INVO's Mission, Vision, CalPERS' Mission, and Core Values
- 36 Initiatives in progress
- Collaborative, cross asset class/program area effort: 6 Executive Sponsors nominated 26 Project Leads who chose 130 Team Members



2015-17 Roadmap Overview

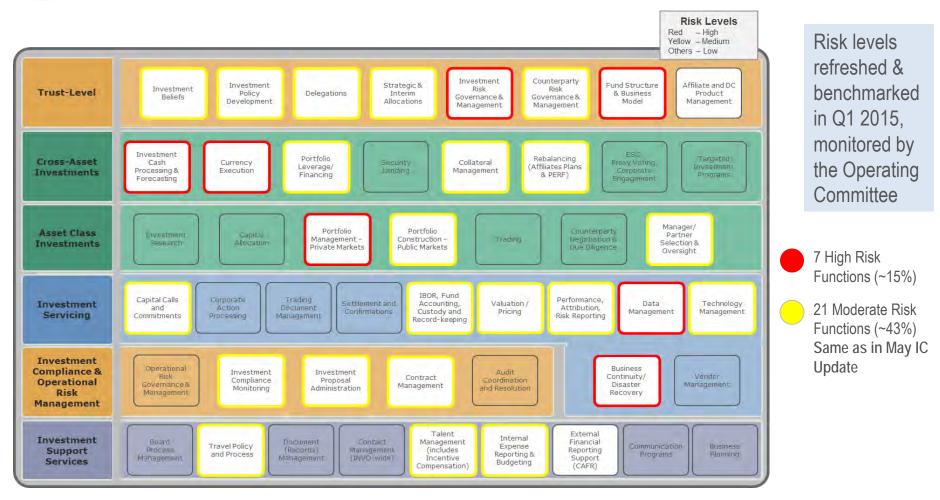
Enhanced program management of the portfolio of Roadmap initiatives:

- Monthly check-ins with Project Leads to discuss initiative status and provide project management support
- Tracks interdependent initiatives / deliverables
- Monthly reports on status, risks and mitigation issues to:
 - Investment Management Committee
 - Executive Sponsors/ Project Leads
 - Strategic Planning Subcommittee

Effective program management is critical to ensure 36 projects remain on track



2015-17 Roadmap Overview: Initiative/ Risk Relationship





2015-17 Roadmap OverviewConcept(13)DesignDesign(16)

- Benchmark Evaluation
- Public Market Proxies
- Fixed Income Portable Alpha
- Role of Private Markets
- High Yield Structured Investment
 Opportunities
- Investment Beliefs Integration
 Assessment
- ESG Sustainability Research
- Financial Markets Reform
- Private Markets Regulatory Compliance
- Execution Services Strategy
- CalPERS STIF
- Archer Expansion Feasibility Study
- Risk Factor Development

- ISG Restructure
- Strategic Manager Selection & Monitoring Strategy
- INVO Mgmt Operating Report Development
- INVO Diversity and Inclusion Strategy
- Portfolio Priorities
- Volatility Harvesting Strategy
- PE Legacy Portfolio Monitoring & Optimization
- Investment Education & Training Conference Management
- Investment Education & Training
- EM 5 Yr. Plan
- Authorized Signature List
- Performance Measurement & Attribution
- Trust Structure Redesign
- GIPS Implementation
- Liquidity Operations
- Master Custodian RFP

Expected Outputs: Recommendations to IC, ISG, IMC, OC *Expected Outputs:* Work plan and beginning of implementation

Implement (7)

