January 26, 2022

TO: Trustees – Board of Investments

FROM: Real Assets Committee

James Rice, CFA
Principal Investment Officer

FOR: February 9, 2022 Board of Investments Meeting

SUBJECT: **REAL ASSETS STRUCTURE REVIEW**

RECOMMENDATION

Approve the Real Assets Structure Review **(Attachment A)** including initiatives, guidelines, and recommendations throughout the document as well as those summarized on slides 32, 33,34 and 35.

BACKGROUND

On January 12, 2021, the Real Assets Committee ("Committee") unanimously approved a recommendation (**Attachment**) that the Board of Investments approve the Real Assets Structure Review. This structure review **(Attachment A)** indicates that LACERA would continue to invest in private infrastructure and natural resources assets which will eventually largely replace public market equities in these categories as well as commodities futures. The structure review also discusses the expected capital deployment path to implement the new strategic asset allocation targets approved by the Board of Investments in 2021. At the Committee Meeting, Staff mentioned that the proposed structure review neglected to include the guidelines approved by the Board of Investments regarding delegated authority for co-investments and secondaries purchases and that they would be included in the item to the Board if advanced by the Committee. The Attachment includes the addition of slide 34 which summarizes these co-investment and secondaries program guidelines previously approved by the Board of Investments.

OPTIONS AVAILABLE TO THE BOARD

The Board may wish to approve, modify, or reject the recommendation.

DELIBERATIONS AND OPINIONS EXPRESSED BY THE COMMITTEE

The Committee raised questions about the following topics that were addressed by staff and the Consultant: the geographic allocation to investments in developed and emerging markets in infrastructure, access the transportation sector investments which have traditionally been publicly-owned, and board notification required under delegated authority for re-ups which includes the consultant's report. A question was asked about the allocations on slide 9 and the column titled Difference vs Interim contained an error since the column was mistitled and showed the calculation for the Difference vs. Former Target. A corrected Difference vs. Interim calculation is included in the column on slide 9 of **Attachment A**.

RISKS OF ACTION AND INACTION

LACERA's real assets program has existed in its current structure since its 2018 inception, with the plan to replace the public market equity completion and commodities futures portfolios with private assets over time. It is believed that this structure will better meet LACERA's risk/return and diversification objectives. If the move to the desired privately-oriented structure is not continued, LACERA's real assets portfolio will likely experience higher volatility and more correlation to global equities, though it will remain more liquid. It is also believed that LACERA may better be able to manage its intentions in the energy transition category through private markets if these investment strategies are successful and would allow LACERA to better position itself as the energy markets move through decarbonatization.

The risk of inaction is that the real assets portfolio may continue to have uncompensated risks and may not achieve its objectives.

CONCLUSION

The Committee unanimously approved this recommendation that LACERA adopt the proposed Structure Review.

LACERA's specialty Real Assets consultant, Albourne, reviewed the Structure Review and concurs with its recommendations (**Attachment B)**.

Attachments

Noted and Reviewed:

Jonathan Grabel
Chief Investment Officer

JR:mm

LACERA ATTACHMENT

December 23, 2021

TO: Trustees – Real Assets Committee

FROM: James Rice
Principal Investment Officer

FOR: January 12, 2021 Real Assets Committee Meeting

SUBJECT: **REAL ASSETS STRUCTURE REVIEW**

RECOMMENDATION

Advance the Real Assets Structure Review (**Attachment A)** including initiatives, guidelines, and recommendations throughout the document as well as those summarized on slides 32, 33, and 34 to the Board of Investments for approval.

BACKGROUND

The first structure review of the then recently formed Real Assets Category (excluding Real Estate) was approved in November 2019. A mid-cycle update was presented to the Board in October 2020. The strategic asset allocation analysis completed in May 2021 raised the Infrastructure allocation target weight from 3 to 5%, and reduced Natural Resources from 4% to 3%.

SUMMARY

This structure review recommends the continuation of the program to invest in private Infrastructure and Natural Resources assets through Fund and other structures such as co-investment vehicles. Over the next four to five years these private assets are expected to largely replace the existing public market equities and commodities portfolios in the Infrastructure and Natural Resources categories.

The presentation consists of an overview followed by sections on the strategies and guidelines to be employed in implementing the recommendation.

LACERA's consultant, Albourne, reviewed the structure review and is in support of the recommendation. The consultant's concurrence memo is included as **Attachment B**.

Attachments

Noted and Reviewed:

Jonathan Grabel
Chief Investment Officer

JR:mm

ATTACHMENT A

Real Assets and Inflation Hedges
2021 Structure Review
Part 2 : Real Assets

Board of Investments

February 9, 2022

LOS ANGELES COUNTY EMPLOYEES RETIREMENT ASSOCIATION

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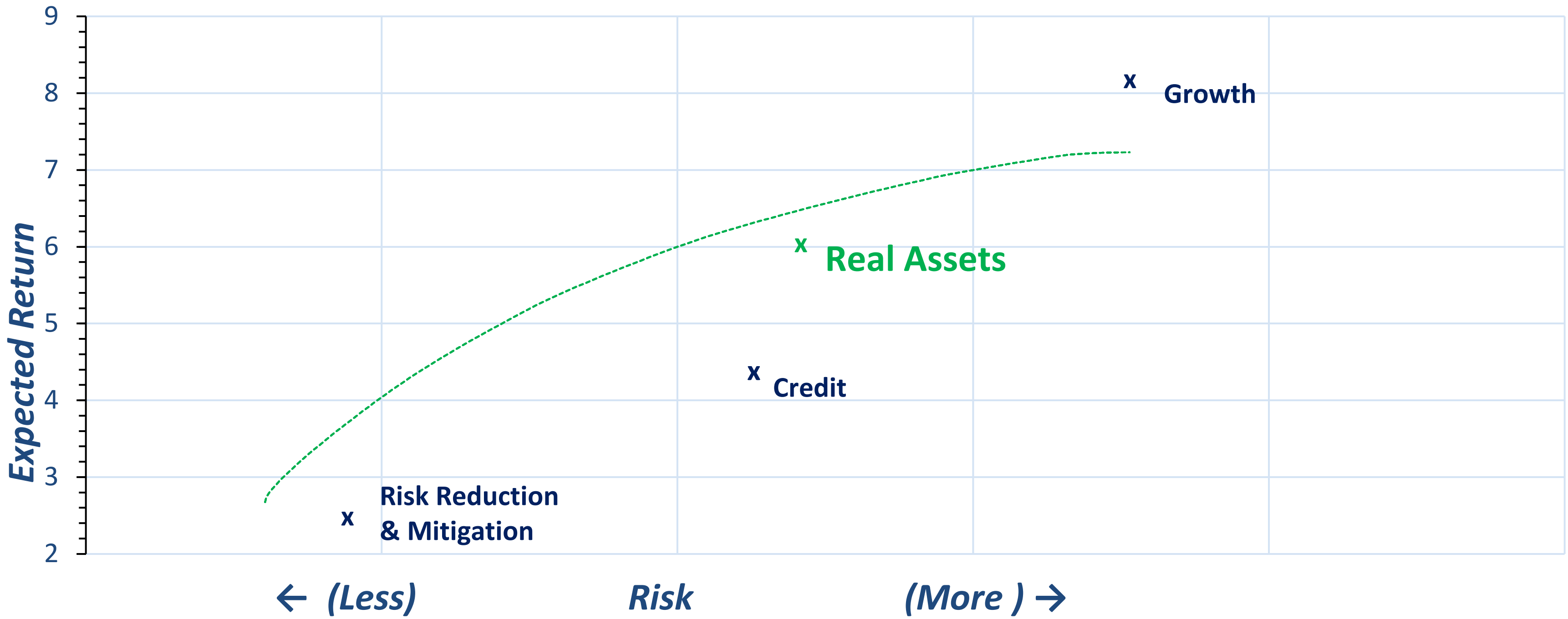
Portfolio Role



- Diversify exposure to growth assets to mitigate portfolio downside risk
- Provide consistent yield for the broader portfolio
- Hedge the risk of inflation with investments in hard or inflation-linked assets

Data from the Board-approved 2021 asset allocation study.

Structure Review - Background

1.0 Real Estate: Historical Structure

1. Fully owned assets
2. Improve sector and regional diversification

2.0 Real Assets: Asset Category Created

Includes

1. Historical Real Estate and Commodities programs
2. New assets for Natural Resources, Infrastructure and TIPS

3.0 Real Assets: Future

Existing initiatives

1. Consideration of changes to Real Estate structure
2. Private program for Infrastructure and Natural Resources

4.0 Real Assets: Next Phase

1. Reduce Real Estate portfolio operational and concentration risk
2. Real Estate focus on open-ended and closed-ended funds rather than separate accounts
3. Real Assets (excl Real Estate): continued implementation of public to private transition.

