

Hyperbole in the Hearings: Pension Funds Exaggerate the Cost of Divestment



PO Box 21022
Oakland, CA 94620
info@fossilfreeca.org

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Executive Summary

- The “fiscal impact” analysis for the Appropriations Committee in the state Senate or Assembly can make or break a bill. For divestment bills, CalPERS and CalSTRS have repeatedly given imprecise, incorrect, and inflated figures on the costs of divestment, including in the numbers reported to the Appropriations Committee for **SB 1173**, the Fossil Fuel Divestment Bill.

Below is a summary of misleading statements in three areas:

1. The funds have wildly exaggerated losses from past divestments.

Claims:

- In two recent hearings on SB 1173, CalSTRS’ Governmental Affairs Director Joycelyn Martinez-Wade asserted that CalSTRS’ past divestment actions have cost the Fund “\$9 billion dollars.”
- At the Joint Legislative Hearing of March 9, 2022¹ and repeated² on CalPERS’ website, CalPERS CEO Marcie Frost claimed that divestment efforts have cost CalPERS “\$8 billion dollars.”

Facts:

- A consulting firm hired by CalPERS, Wilshire and Associates, found³ that in the “last affirmation by the Investment Committee, for the period up to June 30 2020, *all active CalPERS divestment programs have delivered positive performance.*”
- CalSTRS has not published a similar analysis but one would expect similar results.

2. The funds claim that there are huge transaction costs associated with divestment.

Claims:

- In the analysis⁴ for the Fossil Fuel Divestment bill, SB1173, CalPERS has claimed that it will cost them \$75-\$100 million to sell the stocks.
- CalSTRS has claimed an estimated \$11.6 million in costs.

Facts:

- In its study of CalPERS’ past divestments, Wilshire and Associates found⁵ that the transaction cost associated with “funding trades (selling assets), [is] considered negligible in all cases except for Tobacco.”
- The fiscal note⁶ to the State of Maine fossil fuel divestment legislation described the transaction costs of selling shares of divested companies as minor, stating that “Additional costs to the Maine Public Employees Retirement System and the Office of the Treasurer of State to implement the requirements of this legislation can be absorbed within existing budgeted resources.”
- Fund managers buy and sell shares all the time, and these costs are already covered in the ordinary course of business.

3. The funds have claimed that fossil fuel divestment will cost them billions in losses.

Claims:

- In March, 2022, CalSTRS Deputy Chief Investment Officer Scott Chan was quoted⁷ as saying “divestment has a potential loss of \$20 billion for the fund.”

Facts:

- Two recent studies⁸ by analysts from BlackRock and Meketa “separately concluded that investment funds have experienced no negative financial impacts from divesting from fossil fuels. In fact, they found evidence of modest improvement in fund return.”
- According⁹ to former New York state vice comptroller Tom Sanzillo, *“Those who argue that a fund will lose money [by divesting] ... are absolutely wrong. Oil and gas stocks have collapsed over time, despite the current high oil and rising stock prices.”*

Sanzillo added, **“You cannot be romantic about business decisions. When an investment starts to fail, it’s your responsibility to act. Divestment is a defensive financial move to protect funds from losses and the planet from current and future catastrophic events.”**

The rest of this report contains a detailed analysis of these claims, including the sources for all of the claims in the Summary above.

Fiscal Estimates of the Cost of Divestment: Imprecise and Inflated

When a divestment bill targeting CalPERS and CalSTRS reaches the Appropriations Committee (in either the Senate or the Assembly) CalPERS and CalSTRS are asked to submit an estimate of the fiscal impact of the bill.

The Funds respond to a legislative divestment mandate by selling off prohibited securities and reinvesting the proceeds across the rest of the portfolio. The selling and buying costs are the trading costs, or transaction costs, of divestment. The opportunity costs are measured by comparing the performance of the Fund's

custom indexes with and without divestment. If by staying invested the fund would have performed better, then the difference in results is an opportunity cost.

