



INVESTMENT ADVISORY SERVICES

Los Angeles • New York

Alternative Investment Performance
Merced County Employees' Retirement Association

December 21, 2017

MCERA Private Equity Capital Budget & Proposed Implementation Plan

9% fund level target

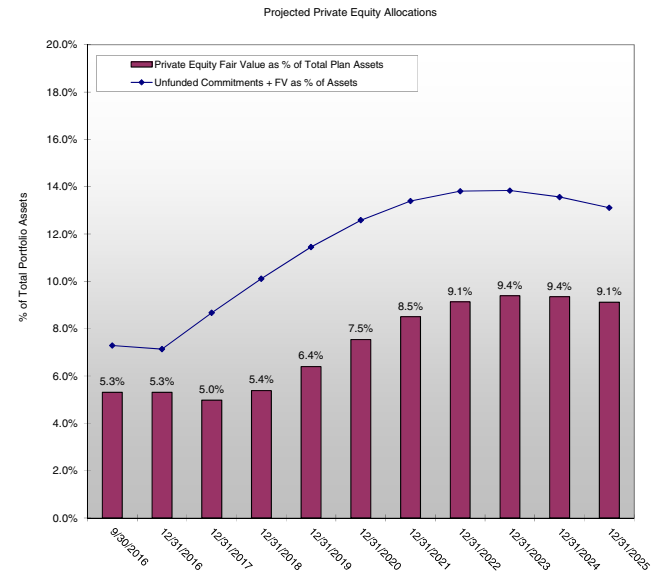
- Annual capital budget target of \$20 million, range of \$10-\$30 million
- Target 3-6 investments, range of \$3-\$10 million per inv; average size of \$5 million per

Performance comparisons:

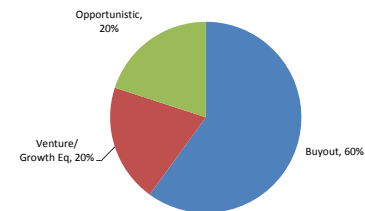
- *Long term investment objective:* Earn a return premium over public equity (Russell 3000 + 3%)
- *Recommended primary asset class benchmark:* Cambridge Associates Global Private Equity & VC Index
- *Recommended fund benchmarks:* Each fund will be compared to the Cambridge Associates strategy universe for the respective vintage years and each vintage year will be compared to Cambridge Associates Global Private Equity & VC Index

MCERA CY 2017 commitments (\$5 mm each):

- *DK Long Term Opps IV* – a distressed credit fund
- *GTCR XII* – a mid-market buyout fund
- *Carrick III* – a mid-market buyout fund



Target Strategy Diversification



	Target	Ranges
Buyout	60%	40-80%
Venture/Growth Eq	20%	10-30%
Opportunistic	20%	10-30%
	100%	

Note: MCERA’s existing private equity portfolio was modeled using vintage year drawdown/return of capital assumptions patterned after historical category averages. Total fund growth of 5.5%.

MCERA Private Equity Investment Structure & Portfolio Assessment

Investment structure (9% fund target; 4.7% invested as of Jun 2017):

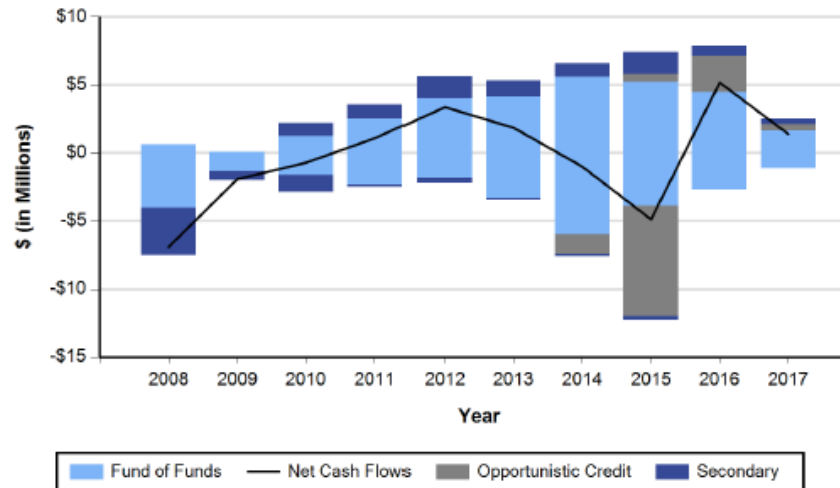
- Current portfolio is barbelled with half of commitments in 2007 & earlier FoFs and half in 2011 & later FoFs
 - Overall portfolio has not met performance expectations; 2011 & later portfolio is still in development
 - Quarterly performance improvement due to VY 2011 FoFs
 - Portfolio is diversified by strategy but overall it is in a negative cash flow situation