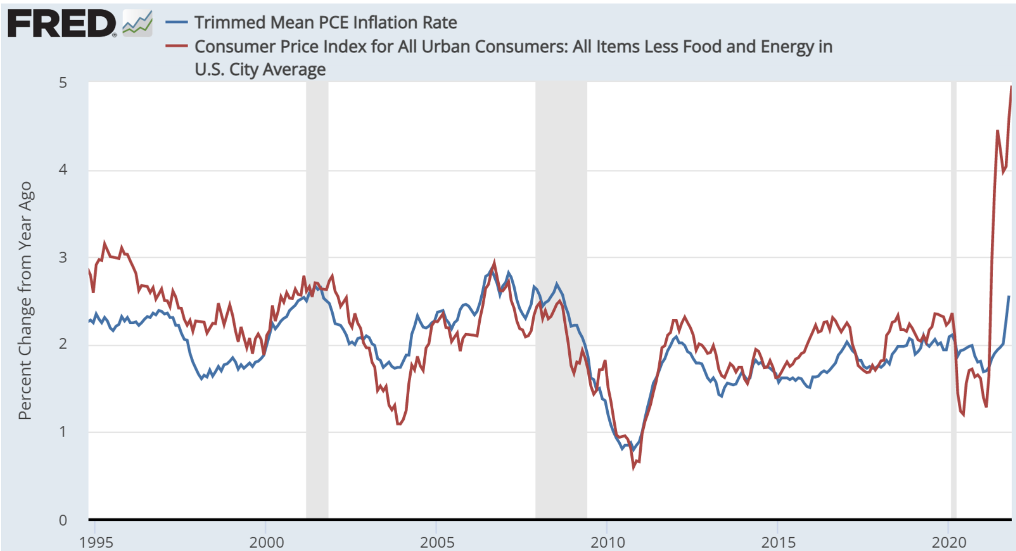
We are here

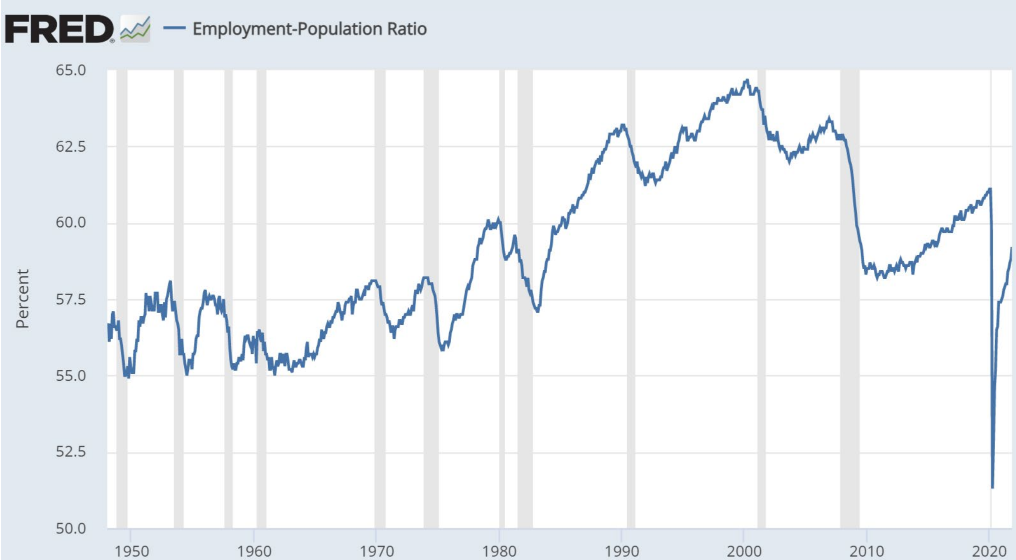
2018 Strategic Asset Allocation Study and Implementation

2019 Structure Review and Initiatives

2020 Mid-Cycle & 2021 Structure Reviews

Inflationary Pressures Rising





- Increase in wages
- High federal debt to GDP ~125%
- Fed stated target of higher employment participation
- Equal emphasis on employment and inflation
- Inflationary pressures high

Portfolio Components

Real Estate

- **Capital preservation and stable yield from rents**
- **Hard assets provide inflation protection**
- **Diversified sources of returns less correlated with growth assets**
- **Non-core also provides Growth returns**

Natural Resources & Commodities

- **Mix of diversification, income generation, and inflation hedging**
- **Farmland and agriculture less correlated to broader markets, and income generators**
- **Commodities in energy, mining, and agriculture can serve as inflation hedge**

Infrastructure

- **Core: generate yield with highly contracted revenues to limit downside across market environments**
- **Non-core: growth opportunities across energy/utilities, transportation, communications and social infrastructure**

TIPS

- **Inflation hedge through public markets**
- **Diversification benefits with inflation-linked and interest rate exposure**
- **Generates modest income**

ESG Considerations

ESG in Real Assets

ESG evaluation to ensure a sustainable rate of return over the long-term life of private investments

Manager Assessment

Evaluated at entry and monitored on:

- Manager's investment process incorporate material ESG factors
- Manager resources for ESG monitoring
- Operating assets to high ESG standards
- Transparency of ESG related reporting

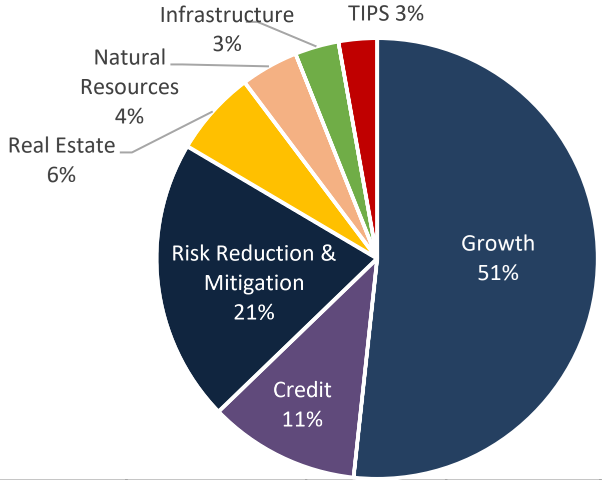
Monitoring & Future

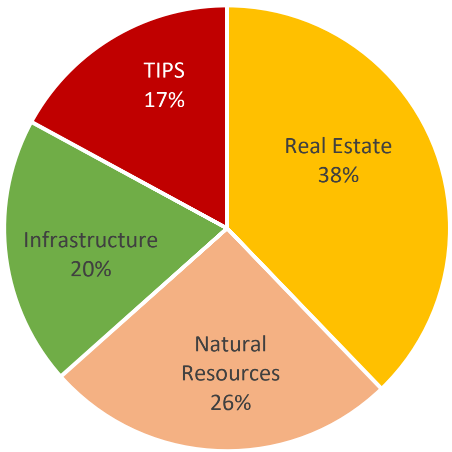
- Evaluation tools include LACERA specific DDQ questionnaires, and ESG evaluation
- ESG results incorporated into manager scorecard
- ESG risk measures in new LACERA risk system
- Side letters related to ESG issues
- LPAC role to monitor ESG
- Consideration of revisions to Responsible Contractor Policy

Real Assets (Excluding Real Estate)