A comparison of cost estimates by the Funds for various bills indicates that these estimates are imprecise and vary widely. Fortunately, CalPERS' own divestment accounting¹⁰ indicates that these advance estimates are much higher than the actual costs, and that over time, **the net effect of divestments is to preserve investment capital and enhance returns.**

Here's a sampling of what the Funds have estimated for one-time transaction costs and ongoing maintenance and monitoring costs for various legislated divestments:

Appropriations Committee Fiscal Impact Analysis	CalPERS	CalSTRS
SB 1173 Fossil Fuel Divestment	<p>*Total exposure: \$7.4 billion</p> <p>*Transaction cost estimate: \$75-\$100 million</p> <p>*Maintenance and reporting costs: "hundreds of thousands of dollars annually to identify the target companies, engage with a consultant, engage outside fiduciary counsel, establish an ongoing tracking and screening process, prepare and transmit associated Legislative reporting, and to ensure oversight and compliance."</p>	<p>*Total exposure: \$4.1 billion (174 companies)</p> <p>*Transaction cost estimate: \$11.6 million ... for liquidating securities, benchmark modification costs, additional costs related to external research services and staff resources for implementation.</p>
SB 185 Thermal Coal Divestment	<p>Total exposure: \$30.5 million (14 companies)</p> <p>Transaction cost estimate: \$1.45 million</p> <p>Ongoing cost estimate: \$350,000</p>	<p>Total exposure: \$9.8 million (7 companies)</p> <p>Transaction cost estimate: \$700,000</p> <p>Ongoing cost estimate: \$150,000</p>
SB 457 Divestment from Turkey	<p>CalPERS has yet to quantify its costs from the bill, but indicates that it would result in significant one-time and ongoing administrative expenses to develop and maintain a separate investment trust fund option that does not include investments related to the government of Turkey for requesting school employers and cities.</p>	<p>CalSTRS: "unknown but significant one-time and ongoing costs, ranging from hundreds of millions of dollars to \$1 billion, for (1) significant reprogramming of and associated delays to its new pension administration system, and (2) increased staffing and workload for its Investments and Actuarial Resources Division.</p>
AB 2650 Divestment from Turkey	<p>Transaction costs: \$800,000 to liquidate securities if federal sanctions against Turkey are enacted</p> <p>Ongoing: minor administrative costs to routinely monitor federal action against Turkey.</p>	<p>Transaction costs: \$800,000 to liquidate securities if federal sanctions against Turkey are enacted</p> <p>Ongoing: minor administrative costs to routinely monitor federal action against Turkey.</p>