Quarterly Summary

(in thousands)

	Total Partnerships	Total Commitments	(A) Contributions	(B) Distributions	(C) Fair Value	(B+C) Total Value	(B+C-A) Gain/Loss	Net IRR	Benchmark
March 31, 2017	22	\$68,805	\$56,665	\$41,272	\$35,812	\$77,084	\$20,419	7.56%	10.07%
June 30, 2017	22	\$68,985	\$57,771	\$42,806	\$36,387	\$79,193	\$21,421	7.64%	10.24%
Quarterly Change	0	\$180	\$1,106	\$1,533	\$575	\$2,109	\$1,003		

Annual Cash Flow



Note: Net cash flow is the for the respective calendar year.

MCERA Private Equity Performance – as of Jun 30, 2017

Partnership Name (\$000)	Strategy	(A) Commit. Amount	Unfund. Amount	(B) Cumulat. Cont.	% Drawn	(C) Cumulat. Dist.	(D) Fair Value	(C+D) Total Value	(C+D-B) Gain/ Loss	Net IRR	IRR Bench.	TVPI	TVPI Bench.
Vintage Year 2004													
Invesco Partnership Fund IV, L.P.	Fund of Funds	10,000	2,417	7,898	76%	13,217	3,203	16,420	8,522	12.14%	7.29%	2.08	1.52
Vintage Year 2004 Total		10,000	2,417	7,898	76%	13,217	3,203	16,420	8,522	12.14%	7.96%	2.08	1.48
Vintage Year 2005													
ASP 2005 Non-US Fund	Fund of Funds	1,500	74	1,426	95%	1,394	526	1,919	494	4.90%	5.56%	1.35	1.36
ASP 2005 US Fund	Fund of Funds	3,500	177	3,323	95%	3,585	1,350	4,935	1,612	6.71%	7.80%	1.49	1.57
Pantheon Ventures Euro Fund IV	Fund of Funds	1,142	54	1,088	95%	1,275	251	1,526	438	4.61%	5.56%	1.40	1.36
Pantheon Ventures USA Fund VI	Fund of Funds	3,750	206	3,544	95%	3,958	1,443	5,402	1,858	6.96%	7.80%	1.52	1.57
Vintage Year 2005 Total		9,892	512	9,380	95%	10,212	3,570	13,782	4,402	6.48%	7.33%	1.47	1.45
Vintage Year 2006													
Pantheon Global Secondary Fund III "B"	Secondary	10,000	540	9,460	95%	8,510	1,964	10,474	1,014	1.94%	8.38%	1.11	1.40
Vintage Year 2006 Total		10,000	540	9,460	95%	8,510	1,964	10,474	1,014	1.94%	7.49%	1.11	1.46
Vintage Year 2007													
ASP 2007 Direct Fund	Fund of Funds	450	16	434	97%	578	306	884	449	11.15%	11.04%	2.03	1.67
ASP 2007 Non-US Fund	Fund of Funds	1,575	78	1,497	95%	1,120	1,018	2,138	641	7.40%	7.06%	1.43	1.42
ASP 2007 US Fund	Fund of Funds	2,475	134	2,341	95%	2,294	1,640	3,934	1,592	11.51%	11.04%	1.68	1.67
Vintage Year 2007 Total		4,500	227	4,273	95%	3,992	2,963	6,956	2,683	10.15%	9.27%	1.63	1.54
Vintage Year 2011													
ASP 2011 Direct Fund	Fund of Funds	500	50	450	90%	323	460	782	332	17.16%	13.84%	1.74	1.44
ASP 2011 Emerging Markets Fund	Fund of Funds	500	153	347	69%	31	457	488	142	10.64%	10.69%	1.41	1.37
ASP 2011 Non-US Developed Fund	Fund of Funds	1,500	350	1,151	77%	455	1,040	1,495	344	10.52%	10.69%	1.30	1.37
ASP 2011 US Fund	Fund of Funds	2,500	510	1,991	80%	695	2,063	2,759	768	13.10%	13.84%	1.39	1.44
Pantheon Asia Fund VI	Fund of Funds	1,000	350	651	65%	34	910	944	293	11.13%	10.69%	1.45	1.37
Pantheon Euro Fund VII	Fund of Funds	1,593	523	1,071	67%	198	1,310	1,507	437	7.50%	10.69%	1.41	1.37
Pantheon Ventures USA Fund IX	Fund of Funds	2,000	600	1,400	70%	200	1,735	1,935	535	10.42%	13.84%	1.38	1.44
Vintage Year 2011 Total		9,593	2,536	7,060	74%	1,935	7,975	9,910	2,850	11.84%	12.44%	1.40	1.41
Vintage Year 2013													
Invesco Partnership Fund VI, L.P.	Fund of Funds	5,000	1,833	3,674	63%	526	5,225	5,751	2,077	19.95%	11.20%	1.57	1.19
Vintage Year 2013 Total		5,000	1,833	3,674	63%	526	5,225	5,751	2,077	19.95%	11.00%	1.57	1.25
Vintage Year 2014													
Ocean Avenue Fund II	Fund of Funds	10,000	3,500	6,500	65%	697	6,632	7,329	829	5.91%	7.82%	1.13	1.11
Raven Asset-Based Opportunity Fund II	Opportunistic Cr	10,000	474	9,526	95%	3,716	4,856	8,572	-954	-5.68%	8.24%	0.90	1.14
Vintage Year 2014 Total		20,000	3,974	16,026	80%	4,413	11,488	15,900	-126	-0.41%	10.97%	0.99	1.20
Total Portfolio:		68,985	12,039	57,771	83%	42,806	36,387	79,193	21,421	7.64%	10.24%	1.37	