Structure

Portfolio Composition





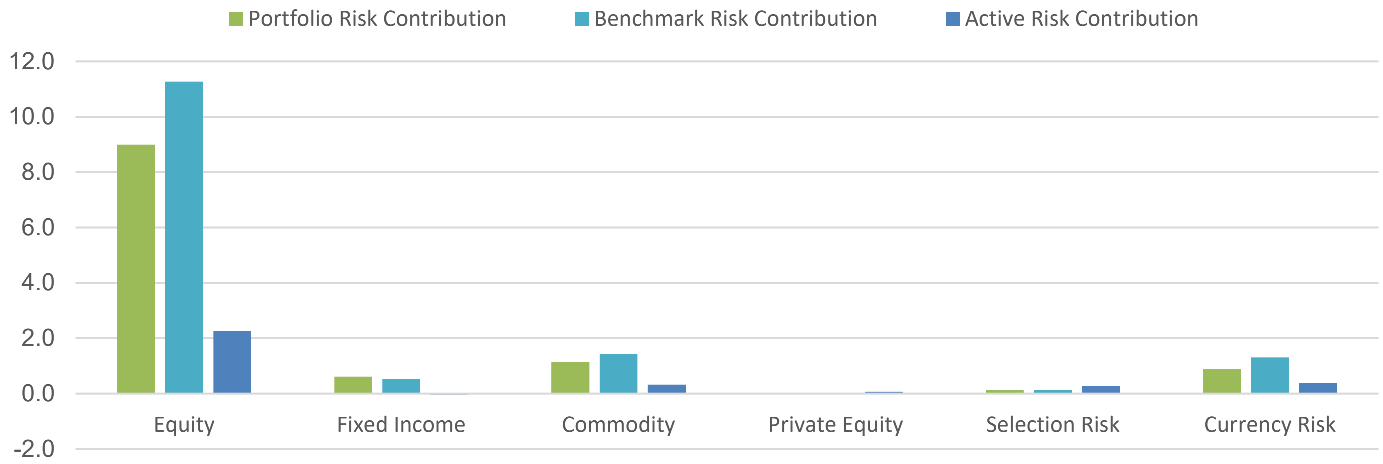
Asset Class	Allocation	Former Target	Interim Oct '21 Target	Final Jul '22 Target	Difference (v Former)	Difference (v Interim)	Target Range	Benchmark
Real Assets & Inflation Hedges	**16.3%**	**17%**	**17%**	**17%**	**(0.7)%**	**(0.7)%**	**+/- 3%**	**Custom Blend**
Core Real Estate	6.2%	7%	6%	6%	(0.8)%	0.2%	+/- 3%	NFI ODCE + 50 bps (3-month lag)
Infrastructure	3.2%	3%	4%	5%	0.2%	(0.8)%	+1/-3%	Dow Jones Brookfield Global Infrastructure Composite
Natural Resources/ Commodities	4.2%	4%	4%	3%	0.2%	0.2%	+/- 2%	50% Bloomberg Commodity/ 50% S&P Global Natural Resources
TIPS	2.8%	3%	3%	3%	(0.2)%	(0.2)%	+/- 3%	Bloomberg Barclays U.S. TIPS

Allocation weights are as of September 30, 2021; private assets based on latest asset valuation including any actual cash flows.

MSCI Forecast Active Risk – Real Assets

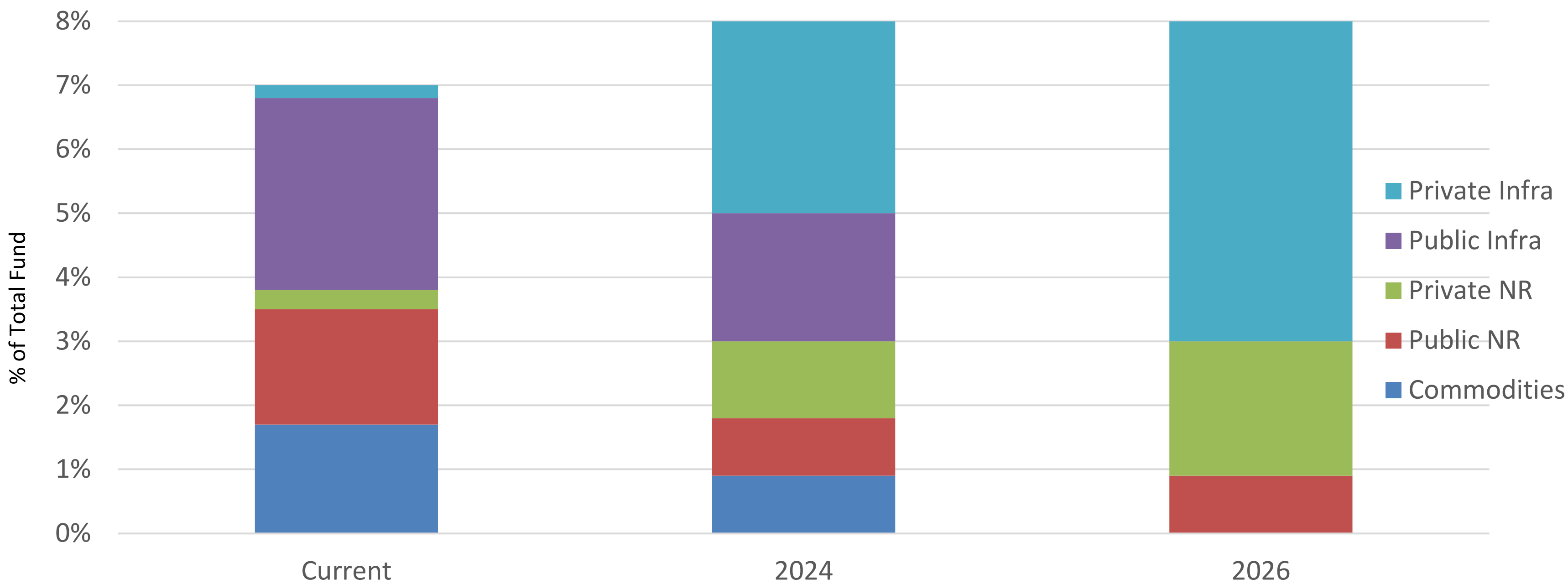
	Weight%	Benchmark Weight%	Active Weight%	Active Risk Contribution	Allocation Risk Cont.	Selection Risk Cont.	Standalone Active Risk
Total Real Assets (Ex Real Estate)				**3.3%**	**-0.1%**	**3.3%**	**3.3%**
Natural Resources and Commodities	41.1%	36.4%	4.7%	2.8%	-0.3	3.1%	8.0%
Infrastructure	31.2%	36.4%	-5.2%	0.4%	0.2%	0.3%	3.1%
TIPS	27.8%	27.3%	0.5%	0.1%	0.1%	0.0%	0.0%

Risk by Source



Implementation of the MSCI Risk Platform is ongoing; reconciliation and refinement of the data is progressing and subject to change.
As of November 30, 2021.
Source: MSCI Barra One.

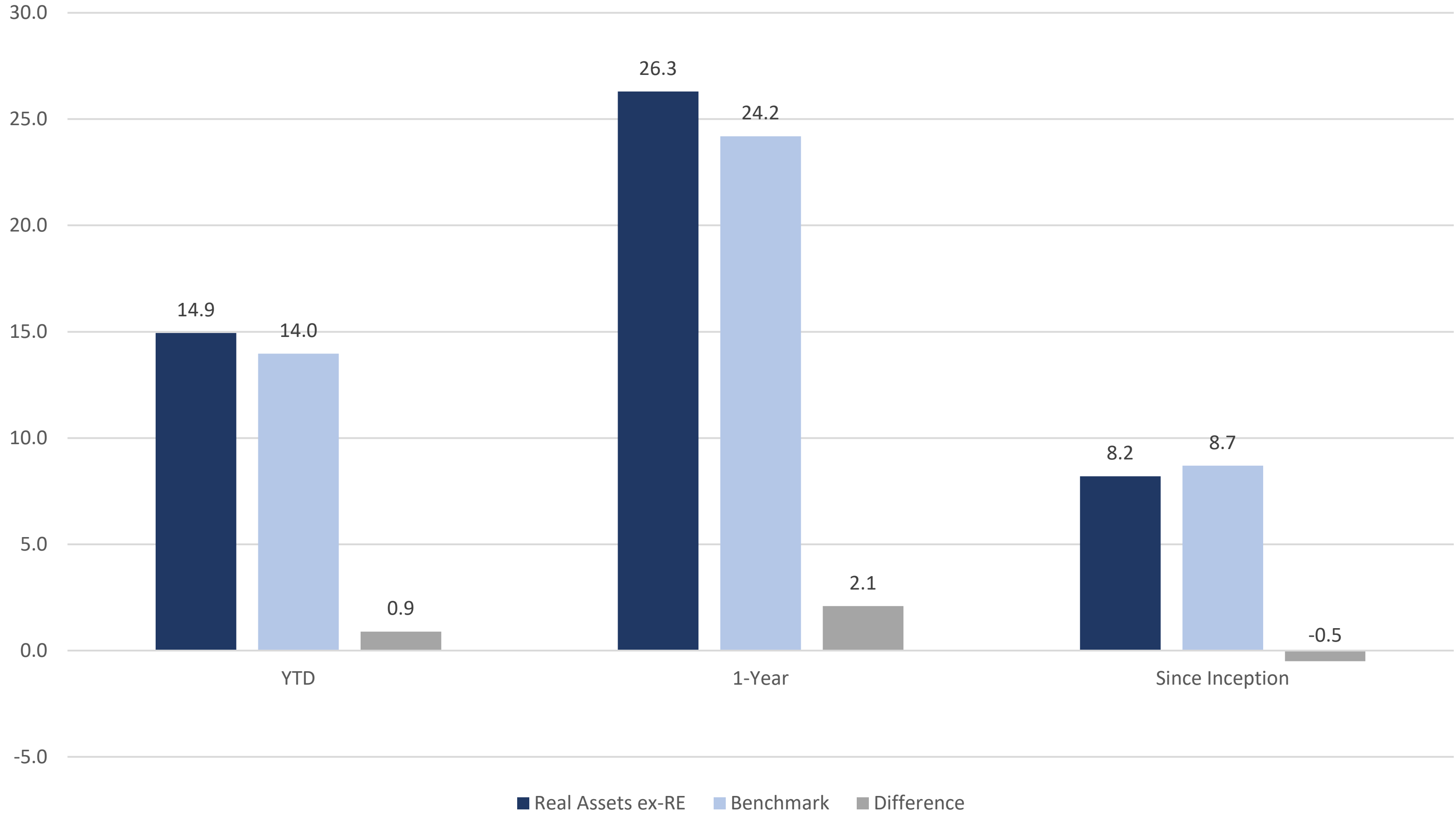
Structural Evolution from Public to Private