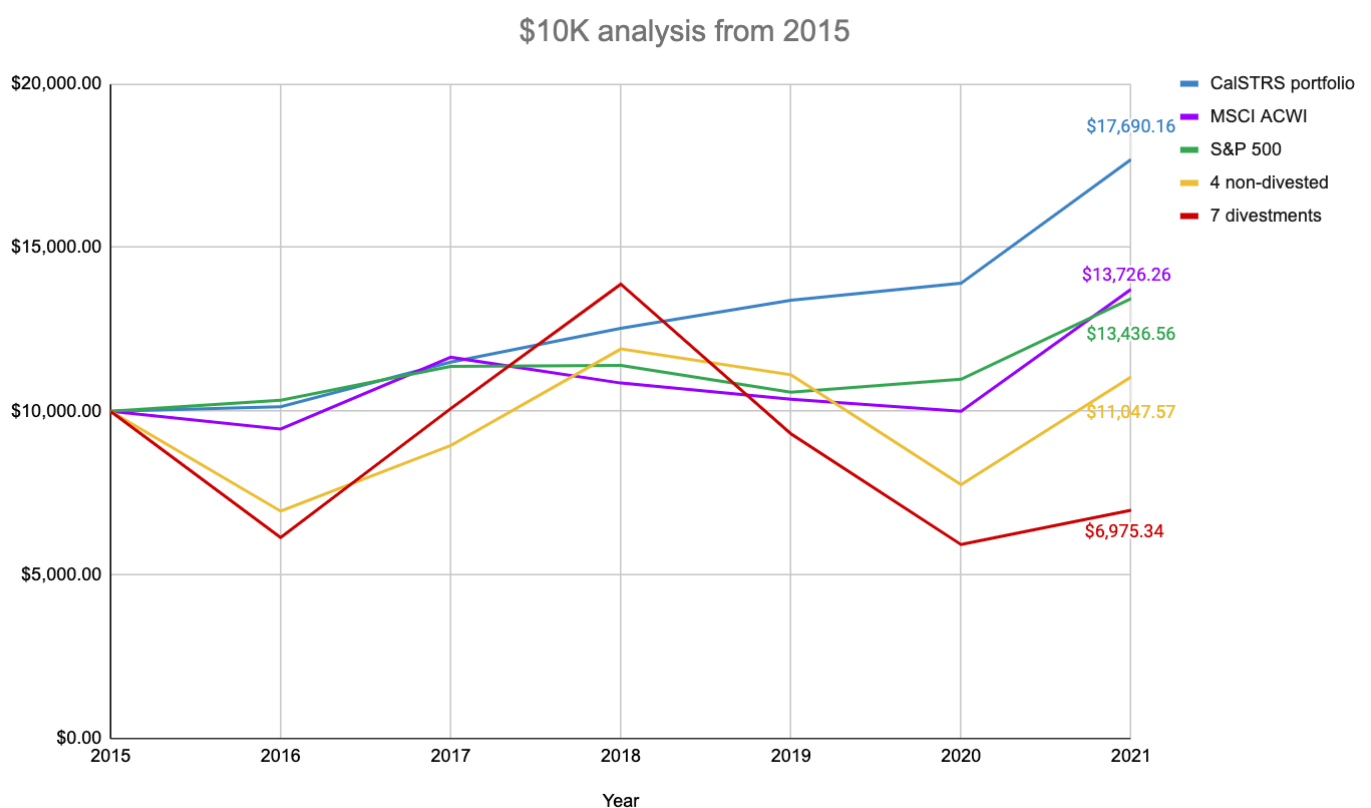
Note: SB 457 passed the Senate and was referred (in 2021) to the Assembly Committee on Public Employment and Retirement. The bill would have required cloning the portfolio in order to offer a "Turkey-investment-free" option.

CalPERS' divestment accounting sheds essential light on the fiscal impact estimates that the Funds make to the Legislature. It's regrettable that no real-world audit of past divestment costs has taken place: the Legislature is thus at the mercy of the Funds' estimates.

Indeed, misinformation is freely spread by CalSTRS and CalPERS staff. In two recent hearings on SB 1173, CalSTRS' governmental affairs director Joycelyn Martinez-Wade confidently asserted that CalSTRS' past divestment actions have cost the Fund "\$9 billion dollars."

In the Joint Informational Hearing¹¹ on Pension Funds on March 9, 2022 CalSTRS CIO Chris Ailman asserted that "every divestment has cost us money". He added that the "thermal coal divestment has come the closest to breaking even".

To test this assertion on the opportunity cost of divesting from thermal coal, UC Berkeley Economics students **Lanie Goldberg** and **Owen Doyle** charted the value of a \$10,000 investment over the years 2015-2021 for the seven thermal coal companies from which CalSTRS divested, as compared to the performance of standard benchmarks and the CalSTRS portfolio as a whole.