Note: The benchmark represents the Cambridge Associates LLC median for the respective strategy and vintage year. At the vintage year level, the Cambridge Associates LLC Global Private Equity & VC[®] median is used for the respective vintage year.

MCERA Real Estate Capital Budget & Proposed Implementation Plan

8% fund level target

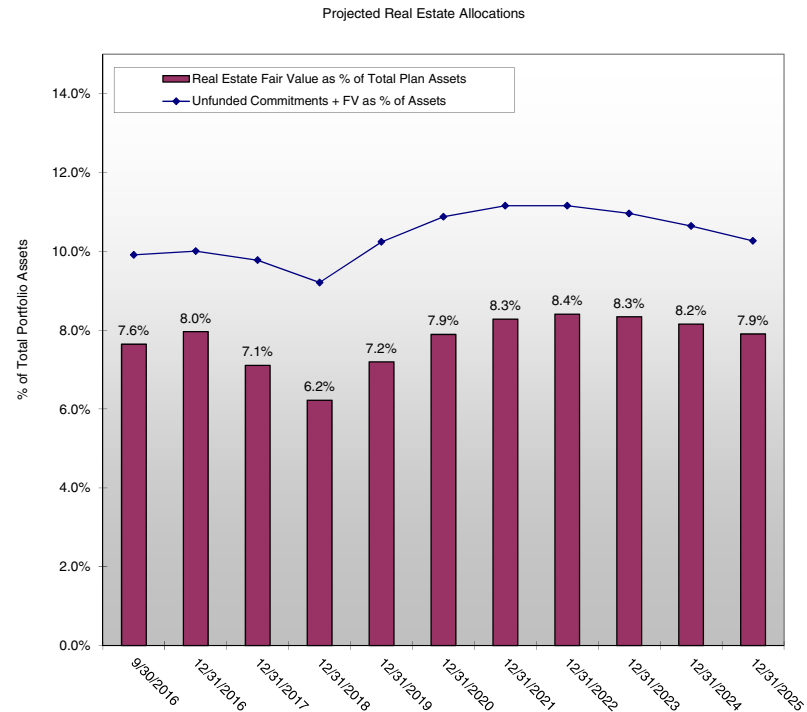
- Annual capital budget target of \$15 million, range of \$5-\$25 million
- Target 2-4 investments, range of \$4-\$7 million per inv
 - Average investment size of \$5 million
 - If an average of 2-4 GP partnership commitments per year, expect a total of 8-16 GP relationships over a 4 year fund raising cycle
- Retain core real estate exposure but lower it to 25% of the portfolio due to current valuations; use it as a source of funding and substitute for private real estate investments (long term target of 75%)