- Completion portfolio provides key role in maintaining exposures in transition towards private assets
- Commodities (public) exposure will be eliminated as private assets increase
- Staff will manage the mix of public real asset sector exposures to maintain balance to key real asset sectors as private assets increase across sectors
- Private Energy investments are targeted to newer energy transition strategies rather than traditional energy which faces stranded asset risk

Infrastructure	Natural Resources
Power/Utilities	Energy
Transportation	Metals/Mining
Telecom	Agriculture/Timber
Social	

Real Assets Performance



Current data as of September 30, 2021; Inception dates: Real Assets ex-RE, April 1, 2019; DWS , June 1, 2019; Blackrock, May 1, 2019; NR/Comm Composite, July 1, 2007.

Real Assets Performance (Cont'd)

Performance vs. Benchmark (net-of-fees)	% of Total Fund	3Q 2021	YTD (3Q 2021)	Trailing 1-Y	Since Inception
Real Assets ex-RE	10.2%	1.5	14.9	26.3	8.2
Benchmark		*1.5*	*14.0*	*24.2*	*8.7*
Excess Return		0.0	0.9	2.1	(0.5)
Public Market Infrastructure	3.0%	(0.4)	12.5	21.3	10.1
Benchmark		*(0.7)*	*12.2*	*20.6*	*7.0*
Excess Return		0.3	0.3	0.7	3.1
Private Infrastructure	0.2%	5.0	(0.3)	N/A	14.0
Benchmark		*7.9*	*22.3*	*N/A*	*18.2*
Excess Return		(2.9)	(22.6)	N/A	(4.2)
Public Natural Resources/ Commodities Composite	3.9%	2.9	23.3	42.1	(2.0)
Benchmark		*2.8*	*23.2*	*42.6*	*(2.9)*
Excess Return		0.1	0.1	(0.5)	0.9
Private Natural Resources	0.3%	3.2	0.8	0.0	(16.8)
Benchmark		*5.4*	*43.2*	*47.0*	*16.8*
Excess Return		(2.2)	(44.0)	(47.0)	(33.6)
TIPS	2.8%	1.6	3.3	4.9	7.8
Benchmark		*1.8*	*3.5*	*5.2*	*7.9*
Excess Return		(0.2)	(0.2)	(0.3)	(0.1)

Performance Commentary, as of 3Q 2021

- All categories excluding TIPS have outperformed through 3Q 2021
- All public market managers have outperformed their benchmarks since inception
- Private assets in early stages of fund cycle detract from overall performance

Inception dates: Real Assets ex-RE, April 2019; Public Infra and Natural Resources, May 2019; TIPS, May2019; NR/Comm Composite, July 2007.

LACERA Real Assets Structural Plan Steps

Closed or Open Ended Funds	Generates future co-investment flow	$1.8B in Commitments in 11 funds approved
Co-Investments and Secondaries	Larger internal staff oversees, brings in-house	Delegated authority in June 2021. Team evaluating co-investments
Club/Syndicated Deals	With like-minded peers, strategy control	Large transaction through secondary transaction in club structure negotiated
Separately Managed Accounts	Use select managers for complementary investments	

- Real Assets program is evolving with increased structural complexity and risk-adjusted return expectations
    - 11 commingled funds with $1.8B in committed capital
    - Co-investments being evaluated and secondary natural resources purchase negotiated
    - One club deal structure negotiated and approved by Board
- Selectively evaluate managed accounts
    - Challenging as large ticket sizes in Real Assets reduces diversification

Increased complexity and risk-adjusted return expectations over time

Energy Transition Creating New Opportunities

Segment	Energy Transition
Metals & Mining	Low carbon transition into renewables and electric vehicles is metal intensive, greater unit of metal input per unit of output Increased demand for metals such as lithium, copper, graphite, other base and precious metals
Agriculture / Timberland	Agriculture strategies focusing on conservation, carbon reduction, and carbon capture
Energy	Renewable fuels, carbon reduction and sequestration in industrial operations, and hydrogen fuel
Infrastructure	Renewable power, battery storage, and electric vehicle charging and related grid infrastructure improvements

- Transition to a low carbon economy presents investment opportunities across Real Assets
  - Infrastructure: renewable power, select battery storage, and related grid infrastructure improvements
  - Natural Resources: most appealing opportunities in Metals & Mining and Energy

Real Assets: Infrastructure

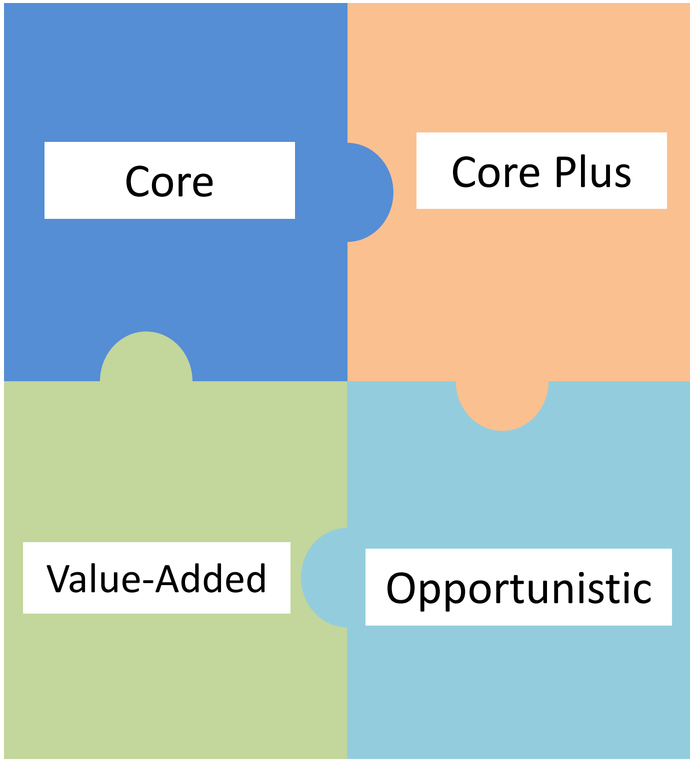
Infrastructure Role and Objectives

Role

- Diversification: more defensive than public equities
- Provide consistent income

Objectives

- Contracted and regulated assets to provide consistent returns less correlated to GDP growth
- Some potential allocation for higher-returning core plus, value added, opportunistic spectrum
- Explore co-investments and other structures for lower fees and more intentional allocation



Infrastructure Private Equity Structure

Sub-Category	Proposed Allocation Range	Target Deal Returns[1]	Net Fund Returns[2]	Asset Characteristics
Core/Core+	50 - 75%	7 - 12%	6 - 10%	Defensive, contracted assets, asset value based current yield
Non-Core	25 - 50%	11 - 20%	10 - 17%	Balanced income/capital appreciation, regulatory protection

