



INVESTMENT ADVISORY SERVICES

Los Angeles • New York

Alternative Investment Performance
Merced County Employees' Retirement Association

September 27, 2018

MCERA Private Equity Capital Budget & 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:

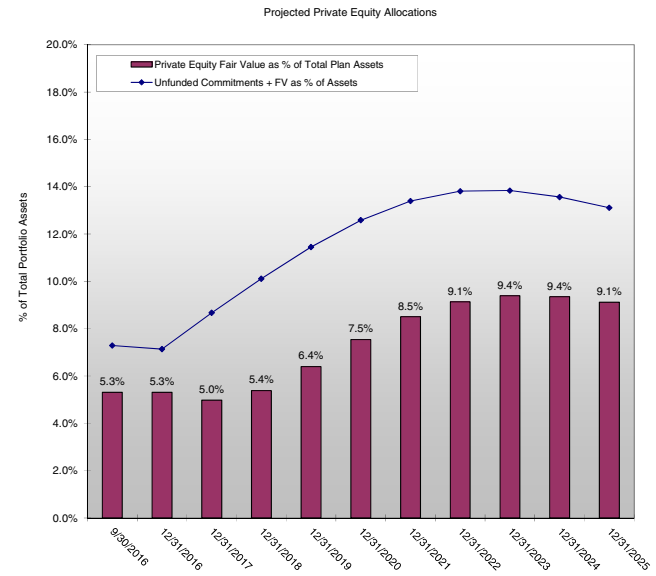
- *Long term investment objective:* Earn a return premium over public equity (Russell 3000 + 3%)
- *Recommended primary asset class benchmark:* Cambridge Associates Global Private Equity & VC Index
- *Recommended fund benchmarks:* Each fund will be compared to the Cambridge Associates strategy universe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

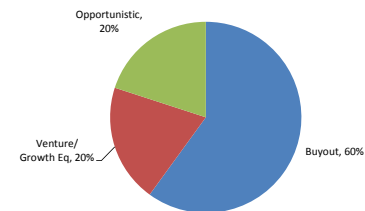
- *DK Long Term Opps IV* – distressed credit (VY 2018)
- *GTCR XII* – mid-market buyout (VY 2017)
- *Carrick III* – mid-market buyout (VY 2018)

MCERA CY 2018 commitments (\$5 mm each):

- *Cressey VI* –healthcare services buyout (VY 2018)
- *Accel-KKR Growth III*– software growth equity (VY 2018)
- *TCV X* – venture capital (VY 2019)



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

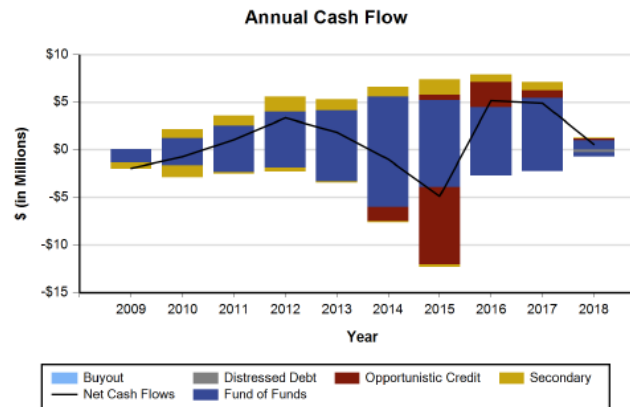
Investment structure (9% fund target; 4.6% invested as of Jun 2018):

- 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 with the funds in VY 2017 and 2018 beginning to invest
 - Quarterly performance improvement due to VY 2011 & 13 FoFs; net distributions over the past year as the older FoFs are distributing capital
 - Portfolio is diversified by strategy but overall it is in a negative cash flow situation

Annual 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	19	\$68,805	\$56,665	\$41,272	\$35,812	\$77,084	\$20,419	7.44%	10.07%
March 31, 2018	22	\$84,203	\$59,802	\$48,867	\$38,066	\$86,933	\$27,131	8.45%	10.68%
Annual Change	3	\$15,398	\$3,137	\$7,595	\$2,254	\$9,849	\$6,712		