Performance comparisons:

- *Long term investment objective:* Earn a return premium over inflation (CPI-U + 5%)
- *Recommended primary asset class benchmark:* NCREIF NFI-ODCE; revisit over time as the structure of the portfolio changes
- *Recommended fund benchmarks:* Each fund will be compared to the Cambridge Associates strategy universe for the respective vintage years and each vintage year will be compared to Cambridge Associates Global Real Estate Index

MCERA CY 2017 commitments (\$5 mm):

- *Carlyle RE VIII* – an opportunistic RE fund



Note: MCERA’s existing real estate portfolio was modeled using vintage year drawdown/return of capital assumptions patterned after historical averages. Total fund growth rate of 5.5%.

MCERA Real Estate Investment Structure & Portfolio Assessment

Real estate investment structure (8% target, 7.3% actual)

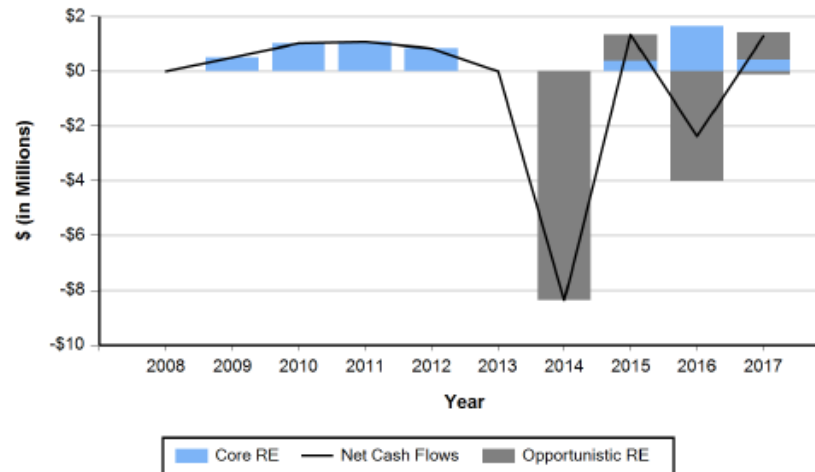
- MCERA invested in 1999 in a private core real estate fund; gains have been re-invested in the fund
- REITs were introduced in 2014 as were direct investment in opportunistic real estate funds; liquidated in 2017 with assets transferred to a SSgA real assets fund

Quarterly Summary

(in thousands)

	Total Partnerships	Total Commitments	(A) Contributions	(B) Distributions	(C) Fair Value	(B+C) Total Value	(B+C-A) Gain/Loss	Net IRR	Benchmark
March 31, 2017	4	\$42,697	\$28,530	\$18,955	\$54,808	\$73,762	\$45,232	9.37%	8.22%
June 30, 2017	4	\$43,592	\$28,653	\$19,940	\$55,426	\$75,366	\$46,713	9.40%	8.58%
Quarterly Change	0	\$894	\$123	\$986	\$618	\$1,604	\$1,481		

Annual Cash Flow



Note: Net cash flow is the for the respective calendar year.

