VIDEOCONFERENCE MEETING

STATE OF CALIFORNIA

PUBLIC EMPLOYEES' RETIREMENT SYSTEM

BOARD OF ADMINISTRATION

INVESTMENT COMMITTEE

OPEN SESSION

ROBERT F. CARLSON AUDITORIUM

LINCOLN PLAZA NORTH

400 P STREET

SACRAMENTO, CALIFORNIA

MONDAY, JUNE 15, 2020

9:25 A.M.

JAMES F. PETERS, CSR
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A P P E A R A N C E S

COMMITTEE MEMBERS:

Ms. Theresa Taylor, Chairperson

Mr. David Miller, Vice Chairperson

Mr. Rob Feckner

Mr. Henry Jones

Ms. Lisa Middleton

Ms. Stacie Olivares

Mr. Jason Perez

Mr. Ramon Rubalcava

Ms. Betty Yee, also represented by Ms. Lynn Paquin

BOARD MEMBERS:

Mr. Margaret Brown

Ms. Fiona Ma, represented by Mr. Frank Ruffino

Ms. Eraina Ortega

Ms. Shawnda Westly

STAFF:

Ms. Marcie Frost, Chief Executive Officer

Mr. Matt Jacobs, General Counsel

Dr. Yu (Ben) Meng, Chief Investment Officer

Mr. Eric Baggesen, Managing Investment Director

Mr. Dan Bienvenue, Deputy Chief Investment Officer

Ms. Kit Crocker, Investment Director

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STAFF:

Mr. Kelly Fox, Chief, Stakeholder Relations

Ms. Pam Hopper, Committee Secretary

Ms. Divya Mankikar, Investment Manager

Ms. Dianne Sandoval, Investment Manager

Ms. Anne Simpson, Interim Managing Investment Director

ALSO PRESENT:

Mr. Al Darby, Retired Public Employees Association

Ms. Kristen Ellis

Mr. Steve Foresti, Wilshire Associates Consulting

Dr. Richard Godfrey

Mr. Steve Hartt, Meketa Investment Group

Mr. J.J. Jelincic

Mr. Ferris Kawar

Mr. Ken Lee

Mr. Glen Maloney

Mr. Steve McCourt, Meketa Investment Group

Ms. Lynne Nittler

Mr. Leonard Skylar

Mr. David Soares, Retired Public Employees Association

Ms. Sarah Theiss, Fossil Free California

Mr. Doug Thompson

A P P E A R A N C E S   C O N T I N U E D

ALSO PRESENT:

Ms. Sheila Thorn, Fossil Free California

Mr. Tom Toth, Wilshire Associates Consulting

Ms. Vanessa Warheit, Fossil Free California

I N D E X

I N D E X   C O N T I N U E D

P R O C E E D I N G S

CHAIRPERSON TAYLOR: I call the meeting to order and have a roll call, Pam.

COMMITTEE SECRETARY HOPPER: Theresa Taylor?

CHAIRPERSON TAYLOR: Here.

COMMITTEE SECRETARY HOPPER: Rob Feckner?

COMMITTEE MEMBER FECKNER: Good morning,

COMMITTEE SECRETARY HOPPER: Henry Jones?

Henry Jones?

COMMITTEE MEMBER JONES: Here.

COMMITTEE SECRETARY HOPPER: Thank you.

Lisa Middleton?

COMMITTEE MEMBER MIDDLETON: Present.

COMMITTEE SECRETARY HOPPER: David Miller?

VICE CHAIRPERSON MILLER: I'm here.

COMMITTEE SECRETARY HOPPER: Stacie Olivares?

COMMITTEE MEMBER OLIVARES: Here.

COMMITTEE SECRETARY HOPPER: Jason Perez?

COMMITTEE MEMBER PEREZ: Here.

COMMITTEE SECRETARY HOPPER: Ramon Rubalcava?

Betty Yee?

COMMITTEE MEMBER YEE: Here.

COMMITTEE SECRETARY HOPPER: And we are waiting for Ramon Rubalcava.

CHAIRPERSON TAYLOR: Okay. This is going to --

it's going to be interesting. Give it a few more minutes, a minute or two.