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

MCERA Private Equity Performance – as of Mar 31, 2018

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
Vintage Year 2004												
Invesco Partnership Fund IV, L.P.	Fund of Funds	10,000	2,417	7,898	76%	14,344	2,309	16,654	8,756	12.14%	7.29%	2.11
Vintage Year 2004 Total		10,000	2,417	7,898	76%	14,344	2,309	16,654	8,756	12.14%	7.95%	2.11
Vintage Year 2005												
ASP 2005 Non-US Fund	Fund of Funds	1,500	74	1,426	95%	1,517	460	1,977	552	5.20%	5.38%	1.39
ASP 2005 US Fund	Fund of Funds	3,500	177	3,323	95%	3,951	1,078	5,029	1,706	6.81%	7.79%	1.51
Pantheon Ventures Euro Fund IV	Fund of Funds	1,233	59	1,174	95%	1,479	178	1,657	483	4.79%	5.38%	1.31
Pantheon Ventures USA Fund VI	Fund of Funds	3,750	206	3,544	95%	4,382	1,076	5,459	1,915	6.94%	7.79%	1.54
Vintage Year 2005 Total		9,983	516	9,467	95%	11,329	2,793	14,122	4,655	6.54%	7.31%	1.49
Vintage Year 2006												
Pantheon Global Secondary Fund III "B"	Secondary	10,000	540	9,460	95%	9,190	1,265	10,455	995	1.87%	8.43%	1.11
Vintage Year 2006 Total		10,000	540	9,460	95%	9,190	1,265	10,455	995	1.87%	7.22%	1.11
Vintage Year 2007												
ASP 2007 Direct Fund	Fund of Funds	450	14	436	97%	626	313	939	503	11.56%	11.09%	2.15
ASP 2007 Non-US Fund	Fund of Funds	1,575	78	1,497	95%	1,327	921	2,248	751	7.87%	7.01%	1.50
ASP 2007 US Fund	Fund of Funds	2,475	115	2,360	95%	2,711	1,428	4,139	1,779	11.77%	11.09%	1.75
Vintage Year 2007 Total		4,500	207	4,293	95%	4,664	2,662	7,326	3,033	10.49%	9.09%	1.71
Vintage Year 2011												
ASP 2011 Direct Fund	Fund of Funds	500	44	456	91%	413	395	808	352	16.05%	14.16%	1.77
ASP 2011 Emerging Markets Fund	Fund of Funds	500	74	426	85%	121	538	659	233	13.30%	12.41%	1.55
ASP 2011 Non-US Developed Fund	Fund of Funds	1,500	322	1,178	79%	573	1,114	1,687	509	12.23%	12.41%	1.43
ASP 2011 US Fund	Fund of Funds	2,500	326	2,175	87%	960	2,266	3,226	1,052	14.00%	14.16%	1.48
Pantheon Asia Fund VI	Fund of Funds	1,000	257	744	74%	240	853	1,093	348	10.75%	12.41%	1.47
Pantheon Euro Fund VII	Fund of Funds	1,720	353	1,367	80%	557	1,368	1,925	558	9.35%	12.41%	1.37
Pantheon Ventures USA Fund IX	Fund of Funds	2,000	412	1,588	79%	550	1,782	2,332	744	11.42%	14.16%	1.47
Vintage Year 2011 Total		9,720	1,788	7,934	82%	3,414	8,316	11,731	3,796	12.41%	13.51%	1.48

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 Private Equity Performance – as of Mar 31, 2018

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
Vintage Year 2013												
Invesco Partnership Fund VI, L.P.	Fund of Funds	5,000	1,833	3,674	63%	526	6,117	6,644	2,969	20.63%	12.28%	1.81
Vintage Year 2013 Total		5,000	1,833	3,674	63%	526	6,117	6,644	2,969	20.63%	13.37%	1.81
Vintage Year 2014												
Ocean Avenue Fund II	Fund of Funds	10,000	2,700	7,300	73%	1,197	9,575	10,772	3,472	16.30%	12.03%	1.48
Raven Asset-Based Opportunity Fund II	Opportunistic Cr	10,000	474	9,526	95%	4,203	4,830	9,033	-493	-2.32%	8.83%	0.95
Vintage Year 2014 Total		20,000	3,174	16,826	84%	5,400	14,406	19,805	2,979	6.95%	13.60%	1.18
Vintage Year 2017												
GTCR XII	Buyout	5,000	5,000	0	0%	0	-54	-54	-54	N/M	N/M	N/A
Vintage Year 2017 Total		5,000	5,000	0	0%	0	-54	-54	-54	N/M	N/M	N/A
Vintage Year 2018												
Carrick Capital Partners III, L.P.	Buyout	5,000	5,000	0	0%	0	0	0	0	N/M	N/M	N/A
Davidson Kempner Long-Term Distressed Opportunit Distressed Debt		5,000	4,750	250	5%	0	252	252	2	N/M	N/M	N/A
Vintage Year 2018 Total		10,000	9,750	250	3%	0	252	252	2	N/M	N/M	N/A
Total Portfolio:		84,203	25,225	59,802	70%	48,867	38,066	86,933	27,131	8.45%	10.68%	1.45

