

Prepared for



2020 Divestment Analysis

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- CalPERS' Total Fund Investment Policy outlines two divestment-related actions:
 - Staff conduct a review of active divestments at least every five years for a determination whether to continue. Staff are due to undertake a review of all active divestment programs in 2021.
 - To help inform the five year re-affirmation process and monitor the financial impacts of active divestments annually, Wilshire is mandated to provide an annual report to the Investment Committee on the estimated financial impacts.
- This presentation contains:
 - The summary annual impact analysis since last affirmation
 - Illustrative Examples of how divested assets are reinvested and how we calculate the dollar impact of divestments
 - The Appendix contains the full history of our impact analysis for each active divestment program

Illustrative industry reallocation example

In this example, \$25 is divested from the Tobacco industry and gets re-invested on a pro-rata basis across the IT and Utility industries.

- IT and Utilities exhibit higher returns (10.25% and 10%) than Tobacco (9.55%).
- With more exposure to the better performing industries, the ex-tobacco portfolio outperforms the portfolio with tobacco by +15bps (10.15% return vs 10% return).

Industry	Unconstrained Benchmark			Divestment Changes	Constrained Benchmark		
	\$ Invested	Weight	Return		\$ Invested	Weight	Return
IT	\$45	45%	10.25%	\$15	60	60%	10.25%
Utilities	\$30	30%	10.00%	\$10	40	40%	10.00%
Tobacco	\$25	25%	9.55%	-\$25	0	0%	9.55%
Total	\$100	100%	10.00%	\$0	100	100%	10.15%

Q. How do we calculate the annual dollar incremental impact of Tobacco using this example?

A. If we assume the AUM of the PERF is \$10,000, then the annual incremental impact of tobacco divestment is: \$15
(i.e $\$10,000 \times 0.15\%$)

Combine \$15 impact with previous impacts

How do we bring forward previous impacts to include the current impact?

Assumption 1: The cumulative impact of the tobacco divestment for all previous years is **-\$100**



Assumption 2: The PERF returns **10%**



Calc. 1: The incremental impact of the tobacco divestment brought forward is **-\$10** (i.e. $-\$100 \times 10\%$)

Previous impacts
carried forward



Calc. 2: The cumulative impact of the tobacco divestment brought forward is **-\$110** (i.e. $-\$100 + \-10)



Question: What's the divestment impact for the current year?



Calc. 3: The annual cumulative impact of tobacco divestment is **-\$95** (i.e. $-\$110 + \15)

Current period
Impact

Summary Analysis Since Last Affirmation

Since their last affirmation by the Investment Committee, for the period up to June 30 2020, all active CalPERS divestment programs have delivered positive performance

Active Divestment Programs (Last Affirmation to FY 2020)

	Present Value Estimate		Program	Estimates Begin in
	\$MM	% PERF	Affirmation	Calendar Qtr.
Tobacco	856	0.2%	Yes	1Q 2017
EM Principles	688	0.2%	Pending	1Q 2008
Sudan	290	0.1%	Pending	3Q 2010
Iran	183	0.0%	Pending	3Q 2011
Firearms	3	0.0%	Pending	2Q 2013
Thermal Coal	348	0.1%	N/A*	3Q 2017
Active Total	2,367	0.6%		

* Thermal Coal divestment program began 3Q 2017

Q. Where do the \$ gained or lost through divestment since last affirmation show up in CalPERS' performance numbers?

A. The gains or losses from divestment are reflected in CalPERS' Total Fund return and AUM.



Appendix

Summary Analysis Since Inception

Since inception, the active divestment program has lost CalPERS \$2.18bn in present value terms. Since inception, the Tobacco divestment has resulted in losses and the other divestment programs have delivered gains.

Divestment Programs (Inception to FY 2020)

	Present Value Estimate		Active Dates
	\$MM	% PERF	
Active			
Tobacco	(3,692)	(0.9%)	1Q 2001 to Present
EMPrinciples	688	0.2%	1Q 2008 to Present
Sudan	290	0.1%	3Q 2010 to Present
Iran	183	0.0%	3Q 2011 to Present
Firearms	3	0.0%	2Q 2013 to Present
Thermal Coal	348	0.1%	3Q 2017 to Present
Active Total	(2,180)	(0.6%)	

Impact of Tobacco Divestment								
Year	Total Return			\$MM Return Impact	Trading Cost (\$MM)	PERF Return	Cumulative PV Impact (\$MM)	
	GEex-Tob	GE	Net				Inception	Affirmation
2001				-9.3	-1.4	-6.12%	-15	N/A
2002				-144.5		-9.55%	-152	N/A
2003				-124.8		23.23%	-313	N/A
2004				-217.5		13.21%	-577	N/A
2005				-293.9		10.41%	-949	N/A
2006				-109.8		15.41%	-1,203	N/A
2007				-172.5		9.99%	-1,500	N/A
2008				-102.2		-27.12%	-1,189	N/A
2009				116.5		11.89%	-1,208	N/A
2010				-103.1		12.45%	-1,465	N/A
2011				-423.3		1.16%	-1,905	N/A
2012				-283.6		13.28%	-2,469	N/A
2013	24.40%	24.25%	0.15%	182.2		16.22%	-2,682	N/A
2014	4.51%	4.57%	-0.06%	-86.9		6.51%	-2,944	N/A
2015	-2.22%	-2.01%	-0.21%	-321.0		-0.09%	-3,266	N/A
2016	9.03%	9.02%	0.02%	29.3		7.67%	-3,502	N/A
2017	24.35%	24.25%	0.10%	141.7	-1.2	15.73%	-3,916	136
2018	-8.83%	-9.08%	0.26%	485.3		-3.49%	-3,311	600
2019	25.88%	25.84%	0.04%	56.1		17.31%	-3,826	762
1H2020	-7.10%	-7.15%	0.04%	105.3		-0.88%	-3,692	856