MCERA Real Estate Performance – as of Jun 30, 2017

Real Estate Portfolio

- MCERA began investing in the UBS Trumbull core real estate fund in 1999 and this represents the bulk of the real estate portfolio
 - Opportunistic funds began being added in 2014 and they are in the early stages of development
- Overall performance has met objectives, driven by the core RE fund; opportunistic fund performance is not meaningful

Partnership Name	Strategy	(A) Commit. Amount	Unfund. Amount	(B) Cumulat. Cont.	% Drawn	(C) Cumulat. Dist.	(D) Fair Value	(C+D) Total Value	(C+D-B) Gain/ Loss	Net IRR	IRR Bench.	TVPI
<i>(in thousands)</i>												
Vintage Year 1999												
UBS Trumbull Property Fund	Core RE	17,000	0	17,000	100%	18,851	41,980	60,831	43,831	9.34%	10.20%	3.58
Vintage Year 1999 Total		17,000	0	17,000	100%	18,851	41,980	60,831	43,831	9.34%	12.76%	3.58
Vintage Year 2014												
Greenfield Acquisition Partners VII, L.P.	Opportunistic RE	13,000	4,434	9,789	66%	1,089	11,933	13,022	3,233	13.94%	11.59%	1.33
Vintage Year 2014 Total		13,000	4,434	9,789	66%	1,089	11,933	13,022	3,233	13.94%	9.24%	1.33
Vintage Year 2016												
Patron Capital Fund V	Opportunistic RE	13,592	11,734	1,864	14%	0	1,513	1,513	-351	N/M	N/M	0.81
Vintage Year 2016 Total		13,592	11,734	1,864	14%	0	1,513	1,513	-351	N/M	N/M	0.81
Total Portfolio:		43,592	16,168	28,653	63%	19,940	55,426	75,366	46,713	9.40%	8.58%	2.63

Note: The benchmark at the total portfolio level is NCREIF NFI-ODCE . Private real estate benchmark at the fund level is the Cambridge Value Add or Opportunistic RE Indices while the Cambridge Global Real Estate Index at the vintage year level.

MCERA Real Asset Capital Budget & Proposed Implementation Plan

6% fund level target

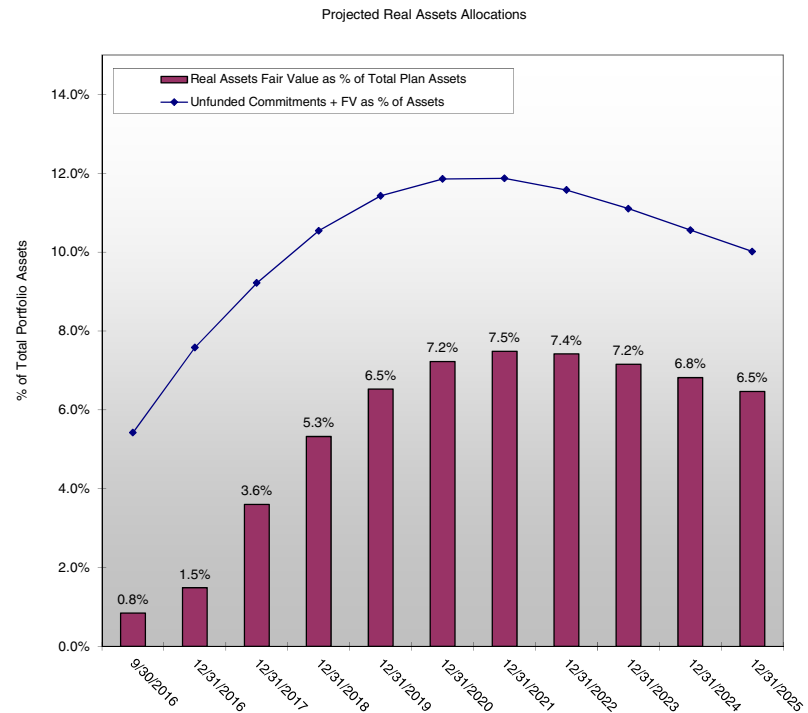
- Annual capital budget target of \$15 million, range of \$5-\$25 million
- Target 2-4 investments, range of \$4-\$7 million per inv
 - Average investment size of \$5 million
 - If an average of 2-4 GP partnership commitments per year, expect a total of 8-16 GP relationships over a 4 year fund raising cycle
- Portfolio targeted to be equally split between infrastructure and energy/natural resource funds

Performance comparisons:

- *Long term investment objective:* Earn a return premium over inflation (CPI-U + 5%)
- *Recommended primary asset class benchmark:* 50/50 Cambridge Global Infrastructure/Cambridge Energy Upstream & Royalties and Private Energy Index
- *Recommended fund benchmarks:* Each fund will be compared to the Cambridge Associates strategy universe for the respective vintage years and each vintage year will be compared to the 50/50 index

MCERA CY 2017 commitments:

- *EnCap Energy Capital Fund XI* – an upstream energy fund (\$5 mm)
- *EnCap Flatrock IV* – a midstream energy fund (\$3 mm)



Note: MCERA’s existing real asset portfolio was modeled using vintage year drawdown/return of capital assumptions patterned after historical category averages. Total fund growth rate of 5.5%.

MCERA Real Assets Investment Structure & Portfolio Assessment

Real assets investment structure (6% target, 1.7% actual)

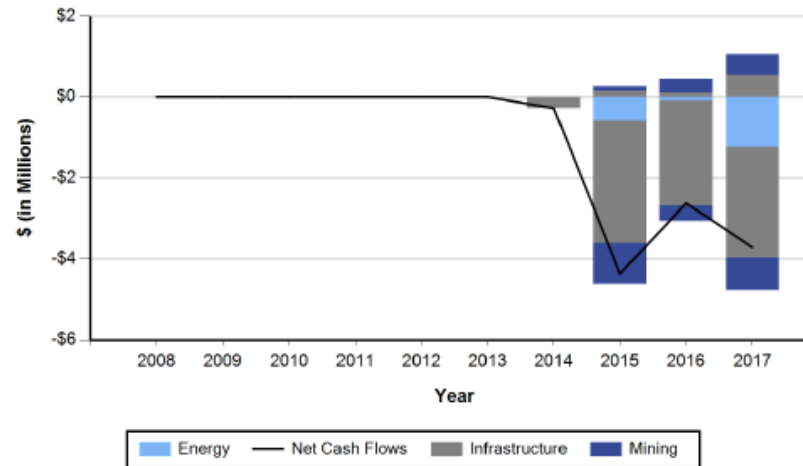
- Program is designed to be equally divided between private infrastructure and natural resource funds
- Private fund commitments began in 2014 to infrastructure and 2015 to natural resources
- The overall portfolio is immature with the funds in the early stage of development
 - Quarterly gains in the infrastructure funds

Quarterly Summary

(in thousands)

	Total Partnerships	Total Commitments	(A) Contributions	(B) Distributions	(C) Fair Value	(B+C) Total Value	(B+C-A) Gain/Loss	Net IRR	Benchmark
March 31, 2017	5	\$37,500	\$10,412	\$868	\$10,121	\$10,989	\$577	5.99%	6.02%
June 30, 2017	6	\$42,500	\$12,716	\$1,755	\$12,217	\$13,972	\$1,256	10.17%	6.62%
Quarterly Change	1	\$5,000	\$2,304	\$887	\$2,096	\$2,983	\$678		

Annual Cash Flow



Note: As of Mar 31, 2017. Net cash flow is the for the respective calendar year.

MCERA Real Assets Performance – as of Jun 30, 2017

Real Asset Portfolio

- MCERA began allocating to real assets in 2014 via direct fund commitments
 - Portfolio is approximately equally divided between infrastructure & energy/mining
- Portfolio is in its early stages of development so performance is not meaningful; both the infrastructure funds have come out of the “j-curve” and there was a large quarterly improvement in KKR