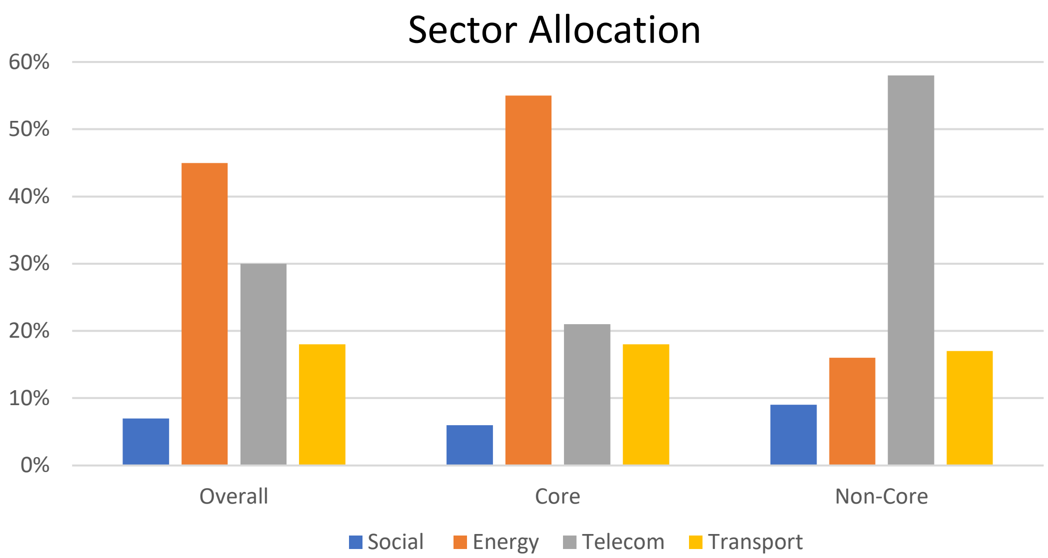
Industrial Sector	Examples
Energy/Utilities	Power generation (renewables and conventional), transmission/distribution systems, storage facilities, midstream, water treatment, water distribution, water transportation, and waste treatment
Communications	Fiber networks, communication towers, satellite systems, and data centers
Transportation	Toll roads, bridges, tunnels, airports, seaports, rail/transit, and parking facilities
Social	Availability based payment structures for hospitals, universities, and government buildings

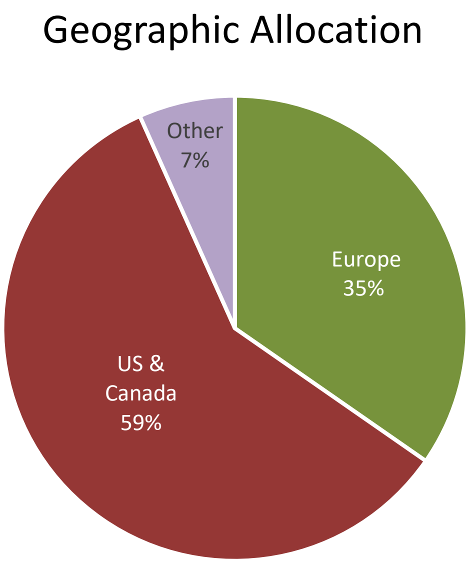
- Infrastructure sub-categories differ based on risk premium and income generation
- Infrastructure investments will generally focus on equity within capital structure
- Current geographic focus: developed markets and global funds

[1] Source Albourne. Target Deal Returns are based on manager underwriting of deals in each respective strategy.
[2] Source Albourne. Expected Net Fund Returns are Albourne's estimated loss-adjusted IRRs, net of fees, for funds in each respective strategy.

Infrastructure Sector & Geographic Exposure

Estimated Infrastructure Portfolio at committed capital amounts





Sector Proposed Allocation Range	Energy	Telecom	Transport	Social
Core/Core+	35 - 65%	10 - 40%	5 - 25%	0 - 20%
Non-core	35 - 65%	10 - 40%	5 - 25%	0 - 20%

Geographical Exposure	US & Canada	Europe	Asia Pacific Developed	Rest of World
Proposed Allocation Range	25 - 75%	25% - 75%	0 - 25%	0 - 20%

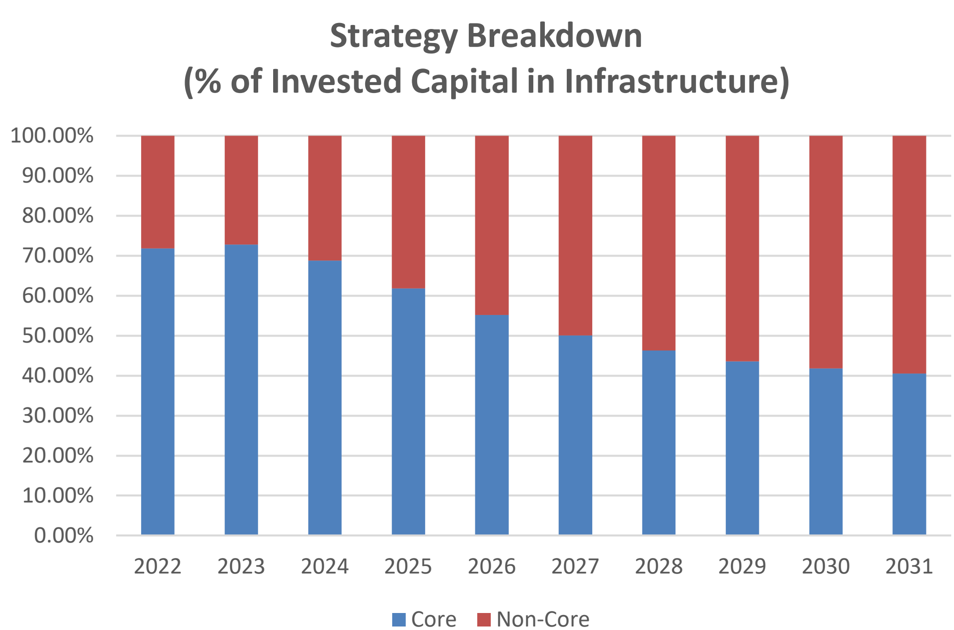
Infrastructure: Pacing & Commitment Schedule

	Current Commitment	Expected NAV end of 2024	SAA Target
Allocation Target as % of Total Fund	~2.5%	4%	5%

- Targeting 4% Infrastructure allocation (i.e. within 1% of target) by 2024
- Targeting 5% Infrastructure allocation (i.e. full target allocation) by 2026

→ Goals: Hit target allocation in prudent time frame; reduce vintage year risk; avoid greatly overshooting target

→ Implementation: commit ~$1.4B/year adjusted by total Fund growth



Core vs. Non-core split

- Oversize core commitment through open-ended funds in early years:
  - Less vintage risk (since assets valued on cash flow as opposed to multiple)
  - Core deploys in two years (vs. five years for non-core)
  - Core has higher cash yield giving more flexibility for re-investment
- Non-core progressively becomes a larger portion of allocation mainly due to return differential (i.e., 7% for core vs. 13% for non-core)

Real Assets:

Natural Resources/Commodities

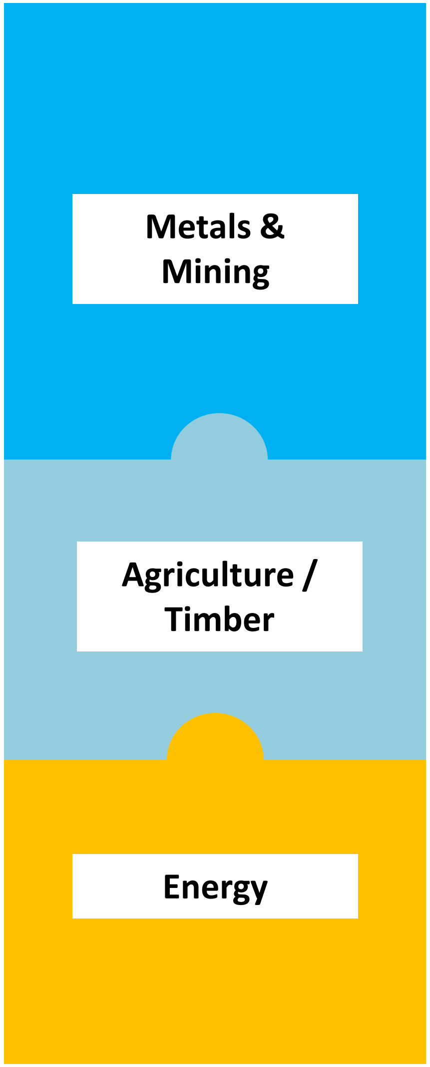
Natural Resources Role & Objectives

Role

- Diversify broad equity risk
- Serve as inflation hedge
- Generate income

Objectives

- Generate income and / or stable capital appreciation
- Provide returns less correlated with broader markets
- Higher correlation to inflation



Natural Resources Segments

Segment	Allocation Range	Private Deal Returns[1]	Private Fund Returns[2]
Metals & Mining	0 - 60%	12 - 25%	8 - 20%
Agriculture / Timberland	0 - 60%	7 - 20%	5 - 11%
Energy	0 - 60%	12 - 25%	10 - 20%

- Natural Resources at 3% of LACERA Fund allocation targeting inflation hedging, diversification, and income generation
- Current public markets portfolio: 2% in S&P Natural Resources Index + 2% in Commodities
- Natural Resources investments across public and private markets, provide flexibility for opportunistic and patient deployment of capital while still reaching 2% private allocation by 2026
- $350-500MM in annual commitment expected