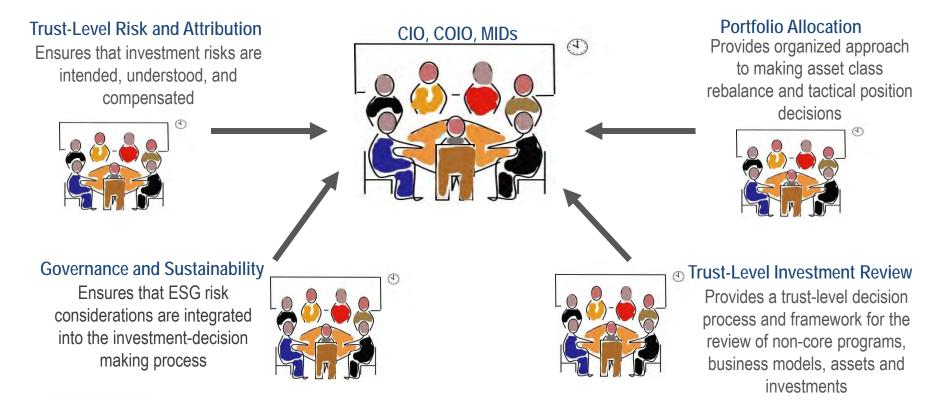
- PERF Rebalancing Automation
- PM2 2.0
- Data Management Core Capabilities
- Disaster Recovery/ Business Continuity
- PEARS
- Info Barrier and MNPI Enhancements
- Pricing / Valuation

Expected Outputs: Completed policy, system workflow or strategy



2015-17 Initiatives Addressing Operating Model Risks

Investment Strategy Group (ISG) Restructure Initiative: Improve the understanding and ownership of Trust-level investment risk and performance decisions





2015-17 Initiatives Addressing Operating Model Risks

Private Equity Portfolio Management Accounting & Data Services (PEARS)

Objective:

- Complete Phase 1 of an integrated solution which enhances investment monitoring, improves risk management, and reduces operational inefficiencies. Solution incorporates:
 - A Portfolio Management System
 - Accounting and Data Services
- Complete Phase 2:
 - Profit share and management fee data collections and reporting
 - Upgraded production of the Quarterly Monitoring Report (QMR), additional portfolio company data, and graphical displays for investment structures

Business Effectiveness

Objective:

• Explore and propose governance and protocols to improve efficiencies in the manager selection and monitoring process, including a centralized model and development of an enhanced "waterfall" validation function.



2015-17 Initiatives Addressing Operating Model Risks

Portfolio Priorities

Objective:

• Articulate goals for the structure of the Total Fund through the development of priorities that will be expressed through benchmark selection and will connect Investment Beliefs to portfolio construction

Performance Measurement and Attribution

Objective:

 Provide timely, standard analytic reports and analyses that accurately measures performance, risks and exposures to assist in managing portfolios, monitoring risk and performance drivers, and reporting to the Board



2015-17 Quarter 1 Accomplishments

Capital Allocation

- ✓ Investment Strategy Group (ISG) Restructure
 - Developed clear roles, responsibilities, and decision authorities for the ISG and related subcommittees
 - Began development of subcommittees' charter, membership, deliverables, and timelines

Business Effectiveness

- ✓ Private Equity Legacy Portfolio Monitoring and Optimization
 - Developed a beta Legacy Portfolio quarterly monitoring report for PE/GE/RE Managing Investment Directors
 - Identified and implemented key monitoring metrics

Investment Risk Management

- ✓ Liquidity Operations
 - Began development of an enhanced liquidity reporting and monitoring framework which will aid stakeholders in review and decision making



2015-17 Quarter 1 Accomplishments

Investment Beliefs and Environmental, Social and Governance (ESG)

- ✓ Investment Beliefs Integration Assessment (initiative COMPLETE)
 - July 2015 Board Offsite Facilitated the Towers Watson Investment Beliefs Implementation Presentation
 - September 2015 IC Meeting Presented an assessment and next steps of the Investment Beliefs integration
- Emerging Manager Five-Year Plan
 - In September 2015, staff hosted the Emerging, Transition and Diverse Manager Day (143 managers from 76 firms met with CalPERS senior asset class staff and their advisors)

Investment Platform & Controls

- Execution Services Strategy
 - Staffing and resourcing plan finalized, new org. structure and team effective October 1st, 2015.
- ✓ Private Equity Portfolio Management Accounting & Data Services (PEARS)
 - Release 1 approved to Go Live effective October 1, 2015, which includes:
 - Historical data cleansing and validation
 - Creation of performance and accounting reporting
 - Establishment of a new accounting book of record and revised chart of accounts
 - Implementation of workflow-based business practices for all cash and valuation activities