CHIEF EXECUTIVE OFFICER FROST: Yeah. Theresa, otherwise, we can announce when Ramon joins that meeting, so it gets into the record.

CHAIRPERSON TAYLOR: That works as well. So as I un -- understand it, we are moving right into closed session then, so that's the issue. So if you want -- if we do that, and he's not here, then Pam can you let him know that just forget getting into open and go into closed?

CHIEF EXECUTIVE OFFICER FROST: Theresa, yes, we can do that.

CHAIRPERSON TAYLOR: Okay.

CHIEF EXECUTIVE OFFICER FROST: I'll send him an email right now.

CHAIRPERSON TAYLOR: Okay. So we're going to recess into closed session for items -- closed session for items one through seven from the closed session agenda. Could you guys all exit this open session meeting, all the Board members, and connect to the closed session meeting. And anybody in the public that's watching on livestream, the open session Investment Committee meeting will reconvene following the closed session.

All right. So everybody go ahead and leave the meeting and go into closed session.

Thank you.

(Off record: 9:28 a.m.)

(Thereupon the meeting recessed into closed session.)

(Thereupon the meeting reconvened open session.)

(On record: 3:00 p.m.)

CHAIRPERSON TAYLOR: Okay. Everybody, Investment Committee open session is now called to order. If I could have Pam call the roll, please.

COMMITTEE SECRETARY HOPPER: Theresa Taylor?

CHAIRPERSON TAYLOR: Here.

COMMITTEE SECRETARY HOPPER: Rob Feckner?

COMMITTEE MEMBER FECKNER: Good afternoon.

COMMITTEE SECRETARY HOPPER: Henry Jones?

COMMITTEE MEMBER JONES: Here.

COMMITTEE SECRETARY HOPPER: Lisa Middleton?

COMMITTEE MEMBER MIDDLETON: Present.

COMMITTEE SECRETARY HOPPER: David Miller?

VICE CHAIRPERSON MILLER: Present.

COMMITTEE SECRETARY HOPPER: Stacie Olivares?

COMMITTEE MEMBER OLIVARES: Here.

COMMITTEE SECRETARY HOPPER: Jason Perez?

COMMITTEE MEMBER PEREZ: Here.

COMMITTEE SECRETARY HOPPER: Ramon Rubalcava?

COMMITTEE MEMBER RUBALCAVA: Here.

COMMITTEE SECRETARY HOPPER: Betty Yee?

ACTING COMMITTEE MEMBER PAQUIN: Pam, this is Lynn Paquin sitting in for Betty Yee for a couple minutes.

COMMITTEE SECRETARY HOPPER: Thank you so much.

ACTING COMMITTEE MEMBER PAQUIN: Thank you.

CHAIRPERSON TAYLOR: Okay. Thank you, everybody.

We're going to move on to item number 3, the approval of the June 15th, 2020 Investment Committee timed agenda. What's the pleasure of the Committee?

COMMITTEE MEMBER JONES: Move approval.

VICE CHAIRPERSON MILLER: So moved

CHAIRPERSON TAYLOR: So moved by Mr. Jones, seconded by Mr. Miller, I believe.

Thank you. I need to have a roll call vote. Sorry about that.

COMMITTEE SECRETARY HOPPER: Rob Feckner?

COMMITTEE MEMBER FECKNER: Aye.

COMMITTEE SECRETARY HOPPER: Henry Jones?

COMMITTEE MEMBER JONES: Aye.

COMMITTEE SECRETARY HOPPER: Lisa Middleton?

COMMITTEE MEMBER MIDDLETON: Aye.

COMMITTEE SECRETARY HOPPER: David Miller?

VICE CHAIRPERSON MILLER: Aye.

COMMITTEE SECRETARY HOPPER: Stacie Olivares?

COMMITTEE MEMBER OLIVARES: Aye.

COMMITTEE SECRETARY HOPPER: Jason Perez?

COMMITTEE MEMBER PEREZ: Aye.

COMMITTEE SECRETARY HOPPER: Ramon Rubalcava?

COMMITTEE MEMBER RUBALCAVA: Aye.

COMMITTEE SECRETARY HOPPER: Lynn Paquin for Betty Yee?

ACTING COMMITTEE MEMBER PAQUIN: Aye.