Partnership Name	Strategy	(A) Commit. Amount	Unfund. Amount	(B) Cumulat. Cont.	% Drawn	(C) Cumulat. Dist.	(D) Fair Value	(C+D) Total Value	(C+D-B) Gain/ Loss	Net IRR	IRR Bench.	TVPI
(in thousands)												
Vintage Year 2014												
KKR Global Infrastructure II	Infrastructure	10,000	6,260	4,599	37%	751	4,369	5,120	522	11.15%	N/A	1.11
Vintage Year 2014 Total		10,000	6,260	4,599	37%	751	4,369	5,120	522	11.15%		1.11
Vintage Year 2015												
GSO Energy Select Opportunities Fund	Energy	7,500	5,585	1,915	26%	0	2,202	2,202	286	N/M	N/M	1.15
North Haven Infrastructure Partners II LP	Infrastructure	10,000	5,997	4,029	40%	36	3,986	4,022	-7	-0.16%	N/A	1.00
Taurus Mining Finance Fund	Mining	5,000	3,667	1,781	27%	774	1,373	2,147	366	21.03%	N/M	1.21
Vintage Year 2015 Total		22,500	15,248	7,725	32%	810	7,561	8,371	645	8.52%		1.08
Vintage Year 2016												
Taurus Mining Finance Annex Fund	Mining	5,000	4,756	392	5%	194	287	481	89	N/M	N/M	1.23
Vintage Year 2016 Total		5,000	4,756	392	5%	194	287	481	89	N/M		1.23
Vintage Year 2017												
EnCap Energy Capital Fund XI, L.P.	Energy	5,000	5,000	0	0%	0	0	0	0	N/M	N/M	0.00
Vintage Year 2017 Total		5,000	5,000	0	0%	0	0	0	0	N/M		0.00
Total Portfolio:		42,500	31,264	12,716	26%	1,755	12,217	13,972	1,256	10.17%	6.62%	1.10

Note: Benchmark is 50% S&P Natural Resources and 50% S&P Infrastructure. Benchmarks for individual funds are the respective Cambridge strategy benchmark.

MCERA Hedge Fund Performance – as of Sep 30, 2017

Two additional managers were added in Sep

Performance of event, credit and equity l/s managers has been strong in CY 2017

– Global macro performance has been challenged due to low market volatility

Fund	Market Value	Actual %	Returns							Std Dev	Sharpe Ratio	Incep Date	
			Sep	QTD	YTD	1 Year	3 Year	5 Year	Incep				
Equity Long/Short													
Archipelago Partners, L.P.	3,040,561	13.3%	1.35%	-	-	-	-	-	-	1.35%	-	-	Sep-17
Equity Long/Short - HF Total	3,040,561	13.3%	1.35%	-	-	-	-	-	-	1.35%	-	-	Sep-17
Global Macro-Discretionary													
Graham Absolute Return Trading Ltd. - Class A	3,010,500	13.1%	0.35%	-	-	-	-	-	-	0.35%	-	-	Sep-17
Global Macro-Discretionary - HF Total	3,010,500	13.1%	0.35%	-	-	-	-	-	-	0.35%	-	-	Sep-17
Multi-Strategy													
OZ Domestic Partners II, LP	16,873,600	73.6%	-0.07%	2.43%	11.30%	14.44%	6.14%	-	5.91%	4.58%	1.15		Jul-14
Multi-Strategy - HF Total	16,873,600	73.6%	-0.07%	2.43%	11.30%	14.44%	6.14%	-	5.91%	4.58%	1.15		Jul-14
MCERA Hedge Fund Portfolio	22,924,661	100.0%	0.17%	2.68%	9.11%	11.57%	4.03%	-	3.80%	4.03%	0.79		Jul-14
Benchmarks													
HFRI Fund of Funds Composite Index			0.36%	2.24%	5.52%	6.43%	2.21%	-	2.13%	3.23%	0.47		Jul-14
Market Indices													
Libor3Month			0.11%	0.33%	0.90%	1.14%	0.69%	-	0.65%	0.11%	-		Jul-14
Barclays Aggregate Bond Index			-0.48%	0.85%	3.14%	0.07%	2.72%	-	2.56%	2.84%	0.67		Jul-14
Barclays High Yield Credit Bond Index			0.90%	1.98%	7.01%	8.90%	5.84%	-	4.77%	5.87%	0.72		Jul-14
S&P 500 TR			2.06%	4.48%	14.24%	18.61%	10.81%	-	10.32%	9.99%	0.97		Jul-14
MSCI EAFE - Net			2.49%	5.40%	19.96%	19.10%	5.04%	-	2.71%	12.08%	0.23		Jul-14
MSCI EMF (Emerging Markets Free) - Net			-0.40%	7.89%	27.78%	22.46%	4.90%	-	3.38%	15.78%	0.25		Jul-14

Most recent month returns are based on manager estimates; prior months use final market values.

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