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 & 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:

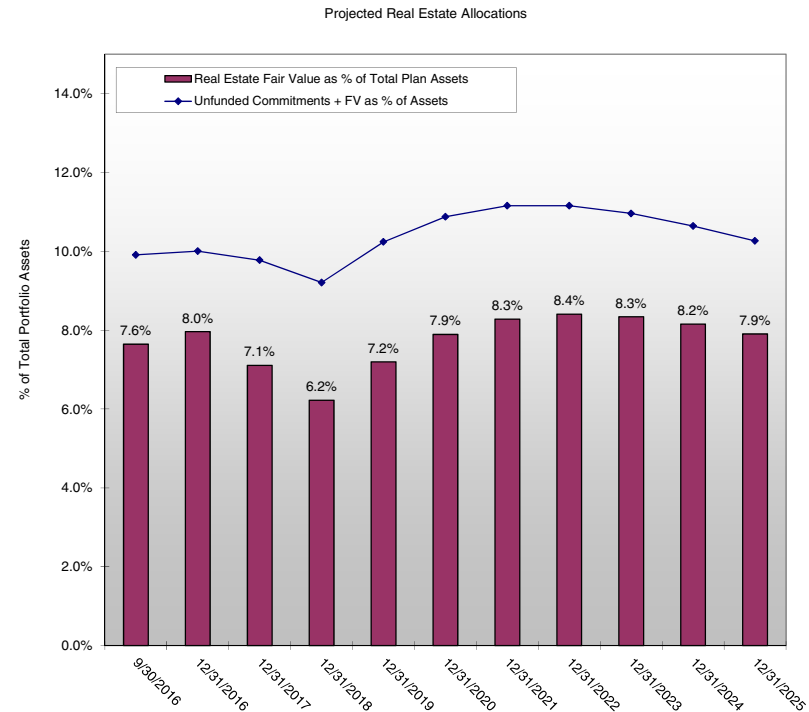
- *Long term investment objective:* Earn a return premium over inflation (CPI-U + 5%)
- *Recommended primary asset class benchmark:* NCREIF NFI-ODCE; revisit over time as the structure of the portfolio changes
- *Recommended fund benchmarks:* Cambridge Associates strategy universe for the respective 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* – opportunistic RE (VY 2017)

MCERA CY 2018 commitments (\$5 mm):

- *Taconic CRE II* – opportunistic RE (VY 2018)
- *AG Realty Value X* – opportunistic RE (VY 2018)
- *Carmel VIII* – opportunistic RE (VY 2019)



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

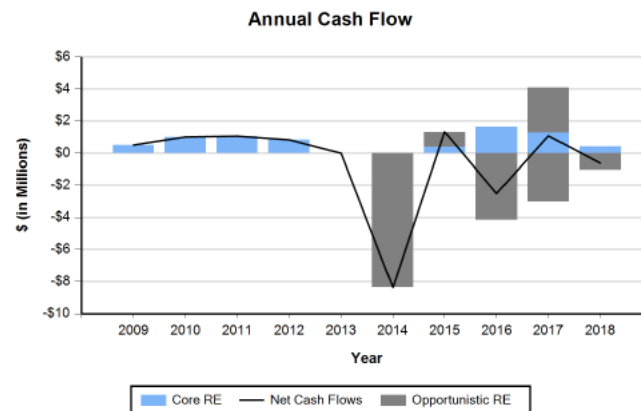
Real estate investment structure (8% target, 7.5% actual as of Jun 2018)

- 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
- Contributions matched distributions over the past year