CHAIRPERSON TAYLOR: Okay. Motion carries. Thank you very much, Pam.

Executive Report. Chief Investment Officer, Mr. Meng.

CHIEF INVESTMENT OFFICER MENG: Thank you, Madam Chair and good afternoon Committee members.

I would like to take this opportunity to give you an update on how we are managing the portfolio through the COVID-19 crisis with three areas to focus update, the opportune -- the opportunistic strategies, market transactional liquidity, and our own balance sheet liquidity management.

It is a difficult time for all of us on many fronts and it's easy to lose focus of our mission amidst a heightened level of uncertainty. Therefore, after an update on how we are managing the portfolio through the current crisis, I will conclude my opening remarks with a discussion on our long-term focus, which is to generate the actual rate of return of seven percent on a nearly $400 billion portfolio in the long run.

As you may recall that our Opportunistic Strategy Program was created mainly to capture two types of investment opportunities. First, opportunities that arise from structural changes in the market that are not material enough yet to be incorporated into our strategic benchmark. An example of such a strategy is direct lending in private credits.

The second set of opportunities that arise from market dislocation during a crisis such as COVID-19. These types -- these types of opportunities tend to be the result of extreme market dislocations and they're transitional in nature. This means that it is important to be ready to act quickly for us to capture such opportunities.

On this note, we're pleased to report to you that we are benefiting from the work we did in 2019 and early this year. Because of our early preparations in building out our internal due diligence and portfolio construction capabilities, enhancing our liquidity management, as well as establishing relationships with capable external partners, we have been able to proactively capture investment opportunities during the COVID-19 crisis.

Thus far, most of these opportunities are in area of -- area of private credit, especially in liquidity and rescue financing. And such strategies are currently implemented as part of the Opportunistic Strategies Program.

As an example of the importance of being prepared, in 2019, we started negotiating contingent mandates with two distressed credit managers. Distressed credit strategies can generate attractive risk re -- risk-adjusted returns but markets are in distress. But such crises do not come often. As an all-weather strategy, however, distressed credit strategies become less attractive. Therefore, we structure the mandates with a trigger such that these mandates will be activated only when a certain set of market distress conditions are met, as they were in March this year.

The mandates were executed in early 2020 and the triggers were met almost immediately thereafter. Because of this pre-negotiated trigger mandate, plus other investment channels we developed and continue to develop, we have been able to act quickly in taking advantage of market dislocation, that is to be offensive when the right opportunities presented themselves.

A good example of the defensive part of our plan is the implementation of long treasury bonds and factor-weighted equities over the last few years. Combined, these two segments of the portfolio provided drawdown mitigation benefits to the tune of $11 billion from February 20 to March 23rd this year, when the equity market experienced a major drawdown.

Now, I would like to give you an update on market transactional liquidity and our own balance sheet liquidity management.

Market functioning in equities and treasuries improved dramatically during May relative to the significant stress experienced at the onset of the crisis. The Federal Reserve continues to inject a significant amounts of liquidity into the marketplace. Market depth has stabilized within normal historical range, while cost to trade remains somewhat elevated at 1.5 to 2 times the pre-COVID market conditions.

Our balance sheet liquidity continues to remain strong. For example, as of June 10th, for all the stress scenarios we analyzed, and our Tier 1, Tier 2, and Tier 3 liquidity coverage ratio for seven-day, 30-day, and 90-day horizons are all above 1.6 times, which means that even under the most conservative assumptions, our ability -- our available liquidity sources are more than 60 percent higher than potential uses. Again, we are benefiting greatly from our 2019 work in developing a comprehensive liquidity management framework.

Please note that our liquidity situation is dynamic and the liquidity coverage ratio analysis is based on some assumptions and our best estimates. We're continuing to monitor and manage our liquidity profile diligently.

The creation of a liquidity management framework strikes to balance a variety of trade-offs among potential sources for and the uses of balance-sheet liquidity by pairing the negotiability of uses with the reliability of sources. The framework is structured to ensure our most important use of liquidity, such as the pay members' benefit payments, are covered by highly reliable sources of liquidity, which are cash and expected receivables.