Impact of Emerging Market Principles

Year	Total Return			\$MM Return Impact	Trading Cost (\$MM)	PERF Return	Cumulative PV Impact (\$MM)	
	GE ex- EM	GE	Net				Inception	Affirmation
2008				8.9		-27.12%	51	51
2009				90.6		11.89%	155	155
2010				-68.8		12.45%	107	107
2011				-132.8		1.16%	-20	-20
2012				15.5		13.28%	-9	-9
2013	24.51%	24.25%	0.26%	282.3		16.22%	299	299
2014	4.64%	4.57%	0.07%	108.8		6.51%	428	428
2015	-1.98%	-2.01%	0.03%	47.0		-0.09%	476	476
2016	9.01%	9.02%	-0.01%	-11.4		7.67%	501	501
2017	24.26%	24.25%	0.00%	1.7		15.73%	582	582
2018	-9.09%	-9.08%	-0.01%	-9.0		-3.49%	548	548
2019	25.86%	25.84%	0.02%	25.6		17.31%	672	672
1H2020	-7.13%	-7.15%	0.01%	24.6		-0.88%	688	688

Impact of Sudan Divestment

Year	Total Return			\$MM Return Impact	Trading Cost (\$MM)	PERF Return	Cumulative PV Impact (\$MM)	
	GEex-Sudan	GE	Net				Inception	Affirmation
2010				24.2		12.45%	25	25
2011	-7.71%	-7.71%	0.00%	0.4		1.16%	26	26
2012	17.00%	17.00%	0.00%	-1.1		13.28%	29	29
2013	24.33%	24.25%	0.08%	84.9		16.22%	125	125
2014	4.57%	4.57%	0.00%	4.3		6.51%	138	138
2015	-1.97%	-2.01%	0.04%	59.2		-0.09%	198	198
2016	8.98%	9.02%	-0.03%	-43.1		7.67%	170	170
2017	24.27%	24.25%	0.02%	21.1		15.73%	220	220
2018	-9.09%	-9.08%	-0.01%	-23.4		-3.49%	190	190
2019	25.86%	25.84%	0.02%	37.1		17.31%	258	258
1H2020	-7.13%	-7.15%	0.02%	36.1		-0.88%	290	290

Impact of Iran Divestment

Year	Total Return			\$MM Return Impact	Trading Cost (\$MM)	PERF Return	Cumulative PV Impact (\$MM)	
	GEex-Iran	GE	Net				Inception	Affirmation
2011				20.6	-0.4	1.16%	21	21
2012				1.4		13.28%	25	25
2013	24.29%	24.25%	0.04%	47.2		16.22%	80	80
2014	4.59%	4.57%	0.02%	33.6		6.51%	120	120
2015	-2.00%	-2.01%	0.01%	16.9		-0.09%	137	137
2016	9.00%	9.02%	-0.02%	-22.2		7.67%	125	125
2017	24.25%	24.25%	0.00%	0.6		15.73%	146	146
2018	-9.09%	-9.08%	-0.01%	-15.1		-3.49%	127	127
2019	25.85%	25.84%	0.01%	15.1		17.31%	167	167
1H2020	-7.14%	-7.15%	0.01%	20.5		-0.88%	183	183

Impact of Firearms Divestment

Year	Total Return			\$MM Return Impact	Trading Cost (\$MM)	PERF Return	Cumulative PV Impact (\$MM)	
	GEex-FA	GE	Net				Inception	Affirmation
2013				-2.0	-8.1	16.22%	-10	-10
2014	4.57%	4.57%	0.00%	4.5		6.51%	-6	-6
2015	-2.01%	-2.01%	0.00%	-2.7		-0.09%	-9	-9
2016	9.02%	9.02%	0.00%	4.8		7.67%	-5	-5
2017	24.25%	24.25%	0.00%	-3.0		15.73%	-8	-8
2018	-9.08%	-9.08%	0.00%	-0.2		-3.49%	-10	-10
2019	25.85%	25.84%	0.01%	22.3		17.31%	6	6
1H 2020	-7.15%	-7.15%	0.00%	4.4		-0.88%	3	3

Impact of Coal Divestment

Year	Total Return			\$MM Return Impact	Trading Cost (\$MM)	PERF Return	Cumulative PV Impact (\$MM)	
	GEex-Coal	GE	Net				Inception	Affirmation
2017				45.5	0.0	15.73%	47	47
2018	-9.02%	-9.08%	0.06%	116.5		-3.49%	155	155
2019	25.92%	25.84%	0.08%	122.5		17.31%	308	308
1H 2020	-7.12%	-7.15%	0.02%	47.5		-0.88%	348	348