Annual 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	3	\$42,697	\$28,530	\$18,955	\$54,808	\$73,763	\$45,233	9.37%	8.22%
March 31, 2018	4	\$49,673	\$32,734	\$23,073	\$59,823	\$82,896	\$50,161	9.36%	8.57%
Annual Change	1	\$6,976	\$4,204	\$4,118	\$5,015	\$9,133	\$4,928		



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

MCERA Real Estate Performance – as of Mar 31, 2018

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 with the VY 2016 fund now out of its “j-curve”
- 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%	20,147	42,524	62,671	45,671	9.25%	10.20%	3.69
Vintage Year 1999 Total		17,000	0	17,000	100%	20,147	42,524	62,671	45,671	9.25%	12.76%	3.69
Vintage Year 2014												
Greenfield Acquisition Partners VII, L.P.	Opportunistic RE	13,000	4,172	11,751	68%	2,789	13,134	15,923	4,172	13.22%	11.63%	1.36
Vintage Year 2014 Total		13,000	4,172	11,751	68%	2,789	13,134	15,923	4,172	13.22%	11.35%	1.36
Vintage Year 2016												
Patron Capital Fund V	Opportunistic RE	14,673	10,748	3,914	27%	138	4,169	4,306	392	16.26%	15.90%	1.10
Vintage Year 2016 Total		14,673	10,748	3,914	27%	138	4,169	4,306	392	16.26%	12.63%	1.10
Vintage Year 2017												
Carlyle Realty Partners VIII, L.P.	Opportunistic RE	5,000	4,931	69	1%	0	-4	-4	-74	N/M	N/M	-0.06
Vintage Year 2017 Total		5,000	4,931	69	1%	0	-4	-4	-74	N/M	N/M	-0.06
Total Portfolio:		49,673	19,851	32,734	60%	23,073	59,823	82,896	50,161	9.36%	8.57%	2.53

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 & 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:

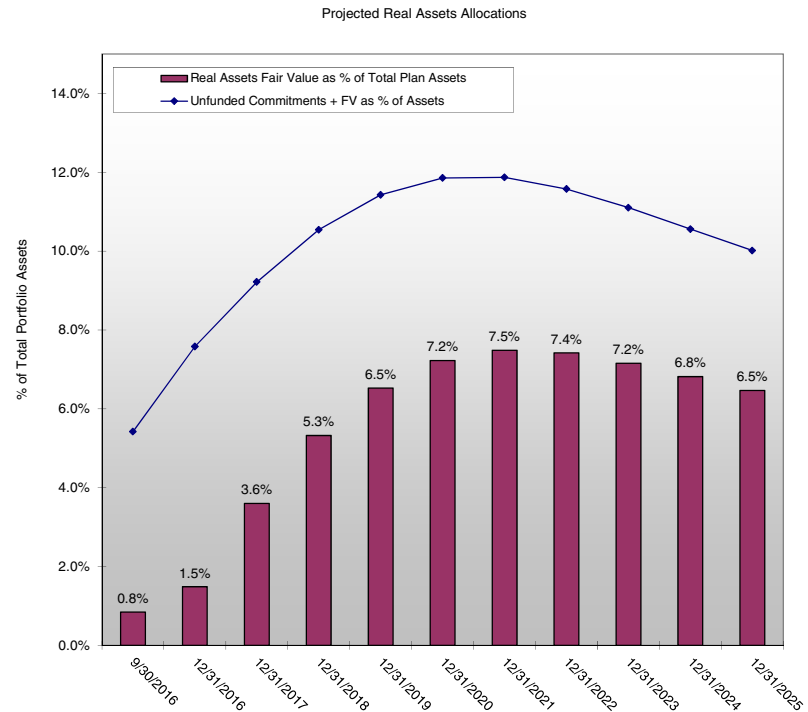
- *Long term investment objective:* Earn a return premium over inflation (CPI-U + 5%)
- *Recommended primary asset class benchmark:* 50/50 Cambridge Global Infrastructure/Cambridge Energy Upstream & Royalties and Private Energy Index
- *Recommended fund benchmarks:* Each fund will be compared to the 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* –upstream energy (\$5 mm) (VY 2017)
- *EnCap Flatrock IV* – midstream energy (\$3 mm) (VY 2018)

MCERA CY 2018 commitments (\$5 mm):

- *KKR Infrastructure III*– global infrastructure (VY 2018)