The liquidity on demand nature of our framework is a critical feature, in that it balances between having too liquidity, which can be costly, and holding to little, which can be deadly. So that's -- we will only use liquidity and start paying for liquidity when we need it. Since 2019, we have made substantial improvements to our liquidity management framework and developed numerous pathways we can use to secure cash on short notice.

Just in 2019, we negotiated and executed several master repo agreements total -- total return swap agreements and a sponsored repo agreement. These steps taken last year provided us with more than $10 billion additional capacity of liquidity on demand. We put this liquidity management framework to test during COVID-19 and we are benefiting greatly from it.

We remain confident that we can continue to manage our liquidity profile well to ensure that we can continue to pay our members' benefit and meet other financial obligations.

We are humble enough to know that we cannot forecast when and how the crisis would unfold and we cannot time the market, but what we can do is to develop plans for different future market scenarios.

Planning for the future is analogous to having a fire exit sign, it does not tell us when the fire will break out, but instead it tells us what to do once we see smoke. An enhanced liquidity management framework, additional pathways to liquidity on demand, a centralize governance structure, our pro -- proactive outreach to the GP community, and implementation of investment strategies such as factor-weighted equity and the long-duration risk segments, as well as the distressed credit trigger mandates, these are just some of the fire exits that we built into our portfolio prior to COVID-19.

As we are managing through this COVID-19 crisis, we continue to benefit from having developed the plan early on. When I am asked how we are managing the portfolio during this crisis, the answer is rather simple: We had a plan and we are sticking to it.

Recent market turmoil has thrown a fresh spotlight on the challenges that public pension funds face in making good on their mission to deliver retirement security to public employees. The discussion on how to meet obligations represents an important debate for policymakers who worry about burdening State and local governments and future generations to secure the benefits that pensioners depend on.

Given the global macro-economic uncertainty and our -- and our mission to provide pension and health benefits to nearly two million public employees in California, it is important for us to focus on our shared challenge, which is to achieve a seven percent long-term return on close to $400 billion, and our mission, which is to serve those who serve California. That requires both innovation and a commitment to the long-term plan.

Even prior to the pandemic, we knew that in order to achieve our goal of a risk-adjusted return of seven percent, we would need to address the market's triple threat of low interest rates, high asset valuation, and low economic growth.

So in late 2019, we mapped out an investment strategy to deliver sustainable results over the long term. Our solution is based on better assets and more assets and well capitalized on our structural advantages, such as our long-term investment horizon and access to private asset classes. CalPERS must diversify and increase exposure to private assets, such as private equity and private credit. We refer to these as better assets, because they have the potential for higher returns and lower expected volatility when compared to public traded assets.

More assets refers to our plan to thoughtfully utilize a moderate level of leverage as a tool to increase the base of the assets generating returns in the portfolio. The use of a moderate level of leverage allows CalPERS to take advantage of the low borrowing cost in today's low interest rate environment and using those funds to acquire assets with potentially higher returns, while at the same time we can maintain proper control and effectively manage risk associated with the use of leverage.

The topic of leverage has been reached periodically for several years now. As part of the asset liability management in 2017, a workshop session was held on July 17, 2017 titled, *Use of Leverage in Strategic*

Asset Allocation. This session, and other discussions and actions since that time, have sought to build a framework by which CalPERS may use a moderate amount of leverage to help offset diminished return expectations.

We recognize that this approach carries risk. For example, leverage can exacerbate some short-term volatility. However, prudent use of leverage can reduce risk over time by allowing us to keep more exposure in diversifying assets such as U.S. treasury bonds while pursuing higher returns in other parts of the portfolio.

Importantly, the two components of our toward a seven percent solution, better assets and more assets, by -- are independent of each other. That is risk over results leverage. We'll attempt to increase our exposure to private assets as better assets in order to increase the expected return of the portfolio. And separately, we may use leverage to gain exposure to more assets, so that we can maintain diversification while increasing exposure to higher returning assets, be they public or private.

It is also important to note that leverage is no longer applied within a specific strategy, asset class, fund, or deal. Instead, leverage is applied and managed holistically from the total fund perspective. This centralized governance structure and the work done over the past year on building out our liquidity management framework serve to provide confidence that the risks associated with leverage shall be appropriately managed especially given the moderate amount of leverage contemplated in the near future.