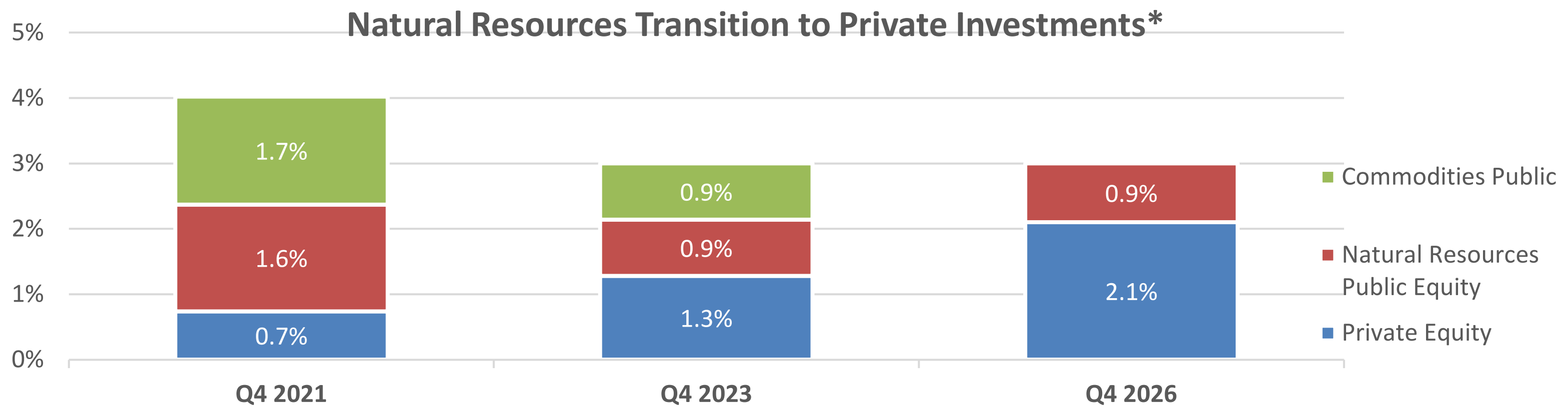
[1] Source Albourne. Target Deal Returns are underwriting targets, NOT realized results (i.e., not adjusted for potential losses).
[2] Source Albourne. Expected Net Fund Returns are estimated loss-adjusted IRRs (net of fees).

Natural Resources Opportunities

Segment	Allocation	Public Markets	Private Markets
Metals & Mining	0 - 60%	Base and Precious Metals Companies	Private mining funds in Operating Projects or 2-3 years from development
Geography		*Majority Tier I OECD mining jurisdictions with select non-OECD exposures*	
Agriculture / Timberland	0 - 60%	Ag Chemicals, Ag Products, Paper and Forestry	Core Farmland, Agriculture Infrastructure (Farmland+), Agribusiness, Timberland
Geography		*Primarily OECD, with select non-OECD exposures*	
Energy	0 – 60%	Exploration and production companies, Downstream, Petrochemicals, Chemicals Renewable Fuels, Synthetic Biotech	Produced, Developed, and Producing oil and gas fields Energy transition and low carbon infrastructure
Geography		*Primarily OECD*	

- Natural Resources segments targeted through a mix of private and public market investments
- Private and public market opportunities across segments, provide flexibility in targeting segment allocation
  I. Private market long-term oil and gas investment present stranded asset risk, and potential for conflict with evolving ESG Climate considerations
  II. Energy investments in select energy transition and low carbon primarily in Private Markets, with renewable power in infrastructure

Natural Resources Modeled Transition to Private



- Current natural resources portfolio, which is primarily in public markets, is transitioning to a mix of public and private markets over next 4-5 years
- Public commodities declining over time, replaced by private investments
- Energy investment exposure through public and private markets
  - Stranded asset risk for long-term (8-12 year) private equity style oil and gas funds, which have historically been volatile, with performance more highly correlated to public markets
  - Private strategies focused on select energy transition opportunities such as renewable fuels, carbon mitigation and carbon capture

* Assumes $400MM invested in Q4 2021 secondary and is immediately deployed.

Real Assets: TIPS

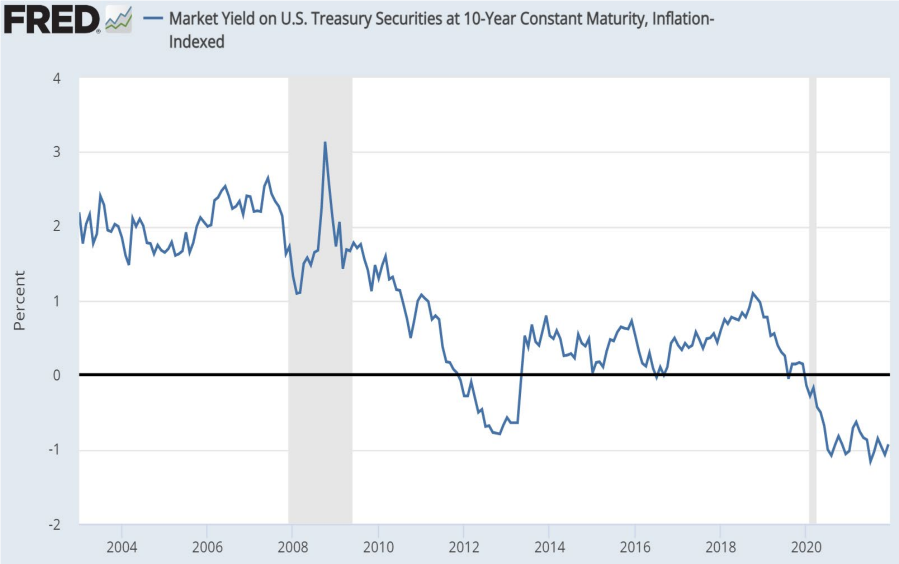
TIPS Role and Objectives

Role

- Inflation protection: Actual CPI + real yield
- Diversification to broad equity risk

Objectives

- Generate returns based on actual inflation and increases in inflation expectations
- Low correlation to equities
- Hedge increases in unanticipated inflation



- Persistent low nominal bond yields and increasing inflation expectations* result in lower real yields
- TIPS captured gains with reductions in real yields in 2019-2020
- TIPS cannot fully capture future inflation increases with currently negative real yields
- LACERA reduced underweight to TIPS in past year

* Breakeven inflation measures the difference in the yield of a nominal US Treasury bond and the real yield of an equivalent-maturity inflation-protected bond (TIPS). It reflects an expectation at which the market is pricing inflation over the term of the securities.

Real Assets: Next Steps

Emerging Manager Program

Program

- Initiate RFP Process for Delegated Custom Real Assets Separate Account Private Fund Assets Portfolio managed up to 10% of allocation
- Size program up to $400 MM in total commitments in initial launch of program

Objectives

- Source and Commit to Funds early in fund firm's life cycle (Fund I or II) or at small fund size
- Manage consistent with LACERA's TIDE policies
- Potentially achieve attractive terms for: fees, future capacity rights, GP revenue share, or other LP friendly Fund terms

Evaluation

What has Worked:

Inflation Hedging

Commodities have rebounded with inflation

Elements of Diversification

All commodities have outperformed
Completion Portfolio has outperformed over full cycle

Area for Refinement:

Exposure

Higher correlation (beta) to public market within Real Assets

Private Investing Outlook

- Inaugural private investment in mining fund and approval for secondaries farmland fund
- Core Infrastructure yields are decreasing while higher returning opportunities with some commercial risk remain
- Oil and gas presents stranded asset risk for long-term commitments and timber has continued to lack in returns
- General paucity of agricultural and mining funds, selectively pursue agribusiness funds

Strategic Initiatives

Completed

- Committed approximately $1.8 billion in private Real Assets (ex-Real Estate) to date, including open-ended funds
- Updated benchmarks more accurately reflect target portfolios

In-Process

- Interim period with private investments replacing public market portfolios; continue Real Assets (ex-Real Estate) transition to private assets
- In addition to fund commitments, actively sourcing and evaluating co-investment opportunities; exploring alternative Real Asset structures

Upcoming

- Further explore and consider fund investments in evolving opportunity set in private Energy Transition strategies

Summary Investment Guidelines Recommendations

Infrastructure

Infrastructure Risk Sub-Category	Private Allocation Range
Core/Core+	50 - 75%
Non-core	25 - 50%

Infrastructure Sector Private Allocation Range	Energy	Telecom	Transport	Social
Core/Core+	35 - 65%	10 - 40%	5 - 25%	0 - 20%
Non-core	35 - 65%	10 - 40%	5 - 25%	0 - 20%

Infrastructure Private Geographical Exposure	US & Canada	Europe	Asia Pacific Developed	Rest of World
Proposed Allocation Range	25 - 75%	25% - 75%	0 - 25%	0 - 20%