Using a conservative methodology (average annual returns, no reinvestment of dividends), the chart estimates the returns on an investment of \$10,000 from 2015-21 (as of June 30 close for each year) under various scenarios.¹²

Findings

- An initial \$10,000 investment in the 7 thermal coal companies from which CalSTRS divested in 2016-2017 would be worth about **\$6,975** in 2021. That means that by divesting its \$9.8 million investment, CalSTRS avoided losing **\$3 million**.
- CalSTRS still holds 4 thermal coal companies (BHP Billiton, Glencore, PTT PLC, and Sasol)¹³. The investment in these companies (yellow) did a little better than break-even (**\$11,047**) and did not perform as well as standard benchmarks or the overall CalSTRS portfolio. **Divestment of these four coal companies would have improved the returns of the CalSTRS portfolio.**
- At **\$17,691**, CalSTRS portfolio performance outperformed standard benchmarks and dramatically outperformed thermal coal.

In the CalSTRS-sponsored Sustainability Symposium¹⁴ of February 9, 2022, CalSTRS CIO Christopher Ailman said about divestments, “each and every time we’ve lost money.” He then went on to speculate that divestment could cause a tracking error (increase or decrease to performance) of up to 100 basis points, or 1% of returns - but did not cite any data to back up this assertion.

For comparison, the net effect of divestments calculated by public employees’ fund CalPERS for the most recent 5-year period has been 0.6% of assets under management (AUM) in a positive direction – hardly a cause for concern about tracking error. CalPERS consultant Wilshire and Associates calculated that the realized tracking error caused by divesting has been about 0.165%.¹⁵

Since 2017, CalPERS consultant Wilshire and Associates has produced careful and thorough analyses of the impact of all divestments, both Board-directed and state-mandated. Wilshire and Associates reports show, in great detail, that the net effect of all divestments to date is a loss of **\$2.8 billion**, almost all of which is attributable to tobacco divestment. **This total is much lower than the “\$8 billion dollars” claimed by CalPERS CEO Marcie Frost at the Joint Legislative Hearing of March 9, 2022¹⁶** and repeated on CalPERS’ website. The source document “CalPERS and Divestment” that contains the \$8 billion figure relies on data that is almost six years old, and provides no supporting data for this claim.

Divestment Accounting Shows Divestment has Produced Net Gains for the Funds

CALSTRS

An August 31, 2021 letter to Mark Norberg from Diane Stanton, Public Affairs Director, makes it clear that CalSTRS evaluates the effects of divestment using a method very similar to the UC Berkeley team's analysis. CalSTRS compares the performance of their "restricted" index to the hypothetical performance of their unrestricted index.

From Diane Stanton's letter: "The total impact of the investment decision is measured by accounting for all costs resulting from any differences between a customized index and the standard index, in accordance with CalSTRS Divestment Policy. The differences resulting from the inclusion and exclusion of securities, and associated weighting changes, are accounted for on an ongoing, monthly basis.

It is impossible to precisely determine the fund's value if we didn't restrict certain assets, however an established process has been developed to estimate gains/losses as a result of restricting assets. As previously shared, **the process involves comparing the performance of CalSTRS custom indexes against the standard indexes.** This process provides an estimate of the opportunity cost of all divestment decisions over time.

When a custom index excluding divested assets is created, the amount divested is reallocated on a pro-rata basis to the remaining assets in the customized index. CalSTRS then tracks the custom index against the standard index that includes the divested assets to determine the extent of any gains/losses to the fund."

CALPERS

In the case of thermal coal, Wilshire (Nov. 2020) has consistently found that divesting from thermal coal has resulted in net gains for CalPERS. In fact at this point, all CalPERS divestments are producing net gains. Wilshire observed that in the “last affirmation by the Investment Committee, for the period up to June 30 2020, **all active CalPERS divestment programs have delivered positive performance**” (p. 12).

Tobacco is the only divestment that did have a substantial negative effect on CalPERS’ portfolio. Wilshire’s calculations of the total costs of tobacco and other divestments is now net negative \$2.8 billion (over the last 21 years) and that number has been shrinking. Note that tobacco divestment was a Board decision that was NOT the result of legislation---it was an ethical decision made in 2000 that was reaffirmed, resoundingly, in 2021.