2014-16 Closeout Accomplishments

Investment Performance

- ✓ Affiliate Investment Programs (AIP) Process and Technology (TOM #24)
 - May 2015 ARTEMIS went live; delivering risk mitigation, efficiency, and improved portfolio management for the Affiliate Trusts
- ✓ Private Equity Portfolio Management Accounting & Data Services (PEARS)
 - Began "live parallel" process, including Release 1 of Portfolio Manager Reports

Asset Allocation

- ✓ Affiliate Funds ALM Review
 - June 2015 The Board approved and/or adopted:
 - Recommendations to keep the existing allocation for the Affiliate Funds Long-Term Care Program
 - Proposed revisions to both the Statement of Investment Policy and the CalPERS' Total Fund Investment Policy



2014-16 Closeout Accomplishments

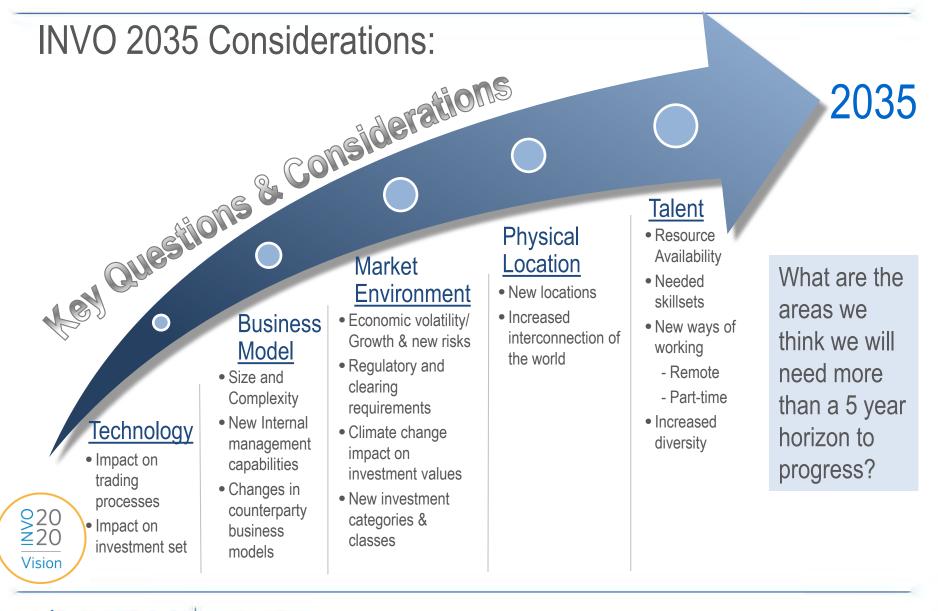
Environmental, Social and Governance (ESG) Strategy

- ✓ Carbon Footprint
 - Completed initial foot printing
- ✓ Principles and Proxy Voting
 - Year to date, 69% (54 /78) of shareowners approved shareowner proposals requesting proxy access
 - Additional 9 companies agreed to voluntary implementation
- Organization, Systems, and Controls
- ✓ Pricing and Valuation (TOM #12)
 - Completed Pricing and Valuation procedures for all asset classes
 - Moved forward with Quarterly valuations for Real Estate assets

Cost Effectiveness

- ✓ Cost Effectiveness
 - INVO Fiscal Year 2014-15 cost savings was \$217 million
 - Primarily from improved fee structures on new commitments made by Real Assets and Private Equity
 - Includes \$196 million of reduced ongoing fees and expenses and \$21 million in one-time savings.





Investment Office

CalPERS

Next Steps

- ✓ Continue to develop, manage and report 2015-17 Roadmap initiatives
- ✓ Finalize and operationalize the Investment Strategy Group Subcommittees
- ✓ Continue progress on 2020 Vision
 - Begin to identify 2016-18 Initiatives
- ✓ Begin framework and discussions for the INVO 2035 Strategy



Summary

- 2020 Vision
 - Communicated to INVO Staff
 - 1st step (2015-17 Roadmap) has begun
- 2015-17 Roadmap initiatives
 - 5 Strategic objectives
 - 36 Roadmap Initiatives
 - Collaborative, cross asset class/program area effort
 - Formal Program Management and reporting function
 - Progress is being made
- INVO 2035
 - Strategy is in development