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

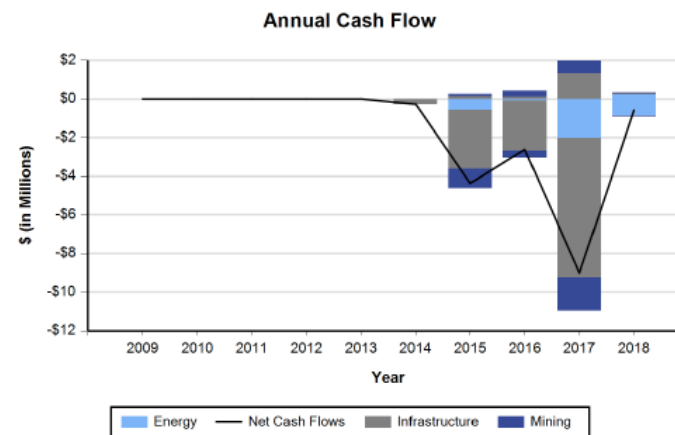
Real assets investment structure (6% target, 5.9% actual as of Jun 2018)

- 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
 - Contributions exceed distributions by \$7 mm as the newer portfolios are being built out
 - Annual gains in the infrastructure funds

Annual 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	5.97%	6.02%
March 31, 2018	8	\$50,500	\$19,841	\$3,000	\$20,075	\$23,075	\$3,233	13.33%	2.82%
Annual Change	3	\$13,000	\$9,429	\$2,132	\$9,954	\$12,086	\$2,656		



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

MCERA Real Assets Performance – as of Mar 31, 2018

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 the GSO fund has been making distributions; the VY 2017 & 2018 funds have activated

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	2,420	8,618	76%	880	8,867	9,747	1,129	11.69%	13.05%	1.13
Vintage Year 2014 Total		10,000	2,420	8,618	76%	880	8,867	9,747	1,129	11.69%		1.13
Vintage Year 2015												
GSO Energy Select Opportunities Fund	Energy	7,500	4,636	3,093	38%	229	3,518	3,747	654	18.66%	20.38%	1.21
North Haven Infrastructure Partners II LP	Infrastructure	10,000	6,080	4,498	39%	742	4,600	5,342	844	10.88%	14.96%	1.19
Taurus Mining Finance Fund	Mining	5,000	3,197	2,251	36%	901	1,771	2,673	421	15.24%	N/A	1.19
Vintage Year 2015 Total		22,500	13,912	9,843	38%	1,872	9,890	11,762	1,919	14.54%		1.19
Vintage Year 2016												
Taurus Mining Finance Annex Fund	Mining	5,000	4,241	908	15%	248	823	1,071	163	N/M	N/M	1.18
Vintage Year 2016 Total		5,000	4,241	908	15%	248	823	1,071	163	N/M		1.18
Vintage Year 2017												
EnCap Energy Capital Fund XI, L.P.	Energy	5,000	4,647	353	7%	0	290	290	-64	N/M	N/M	0.82
ISQ Global Infrastructure Fund II	Infrastructure	5,000	5,000	0	0%	0	96	96	96	N/M	N/M	N/A
Vintage Year 2017 Total		10,000	9,647	353	4%	0	386	386	32	N/M		1.09
Vintage Year 2018												
EnCap Flatrock Midstream IV, L.P.	Energy	3,000	2,880	120	4%	0	110	110	-11	N/M	N/M	0.91
Vintage Year 2018 Total		3,000	2,880	120	4%	0	110	110	-11	N/M		0.91
Total Portfolio:		50,500	33,099	19,841	34%	3,000	20,075	23,075	3,233	13.33%	2.82%	1.16

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 Jul 31, 2018

Macro environment has changed in 2018 with rising US interest rates and increased market volatility

- Credit and equity l/s strategies have done well YTD as US earnings have been strong
- Laurion was added and OZ exposure was reduced