The following chart summarizes the effect on CalPERS’ returns of all divestments to date. Note that the realized tracking error is well below the 100 basis points (1.0%) postulated by CalSTRS’ Chris Ailman.

Active Mandates | Economic Analysis Summary

Divestment	Dollar Exposure (Million USD)	GE Weight ¹	Wilshire’s Return Impact ² (Million USD)		Predicted Tracking Error ³	Realized Tracking Error ⁴	Information Ratio ⁵
			Since Last Affirmation	Since Inception			5 Yr
Tobacco	1,125.3	0.524%	856	(3,692)	0.063%	0.165%	0.72
Firearms	8.5	0.004%	3	3	0.002%	0.007%	0.27
Sudan	133.7	0.058%	290	290	0.010%	0.024%	0.25
Iran	52.4	0.023%	183	183	0.007%	0.019%	0.28
Thermal Coal	30.5	0.013%	348	348	0.002%	0.017%	3.17 ⁶
ALL	1,350.4	0.622%	1,680	(2,863)	0.065%	0.165%	0.92

Please see appendix for additional information.

¹ As of 30 Nov 2020

² Return impact analysis completed by Wilshire, presented at the November 2020 Investment Committee meeting

³ Predicted Tracking Error based on cap-weighted benchmark completed by Wilshire Associates

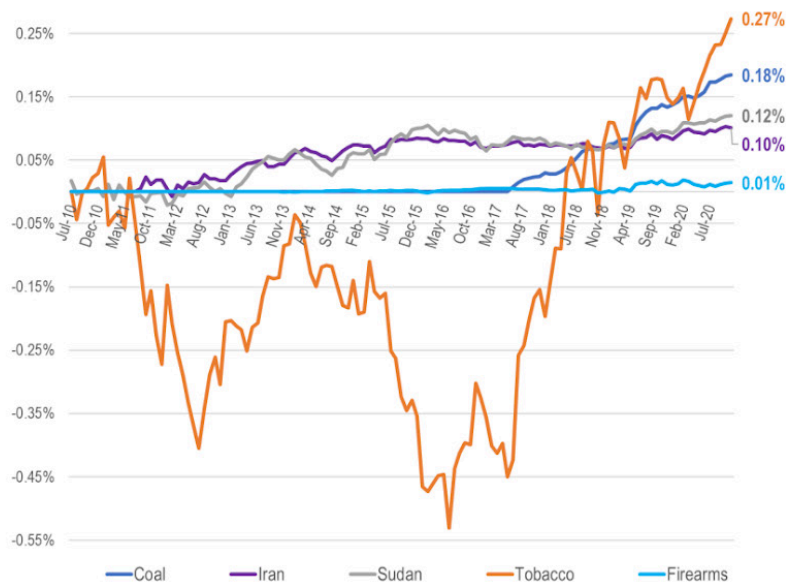
⁴ Relative to divestment-unconstrained benchmark, annualized based on monthly performance for 10-year window as of 11/30/20

⁵ Calculated by dividing divested portfolio’s annualized active return by its active risk, both calculated over a 5-year period as of 11/30/2020 using monthly observations

⁶ Less than a five-year period

Another chart from Wilshire shows that since 2018 **CalPERS has been realizing gains from all divestments, including tobacco:**

Divestment Policies 10yr Active Performance *



Case Study: Peabody Coal

Like other fossil fuel investments, thermal coal investments are risky and volatile. They have cost both Funds billions in lost value over the years. For example, Peabody Coal (divested by both Funds in response to SB 185) had already lost most of its value by the time it was divested. And, even with surging coal share prices, Peabody Coal is still not a good investment. Despite recent price spikes, Peabody (bankrupt 2016; reorganized 2017; fluctuating wildly ever since) has returned **-3.54%** over the past 5 years, according to Yahoo! Finance charts.