Natural Resources

Natural Resources	Private Allocation Range
Energy	0-60%
Metals Mining	0-60%
Agriculture/Timber	0-60%

Private Investment Diversification Guidelines	
Manager Diversification	Total General Partner less than 30% of Infra or Natural Resources MV plus undrawn commitments
Fund Concentration	LACERA no more than 40% of Total LP commitments for each Fund
Minimum Commitment Size	$10 MM

Proposed New CIO Authority for Follow-on Real Assets Funds

Recommendation

- Incorporate CIO Authority for Follow-on Funds into the Real Assets Investment Guidelines

	Description
CIO Authority for Follow-on Funds	The CIO is authorized to approve capital commitments in follow-on-funds up to $250 million per fund or up to a 25% fund ownership increase compared to LACERA's ownership percentage in the predecessor fund, provided: i. LACERA's prior investments in each predecessor fund greater than three years old (based on the fund's inception or commencement of operations date) exceeds the benchmark net IRR and net MOIC median returns for the fund's sub-asset class strategy, and ii. There have been no material changes in the investment strategy or key persons, and iii. LACERA's Real Assets consultant concurs with the investment The Board will receive written notification of all such actions from staff

Board Approved Delegated Co-Investment & Secondaries Authority (July 2021)

	Co-Investment Parameters	Secondaries Parameters
Sourcing	• Co-investments by Board-approved real asset GPs currently managing capital on behalf of LACERA	• A fund managed by a GP in which LACERA is an existing real assets investor
Investment Size	Up to $50 million	
Geography	USA, Canada, Eurozone , UK, Australia, and NZ	Global with Majority of Assets in developed markets
Deal Types	• Infrastructure • Natural Resources	• Infrastructure and Natural Resources • Fund must be at least 70% deployed, committed or reserved • Fund must have been managed by current team for at least 3 years
Deal Exposure	LACERA's ownership of co-investment asset or Fund not to exceed 1/3 of total under GP (combining co-invest & fund exposure)	
Annual Capital Deployment	$250 million maximum cumulatively across co-investments and secondaries[1]	
Advisory Confirmation	Third party (Albourne) confirms LACERA's due diligence was satisfactorily followed	Third party advisor confirms valuation
Monitoring Policy	• Prompt notification to Board in writing of CIO-approved co-investments or secondaries • Updates to BOI annually on capital deployed via co-investments & secondaries	

[1] This amount was initially $100 million in the recommendation proposed to the Real Assets Committee. The Committee made a motion and approved an increase in this amount to $250 million.

Recommendation Summary

Continue Private Asset Pacing in New Funds and Co-invests

- For Infrastructure, underwrite and commit to **$125-$250MM** Non-Core fund allocations to closed-ended funds and to **$300-600 MM** Core fund allocations targeting an overall **5%** allocation in **4-5** years
- For Natural Resources underwrite and commit to **$125-$300MM** Non-Core natural resources fund allocations to closed-ended funds targeting an overall **3%** allocation in **4-5** years
- Evaluate and commit to co-investment opportunities when attractive and further align the portfolio with its objectives

Revised Guidelines

- Adopt revised guidelines on slides **32, 33, and 34**

Appendix

Portfolio Structure Sub-Categories

Asset Class	Income Generation	Inflation Linkage	Diversification Benefits
Infrastructure			
Core/Core+	High	Medium	High
Non-Core	Medium	Medium	Medium
Natural Resources			
Metals & Mining	Low	Medium	Medium
Agriculture / Timberland	Medium	Medium	High
Energy	Medium	High	Low
Commodities	Low	High	High
TIPS	Low	Medium	High

Real Assets (Excluding Real Estate)

- More defensive than public equities
- Mix of diversification, income generation, and inflation hedging

Infrastructure

- Income generation and diversification

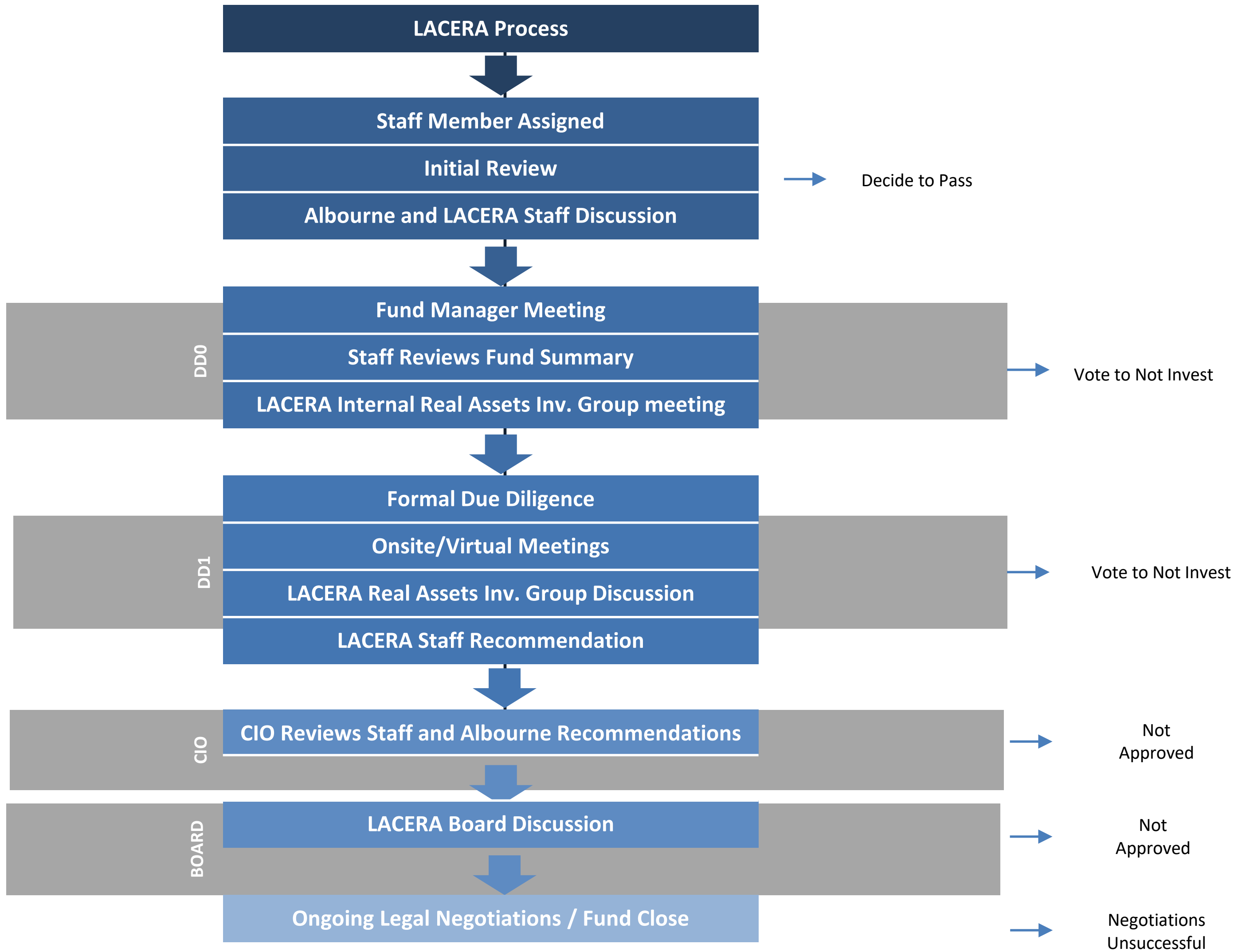
Natural Resources & Commodities

- Agriculture / Timber diversifiers to broader markets
- Commodities, energy, mining, and agriculture inflation hedge