We plan to deploy leverage gradually, prudently, and as market opportunities warrant. We have carefully factored in these risks and have implemented a comprehensive, forward-looking risk mitigation plan. Over the last several months, we have meticulously plan -- planned a major shift towards this strategy, improving liquidity management, installing proper controls and a centralized governance framework.

While there is no panacea in the current market environment, we believe our strategy of better assets and more assets will increase the probability of achieving our goal of a risk-adjusted return of seven percent within the next ten years, but this will require sticking to the long-term path regardless of short-term outcomes.

We understand the important role we play in society. While we know this is just the beginning, we are positioning ourself to deliver sustainable returns to our two million members for decades to come. So with that, I will pause for any questions you may have.

CHAIRPERSON TAYLOR: I don't see any questions. So let's move on to our -- thank you very much, Ben. That was -- I appreciate your report. Thank you.

My iPad logged out, so give me just a second. This is what happens when you don't have hard copies.

Let's move on our action consent items. What's the pleasure of the Committee? Number 5, action consent items.

COMMITTEE MEMBER JONES: Move -- Move approval.

CHAIRPERSON TAYLOR: All right. It's moved by Mr. Jones.

VICE CHAIRPERSON MILLER: Second.

CHAIRPERSON TAYLOR: Second by Mr. Miler. I need to have a roll call vote, Pam.

COMMITTEE SECRETARY HOPPER: Rob Feckner?

COMMITTEE MEMBER FECKNER: Aye.

COMMITTEE SECRETARY HOPPER: Henry Jones?

COMMITTEE MEMBER JONES: Aye.

COMMITTEE SECRETARY HOPPER: Lisa Middleton?

COMMITTEE MEMBER MIDDLETON: Aye.

COMMITTEE SECRETARY HOPPER: David Miller?

VICE CHAIRPERSON MILLER: Aye.

COMMITTEE SECRETARY HOPPER: Stacie Olivares?

COMMITTEE MEMBER OLIVARES: Aye.

COMMITTEE SECRETARY HOPPER: Jason Perez?

COMMITTEE MEMBER PEREZ: Aye.

COMMITTEE SECRETARY HOPPER: Ramon Rubalcava?

COMMITTEE MEMBER RUBALCAVA: Aye.

COMMITTEE SECRETARY HOPPER: Lynn Paquin for Betty Yee?

ACTING COMMITTEE MEMBER PAQUIN: Aye.

CHAIRPERSON TAYLOR: Great. Thank you. Motion carries.

We move on to our -- number 6, our information consent items. I have had a request to pull 6C for comments. So let's pull that and the comment is from Ms. Brown.

Ms. Brown, go ahead.

BOARD MEMBER BROWN: Thank you, Madam Chair. I want to draw, Mr. Meng, your attention to Item 6C, attachment 1, page one of ten. It should be easy to find. And that's the quarterly update on performance and risk. And I'm looking at the lower half of the table on private equity. Basically, it appears that at every interval showing, the year-to-date, one year, three, five, and ten year, we are underperforming the benchmark. And it actually appears to be the only asset class that has consistently underperformed the benchmark. Yet, we continue to pour billions of dollars into these investments. Can you tell me why we continue to throw money at private equity when year-in and year-out we underperform. My concern is we're taking on greater risk without the reward.

CHIEF INVESTMENT OFFICER MENG: Thank you, Ms. Brown. I think that's a question better addressed by Rob Patterson. So, Dan Bienvenue is Rob on the line?

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE: Yeah, Rob is available. Why don't I take a first -- first stab at that and then we can take it from there and pull Rob in.

Let me switch back to it.

So, Ms. Brown, there's a -- there's a number of things that are -- that are in that historical performance. Now, first of all, I would comment that despite the underperformance, which you see across with the red, if you look at it relative to sort of a public market alternative, which would be the public equity cap weighted, in basically every time period the private equity portfolio beats the public equity portfolio.

So private equity is very difficult to benchmark. But one benchmark that people consider is for us certainly the opportunity cost. Relative to the cap weighted, private equity beats public equity in every historical period. And the same thing, you'll see this in the ALM conversation that we have on Item 8A I believe it is, where our capital market assumptions for private equity are higher than that for public equity.