To quote an August 8, 2017 article from the financial trade press:

“Peabody was one of CalPERS worst performing assets in 2015, a year when the Missouri-based energy company reported a \$2 billion loss. Peabody had a mere \$900 million on hand at the time of the loss – it declared Chapter 11 bankruptcy last year.

CalPERS owned about 46,000 shares in Peabody [in 2016] that were worth less than \$64,000. The pension, which is the largest retirement fund in the U.S., had paid **more than \$13 million** for those shares.

The company’s plunge in fortunes reduced some of the pain pensioners would feel from a 2015 law compelling CalPERS and the California State Teachers’ Retirement System to divest from coal by July of 2017. The pension’s coal stocks were worth about 10 to 50 percent of what CalPERS paid for them, according to the group’s 2016 investment report.”

The CalSTRS report on its thermal coal divestments also cites the decline in value of the entire thermal coal sector as a reason to divest. “At its February 3, 2016, meeting the board voted to divest of U.S. thermal coal companies as they had become **de minimis** to the portfolio....At its June 7, 2017, meeting, the board voted to divest of non-U.S. thermal coal companies as they had become **de minimis** to the portfolio.” [emphasis added].

CalSTRS is a Mirror of CalPERS

As we have seen, CalPERS publishes careful and transparent divestment accounting reports, and CalSTRS does not. But the two funds are very similar in their investing styles and portfolio composition, particularly for global equities. Both CalSTRS and CalPERS invest their global equities passively, using custom benchmarks based on standard indexes such as the S&P 500, MSCI ACWI, Russell 2000, etc.

Since global equities are bought and sold using benchmarks rather than by portfolio managers making investment decisions on individual stocks, CalSTRS' and CalPERS' portfolios overall have a high degree of overlap and are likely to experience similar effects from restricting investments.

For example, the thermal coal divestments of CalPERS and CalSTRS overlap 100 percent: all 7 thermal coal companies divested by CalSTRS were also divested by CalPERS, so CalSTRS' thermal coal divestment experience mirrors that of CalPERS.

Extrapolating from CalPERS' divestment accounting, one could conclude that the assertion that CalSTRS has lost "\$9 billion dollars by divesting" **cannot be accurate**. From tobacco alone, CalSTRS may have by now ex-

perienced a cumulative loss over 21 years, but the actual loss from all divestments to date is likely to be well *under \$2 billion*. Returns from the rest of the investments more than made up for that. And the UC Berkeley study shows that thermal coal divestment improved returns.

As we have seen, CalPERS and CalSTRS claim that divestment has caused, or could cause, losses in the billions of dollars. As recently as March, CalSTRS Deputy Chief Investment Officer Scott Chan was quoted as saying "divestment has a **potential loss of \$20 billion** for the fund". Nothing in the Funds' previous divestment experience would support this assertion. Where are CalSTRS and CalPERS staff getting these frighteningly large and suspiciously round numbers?

Two recent studies by analysts from BlackRock and Meketa "separately concluded that investment funds have experienced no negative financial impacts from divesting from fossil fuels. In fact, they found evidence of modest improvement in fund return, according to draft reports undertaken at the request of New York City's comptroller on behalf of three of the city's pension funds."

Transaction Costs: De Minimis or Huge?

The chart comparing fiscal impacts shows transaction cost estimates ranging from moderate (a few million) to huge (100 million to a billion).

In reality, the trading cost of divesting (selling shares) should not add a huge amount to trading costs that are already in the budget. Fund managers buy and sell shares all the time, and these costs are already covered in the ordinary course of business. With a multi-year timeframe, the trading costs for divesting from restricted companies will not add significantly to expenses. According to Wilshire, the transaction cost associated with “funding trades (selling assets), [is] considered negligible in all cases except for Tobacco. The Funding cost for selling tobacco shares (millions USD) range from 0 to \$3.11.” (Wilshire, 2021, op cit.).