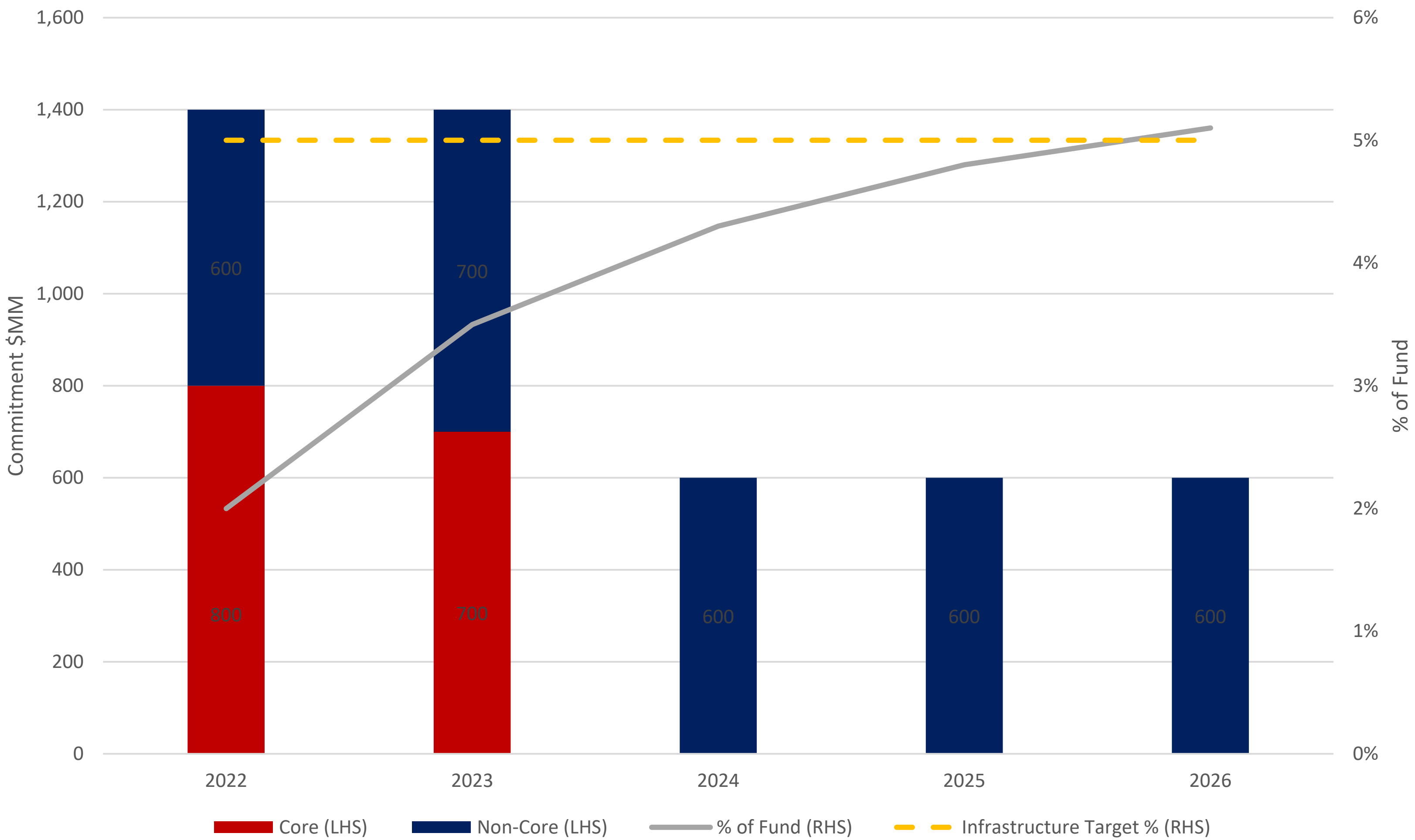
TIPS

- Inflation linkage through direct return of CPI plus real yield over bond life
- Diversification by preservation in down markets and inflation linkage

Investment Process

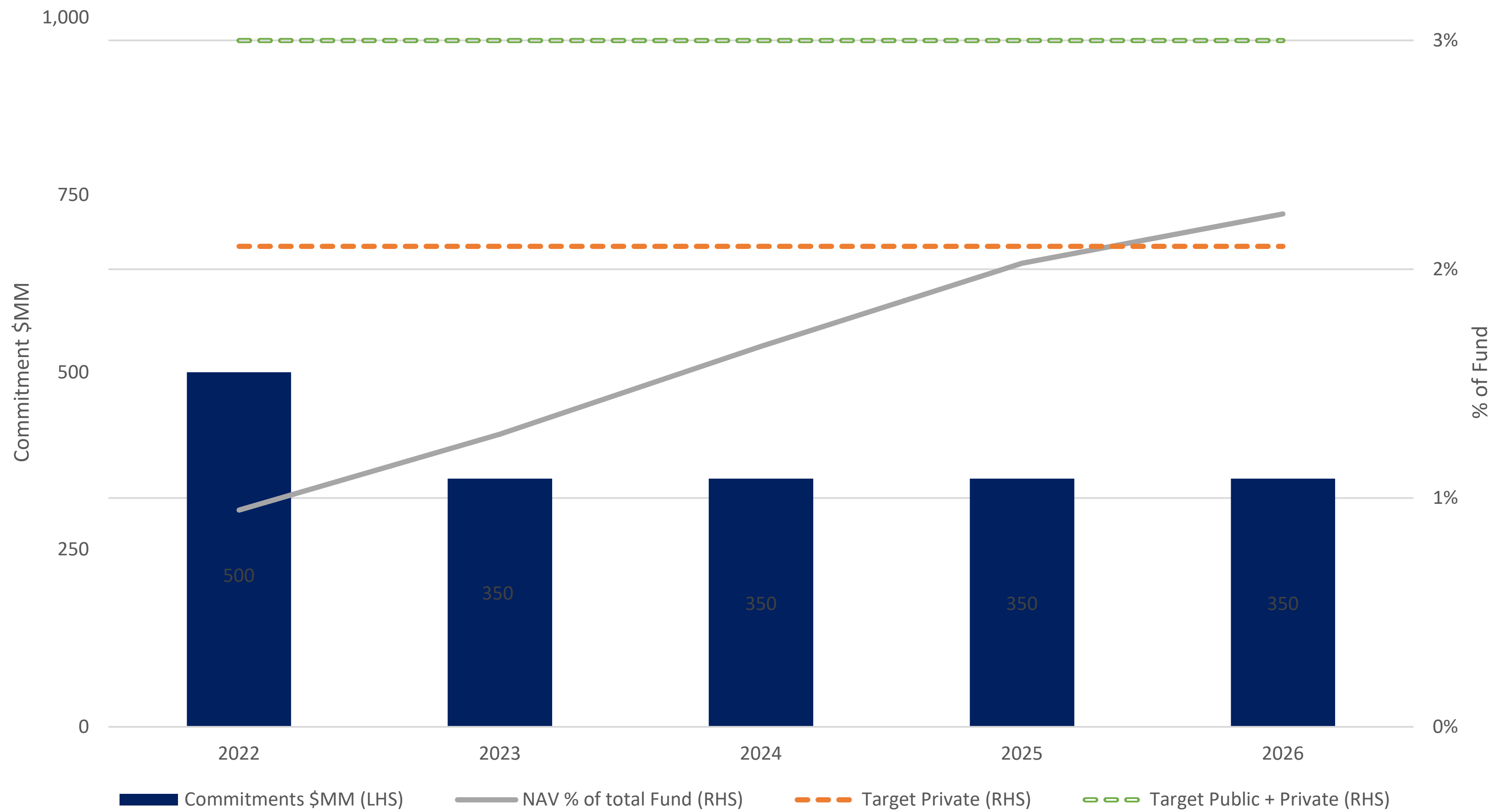


Investment Pacing: Infrastructure



Source: Albourne.

Investment Pacing: Natural Resources



Assumes: secondary purchase in 2021, and 0.9% of total Fund continues to be invested in public markets energy investments.
Source Albourne.

LACERA Real Asset Structure Review Concurrence Memo

December 20, 2021

To: Each Member
Real Assets and Inflation Hedges Committee
Board of Investments

From: James Walsh, Mark White
Albourne America LLC

For: January 12, 2022 Real Assets Committee Meeting

Recommendation: Albourne America LLC ("Albourne") recommends that the 2021 Structure Review of LACERA's Real Assets Portfolio be advanced to the Board of Investments for approval.

Background: Staff has prepared the 2021 Real Assets Structure Review for the Real Assets and Inflation Hedges Committee and the Board of Investments for its consideration and ultimately its approval. Albourne has reviewed the Structure Review and agrees with the recommendations.

The Structure Review re-asserts the Investment Role and Objectives last approved in November 2019, which emphasize income generation, inflation sensitivity, and diversification characteristics to benefit from complexity, illiquidity, and upside optionality. The Structural Review notes that, with the approval the portfolio will continue to be built out to a 17% total Strategic Target. Sub allocations are to increase infrastructure to 5% from 4% and reduce natural Resources from 4% to 3%. The Next Phase of this build out is anticipated to be implemented over 1-4 years with the potential inclusion of an Emerging Manager Program.

Conclusion: Staff's Structure Review outlines the focus on current income generation, inflation sensitivity, and diversification. The review clearly establishes the objectives and parameters of the program and the actions necessary to move forward to meet targets.

Sincerely,

James Walsh	Mark White
Head of Portfolio Group	Senior Portfolio Analyst

LACERA Real Asset Structure Review Concurrence Memo

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