As far as the performance, especially over the long -- like the ten-year number, one of the challenges there is we've changed the benchmark a few times. At one point it was relative to an entirely domestic benchmark. Then it moved to being public equity with a certain geographic split, plus 300 basis points -- cap weighted plus 300 basis points.

And then in our most recent ALM process, we moved to the current benchmark, which is just public equity, plus 150 lag three months. So one of the challenges again in private equity is benchmarking and has been an evolving benchmark. So I would say that some of the numbers across the are not relative to our current benchmark. And, in fact, the numbers are different relative to our current benchmark.

But again, I think the most important thing is when we talk about needing to invest more in private equity, one of the big things is the alternative is investing in public equity. And we feel the private markets are a better alternative. So I'm happy to take further questions about that.

BOARD MEMBER BROWN: Yeah. Thank you. I know we did -- I recall when we did adjust the benchmark, but we made it simpler, lower. We adjusted the benchmark lower, so we actually would be able to stumble over it. And it doesn't appear we've been able to do that. But the real question for me is the risk-adjusted returns. So, yes, we are getting more than we would say with public equities, but we're taking on much greater risk. And so we really need to do something to fix why we aren't meeting the benchmark. And I'm hoping that we're going to come up with some either substantial ways to hit the benchmark park or to not throw as much money at private equity. I'm just wondering what we're doing to try to bring our numbers up to the benchmark?

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE: So if the question is about risk-adjusted, if you -- if you look at the realized risk of private equity, it actually is lower than public equity also. So the realized risk-adjusted return is actually even better for private equity. Now -- relative to public equity. Now again, we think that the -- you know, and Ben has talked about this, the realized performance has the lagging and the smoothing in it. So we actually think that's an artificially low risk. But again, our forecasted risk and volatility -- I'm sorry, risk and expected returns for private equity is such that we actually believe the forward looking risk-adjusted returns are better again for private equity than public equity.

BOARD MEMBER BROWN: All right. Thank you. I don't have anymore questions on that.

CHAIRPERSON TAYLOR: All right. Thank you, Ms. Brown. Thank you, Mr. Bienvenue.

I'm going to move on now to 7, information agenda item, policy and delegation. I think --

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE: Thank you. And, Jared, if I could please get Kit Crocker moved to attendee from presenter please, as Kit will be leading this item.

CONFERENCE MODERATOR: All right. Kit, you should be able to turn on your audio and video.

INVESTMENT DIRECTOR CROCKER: How is that? Am I there?

CONFERENCE MODERATOR: Sounds great. You're all good.

INVESTMENT DIRECTOR CROCKER: Okay. Thank you. Yes. Thank you. Good afternoon. Kit Crocker, CalPERS Investment Office.

Agenda Item 7A is the first reading of staff's proposed updates to the Total Fund Investment Policy. And the proposed changes fall into two categories, new language in a Appendix 5 to codify within policy the PERF Benchmark Methodology. And then secondarily, changes relating to the Opportunistic Program intended to reflect recent organizational changes, provide for program oversight for the -- by the general pension consultant, and update program constraints to expand potential size in the program, while at the same time facilitating more meaningful oversight by this Committee by updating the constraints.

Staff has worked closely with Wilshire on both the benchmark methodology provisions and the new policy parameter for the Opportunistic Program.

This is an information item. We're seeking the Committee's input at this time. And with that, I'll pause for questions and also invite our consultants, Wilshire and Meketa to comment.

CHAIRPERSON TAYLOR: Let's go to -- I don't have any questions, so --

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE: Do you want me to get Wilshire and -- I'm sorry Ms. Taylor. I'm sorry. In order to get Wilshire and Meketa to be able to comment, can we please bring Steve Hartt from Meketa forward as an attendee and then also bring Tom Toth from Wilshire as an attendee, Jared.

CONFERENCE MODERATOR: Okay. Tom, you should be able to share your audio and video.

MR. TOTH: Yep. Can everybody hear me?

Great.

CONFERENCE MODERATOR: And, sorry, who was the other person?

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE: The other one is Steve Hartt with two Ts, Hartt from Meketa, please.

CONFERENCE MODERATOR: Okay. I brought him in, but I don't see him online any more.

MR. HARTT: Yes, I'm -- I think I'm online.