Also from Wilshire:

The parameters for estimating transaction costs:

- Are for aggregated public equity segments based on holdings as of 11/30/20 – Estimated using liquidity forecasts for 10/01/20 (“normal day of liquidity”)
- Expressed in basis points of the divestment basket dollar value
- Do not include transaction cost associated with funding trade (selling assets), considered negligible in all cases except for Tobacco (emphasis added).
- Funding cost for Tobacco range (millions USD): 0 to 3.11

The Wilshire report also calculates the transaction costs of re-investment (when a divestment is rolled back), but that’s a different line item than the fiscal impact of divestment.

The fiscal note to the State of Maine fossil fuel divestment legislation also described the transaction costs of selling shares of divested companies as minor, stating that “Additional costs to the Maine Public Employees Retirement System and the Office of the Treasurer of State to implement the requirements of this legislation can be absorbed within existing budgeted resources.”

Misinformation Casts a Shadow: The Case of AB 20

Park Guthrie, a teacher in the Harmony Union school district in Sonoma County, learned that CalPERS' and CalSTRS' permitted misinformation to circulate about the estimated costs of the 2017 DAPL divestment bill, AB 20, authored by Ash Kalra. Through a chain of unfounded assertions and misrepresentations by insiders at both CalSTRS and at CalSTRS' largest teachers' union, the California Teachers' Association (CTA), CalSTRS' stakeholders and the Legislature were led to believe that divesting from DAPL banks and project companies could cost the fund over **\$8 billion dollars**. When CalSTRS did the calculations for the bill analysis, the estimate was much, much lower - between \$800,000 and \$28.7 million - but the misinformation was never corrected. \$8 billion?? Sounds familiar.

- CalSTRS actually estimated that the DAPL bill might cost our pension between \$800,000 and \$28.7 million (this comes out to between \$0.80 - \$28.70 per member)

On the CalPERS side, an editorial in the LA Times quoted CalPERS staff as saying that AB 20 could cost the fund as much as \$4 billion. Again, a large, round, unsupported estimate.

The misinformation about costs likely resulted in AB 20 being amended and rendered toothless: the divestment requirement was removed, leaving only an engagement reporting requirement.

Here's what Park Guthrie found from his review of documents:

- CTA quoted CalSTRS as saying that implementing the DAPL bill might cost our pension \$8.4 billion (this comes out to about \$8,000 per member)

The Real Source of Revenue Loss: The Energy Sector has been in Terminal Decline

Evidence shows that CalPERS' and CalSTRS' assertions that every divestment has cost them money are wildly exaggerated. What they don't say is that the Funds have already lost **tens of billions** from value destruction in the entire Energy sector. **The true cost of divestment is the failure to divest - staying invested in fossil fuels has been, and is, a financial risk.**

Fossil Fuel Sector Is in Long-term Decline

Energy Sector's Weighting in the S&P 500



Here are some quotes from industry expert (and support advocate for SB 1173) Tom Sanzillo, which he made at the (online) Fullerton College Earth Day Symposium on Fossil Fuel Divestment - April 22, 2022:

1:02:41 "You cannot be romantic about business decisions. When an investment starts to fail it's your responsibility to act. Divestment is a defensive financial move to protect funds from losses and the planet from current and future catastrophic events" **1:03:04**

59:22 "Those who argue that a fund will lose money [by divesting] ... are absolutely wrong. Oil and gas stocks have collapsed over time, despite the current high oil and rising stock prices." **59:40**

59:53 "Funds that have seen so-called losses from prior divestments like South Africa and tobacco – this was raised by the CalPERS and CalSTRS pension funds in your legislature yesterday – they are wrong about that! They are wrong because the fund managers themselves were able to continue to turn a profit for their investment funds. CalPERS and CalSTRS are some of the biggest funds in the country, and they're still saying 'Oh you know we lost money on South Africa and tobacco'. I'm not even sure that's accurate." **1:00:23**