Fund	Market Value	Actual %	Jul	QTD	YTD	Returns 1 Year	3 Year	5 Year	Incep	Std Dev	Sharpe Ratio	Incep Date
Market Neutral												
KLS Diversified Fund LP	5,316,727	12.4%	1.35%	1.35%	6.17%	-	-	-	6.84%	3.21%	-	Oct-17
Laurion Capital, Ltd. Class A 18-07	4,953,550	11.5%	-0.96%	-0.96%	-	-	-	-	-0.96%	-	-	Jul-18
Market Neutral - HF Total	10,270,277	23.9%	0.24%	0.24%	5.01%	-	-	-	5.68%	3.13%	-	Oct-17
HFRI Relative Value (Total) Index			1.00%	1.00%	2.56%	-	-	-	3.66%	1.98%	-	Oct-17
Credit/Distressed												
Silver Point Capital Fund, L.P.	7,290,805	16.9%	0.70%	0.70%	4.76%	-	-	-	5.35%	2.14%	-	Dec-17
Credit/Distressed - HF Total	7,290,805	16.9%	0.70%	0.70%	4.76%	-	-	-	5.35%	2.14%	-	Dec-17
HFRI ED: Distressed/Restructuring Index			1.63%	1.63%	4.63%	-	-	-	6.04%	2.84%	-	Dec-17
Equity Long/Short												
Archipelago Partners, L.P.	6,216,022	14.4%	0.41%	0.41%	4.98%	-	-	-	6.73%	5.26%	-	Sep-17
MW Eureka Fund Class B2	3,179,353	7.4%	-0.26%	-0.26%	5.25%	-	-	-	5.98%	5.22%	-	Dec-17
Equity Long/Short - HF Total	9,395,375	21.8%	0.18%	0.18%	4.97%	-	-	-	7.18%	4.79%	-	Sep-17
HFRI Equity Hedge (Total) Index			1.05%	1.05%	2.29%	-	-	-	7.20%	4.49%	-	Sep-17
Global Macro-Discretionary												
Graham Absolute Return Trading Ltd. - Class A	3,080,596	7.2%	-1.66%	-1.66%	3.75%	-	-	-	2.77%	8.16%	-	Sep-17
Global Macro-Discretionary - HF Total	3,080,596	7.2%	-1.66%	-1.66%	3.75%	-	-	-	2.77%	8.16%	-	Sep-17
HFRI Macro (Total) Index			-0.46%	-0.46%	-2.19%	-	-	-	-0.70%	5.69%	-	Sep-17
Global Macro-Systematic												
Winton Futures Fund Limited - Class B	3,101,197	7.2%	-0.52%	-0.52%	0.76%	-	-	-	3.37%	8.97%	-	Nov-17
Global Macro-Systematic - HF Total	3,101,197	7.2%	-0.52%	-0.52%	0.76%	-	-	-	3.37%	8.97%	-	Nov-17
HFRI Macro (Total) Index			-0.46%	-0.46%	-2.19%	-	-	-	-1.76%	5.75%	-	Nov-17
Multi-Strategy												
OZ Domestic Partners II, LP	9,896,876	23.0%	-0.37%	-0.37%	4.30%	7.01%	5.33%	-	6.16%	4.78%	1.09	Jul-14
Multi-Strategy - HF Total	9,896,876	23.0%	-0.37%	-0.37%	4.30%	7.01%	5.33%	-	6.16%	4.78%	1.09	Jul-14
HFRI Relative Value (Total) Index			1.00%	1.00%	2.56%	4.27%	4.19%	-	3.46%	2.63%	0.97	Jul-14
MCERA Hedge Fund Portfolio	43,035,125	100.0%	-0.03%	-0.03%	4.37%	7.08%	3.63%	-	4.42%	4.15%	0.85	Jul-14
Benchmarks												
HFRI Fund of Funds Composite Index			0.12%	0.12%	0.78%	4.18%	1.90%	-	2.41%	3.29%	0.46	Jul-14
Market Indices												
Libor3Month			0.20%	0.20%	1.28%	1.89%	1.17%	-	0.92%	0.19%	-	Jul-14
Bloomberg Barclays US Aggregate Bond Index			0.02%	0.02%	-1.60%	-0.80%	1.50%	-	1.73%	2.75%	0.30	Jul-14
Bloomberg Barclays US High Yield Bond Index			1.09%	1.09%	1.25%	2.59%	6.12%	-	4.21%	5.31%	0.63	Jul-14
S&P 500 TR			3.72%	3.72%	6.47%	16.24%	12.52%	-	11.55%	9.86%	1.07	Jul-14
MSCI EAFE - Net			2.46%	2.46%	-0.36%	6.40%	5.03%	-	3.10%	11.55%	0.24	Jul-14
MSCI EMF (Emerging Markets Free) - Net			2.20%	2.20%	-4.61%	4.36%	8.94%	-	3.30%	15.34%	0.23	Jul-14

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