CONFERENCE MODERATOR: There you go.

MR. HARTT: Can you hear me?

CONFERENCE MODERATOR: Yes.

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE: Thanks, Jared. All right. Tom, over to you.

MR. TOTH: Great. Thank you. I just wanted to make a couple of comments related to the opinion letter. As Kit rightfully laid out, we had a lot of back and forth on the edits and the suggested revisions. Two broad categories, the benchmark methodology changes, the opinion letter states we feel it's consistent with what has been previously discussed with the Investment Committee. So we're comfortable with that. And Wilshire will continue to act in a benchmark oversight role as the Investment Committee's eyes and ears. And we'll elevate concerns, or questions, or issues as we deem necessary to ensure that strong oversight.

And then the second broad category really comes within the Opportunistic Strategies portion of the Total Fund Policy. And I think the biggest change that is being suggested there is the increase in the maximum allocation from three to five percent. As we've seen, credit spreads across credit markets rise materially and the likelihood for a lot of idiosyncratic opportunity to drive returns. We think that relaxing that maximum does make sense.

Now, importantly, in the revision, there's two things that I think the Investment Committee could -- should keep in mind. And first and foremost is that these are active positions within the portfolio and therefore are governed by the active risk limits that the Investment Committee approves. So the one and a half percent active risk target is not changing, will remain intact, and is really a primary governance mechanism for the active positions within the broader portfolio. So that remains as a governor for the risk position in the portfolio.

And then secondly, we think the additions to the Opportunistic Strategy guidelines help to provide stronger oversight. They're replacing what were pretty broad high-level constraints with more specific strategy and sector constraints, as well as the delegation authority limits. So we think taken altogether, those increase the level of oversight that the Investment Committee will be providing for the Opportunistic Strategies portfolio.

With that, I'll stop and see if there are any questions or comments.

CHAIRPERSON TAYLOR: There are. And I hate to do this guys, but apparently we had public comment on 6C. So before we go to these questions, I would like to go to Kelly Fox with the public comment on 6C.

STAKEHOLDER RELATIONS CHIEF FOX: Thank you, Madam Chair. We have eight people in the queue to speak on Item 6C. I'll begin with the first person and put them into the talk mode. They will speak after they hear the beep.

CHAIRPERSON TAYLOR: Thank you.

MS. NITTLER: Hello. I'm Lynne Nittler, a retired California teacher from -- with my health care in CalPERS. I keep close track of the earth's climate, the atmospheric readings at Hawaii's Mauna Loa Observatory are released every May. The results are deeply troubling as CO2 levels are escalating rapidly. Ten years ago, the May reading was 393 parts per million. This year, a few weeks ago, it jumped to 417. So we added 23.5 parts per million of CO2 to our atmosphere in just one decade.

Unless, we change our ways dramatically by 2030, we could reach 440 parts per million of CO2 by 2040. Scientists have warned us that concentrations of 450 risk triggering extreme weather events and temperature rises as high a two degrees centigrade. Beyond that, the affects of global heating are likely to become in the scientist's words, "catastrophic and irreversible".

It's not the future we want and we could be there before 2050. That should be breathtaking. We don't have time for you to divest CalPERS slowly or to see if holding on to fossil fuel investments might pay off eventually. We simply can't afford to put anymore CO_2 into the atmosphere, if we care about a livable planet. Divest now from all fossil fuel investments to do your part to avoid plunging us into climate chaos.

The good news is there's no performance tradeoff in ridding CalPERS from fossil fuel investments. Morningstar has examined 745 sustainable funds, compared them against 4,150 traditional funds. They matched or beat returns in all categories. Even during this pandemic, CalPERS can lead the way to creating a better future for our beleaguered planet by selling fossil fuel investments, investing green, and come out ahead for pensioners.

Here's a Morningstar report quote, "Average returns and success rates for sustainable funds suggest that there is no performance trade out -- tradeoff associated with sustainable funds. In fact, a majority of sustainable funds outperform their traditional peers over multiple time horizons", unquote.

I am truly puzzled why CalPERS continues to invest in fossil fuels that have cost the fund billions compared to the fossil free index. In the last 12 months, CalPERS has lost a billion dollars just in tar sands investments along. I hope you will take the urgency of cutting back on CO2 emissions to heart.