1:00:57 "The real question for the fund managers is, 'Why are you in fossil fuels at all?' "

Endnotes

SB 1173 Bill Text: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220SB1173

1 <https://slper.senate.ca.gov/content/2022-hearings>

2 <https://www.calpers.ca.gov/docs/forms-publications/calpers-and-divestment.pdf>

3 https://www.calpers.ca.gov/docs/board-agendas/202011/invest/item08b-02_a.pdf

4 https://leginfo.legislature.ca.gov/faces/billAnalysisClient.xhtml?bill_id=202120220SB1173

5 https://www.calpers.ca.gov/docs/board-agendas/202103/invest/item09a-01_a.pdf

6 http://www.mainelegislature.org/legis/bills/bills_130th/fiscalpdfs/FN009902.pdf

7 <https://www.cta.org/educator/posts/state-council-fossil-fuel-divestment>

8 <https://ieefa.org/major-investment-advisors-blackrock-and-meketa-provide-a-fiduciary-path-through-the-energy-transition/>

9 https://www.youtube.com/watch?v=JN_IPCYG42M

10 https://www.calpers.ca.gov/docs/board-agendas/202103/invest/item09a-01_a.pdf

11 Performance of the 7 divested thermal coal companies (red) is plotted along with the CalSTRS portfolio ((blue), and standard benchmarks S&P 500 (green) and the MSCI ACWI (purple).

12 <https://slper.senate.ca.gov/content/2022-hearings>

13 Divestment of these companies was not required under the terms of the SB 185 legislation.

14 https://csus.zoom.us/rec/play/Qso4xsepORhlyeWVp8IMk57jewV-1F9ILMgcedTNCJJsYjOoqwqof6raTizvJaxNSiQXvEUQNCZ9xYH2.qBNxH-Q9X880bovQl?continueMode=true&_x_zm_rtaid=Ry3sdddJQ6Kjtqzxv-fgYw.1651162979245.f77ac873fb0843e989c190d12f2a602e&_x_zm_rtaid=918

15 https://www.calpers.ca.gov/docs/board-agendas/202103/invest/item09a-01_a.pdf

16 <https://slper.senate.ca.gov/content/2022-hearings>

- 17 <https://slper.senate.ca.gov/content/2022-hearings>
- 18 <https://www.calpers.ca.gov/docs/forms-publications/calpers-and-divestment.pdf>
- 19 https://www.calpers.ca.gov/docs/board-agendas/202103/invest/item09a-01_a.pdf
- 20 <https://www.calpers.ca.gov/docs/forms-publications/calpers-and-divestment.pdf>
- 21 <https://dailycaller.com/2017/08/08/californias-pension-fund-bails-on-coal-as-industry-begins-trump-era-rebound/>
- 22 <https://dailycaller.com/2016/04/13/worlds-largest-coal-company-files-chapter-11/>
- 23 <http://www.sacbee.com/opinion/op-ed/soapbox/article28042543.html>
- 24 https://www.calstrs.com/files/431f9f8ec/calstrs_investment_reports_2017.pdf
- 25 <https://www.cta.org/educator/posts/state-council-fossil-fuel-divestment>
- 26 <https://ieefa.org/major-investment-advisors-blackrock-and-meketa-provide-a-fiduciary-path-through-the-energy-transition/>
- 27 https://www.calpers.ca.gov/docs/board-agendas/202103/invest/item09a-01_a.pdf
- 28 http://www.mainelegislature.org/legis/bills/bills_130th/fiscalpdfs/FN009902.pdf
- 29 <https://www.latimes.com/opinion/editorials/la-ed-calpers-divestment-dakota-access-20170221-story.html>
- 30 <https://jacobinmag.com/2022/01/public-pension-funds-investors-fossil-fuel-industry>
- 31 https://www.youtube.com/watch?v=JN_IPCYG42M

Contributors:

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PO Box 21022

Oakland, CA 94620

info@fossilfreeca.org