Thank you.

CHAIRPERSON TAYLOR: Kelly.

MS. NITTLER: I'm done.

CHAIRPERSON TAYLOR: Kelly Fox.

STAKEHOLDER RELATIONS CHIEF FOX: Okay. Thank you.

Yes, Madam Chair.

CHAIRPERSON TAYLOR: Kelly --

STAKEHOLDER RELATIONS CHIEF FOX: Yes.

CHAIRPERSON TAYLOR: I don't know what these questions are, but that would go to 8C not 6C. So if these are all the same question, then they need to do it on 8C at the end of the presentation on climate. And then in addition, was that under three minutes?

STAKEHOLDER RELATIONS CHIEF FOX: Yes, I have stopwatch here.

CHAIRPERSON TAYLOR: Okay. So I don't how we find that out, but my feeling is if they're talking about climate, we should be doing that on 8C.

CHAIRPERSON TAYLOR: Okay. Madam Chair, your ruling is to have them speak at 8C. And we'll make that change. Each of these callers had indicated they were speaking on 6C on -- they're all primarily from Fossil Free California. So if you want to move them to Item 8C, you can make that announcement and that's how we'll do it.

CHAIRPERSON TAYLOR: So I would like it if you would call back for 8C and get back in the queue for that, so that we can continue our Investment Committee open session until we get to that. I'd really appreciate it.

Thank you.

STAKEHOLDER RELATIONS CHIEF FOX: Okay. They will stay in the queue. You have one caller for Item 7A when you're completed there.

CHAIRPERSON TAYLOR: Okay. So we are not there yet, but let's go on with Mr. -- or with Dan, I had some questions. So let me go back and see if --

All right. Okay. So I have something from Mr. Jones and Mr. Feckner.

Mr. Jones.

COMMITTEE MEMBER JONES: Yeah. Thank you Madam Chair. Yeah, my question is for Mr. Toth. Tom, you make reference to benchmarks and you talk to the maintaining the one and a half percent -- one and a half percent tracking error as a governance measure. So as a -- from a governance point of view as a Board member, what am I looking at with the tracking area above -- that's moving higher than 1.5 or going below 1.5? What am I -- what's going to inform me as to whether or not this asset is performing as it should?

MR. TOTH: So tracking -- thank you, Mr. Jones. Tracking error is meant to capture essentially the differences in the investment portfolio relative to its benchmark. And to the extent that the portfolio takes on active risk, you want to strive to be -- to be compensated for that difference between the benchmark and the actual portfolio. So the higher that number, essentially the more the investment portfolio can differ relative to its benchmark. And it's those -- it's technically the standard deviation of active returns of the portfolio.

So managing that in a risk conscious way I think is appropriate and you receive regular reporting in terms of the level of active risk both in the portfolio as well as in the underlying constituents within the fund.

COMMITTEE MEMBER JONES: Okay. Thank you.

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE: Mr. Jones, if it helps on the item that Ms. Brown's question was on regarding the quarterly update on performance and risk over the last that we talked about, the very next page actually shows your forecasted tracking error and you get that quarterly to this Committee. And that actually it also gets posted on the Insight Tool monthly for your purview and you continue to see it more frequently now that we have it out there for -- on the Insight Tool.

COMMITTEE MEMBER JONES: Yeah, right. Yeah, Dan. I see it all the time, but I wanted to know what the impact is for, you know, when it's moving one way or another, you know. And I think Tom explained that. Yeah, okay. Okay. Thanks.

CHAIRPERSON TAYLOR: Thank you, Mr. Jones.

Mr. Feckner.

COMMITTEE MEMBER FECKNER: Thank you, Madam Chair. I was wondering before I made my comment, if Mr. Hartt had anything to add?

MR. HARTT: I don't have on this particular point here. I do have on the total policy revisions. I did have a comment that I wanted to provide when that's appropriate.

COMMITTEE MEMBER FECKNER: All right. Thank you. I guess my comment is if there's not a lot of angst or heartburn, is there a reason why we have to hold this as a first reading and wait and do it as a second reading? I'm not hearing a lot of contention about this. Could we just move this forward as an action item, Madam Chair?

CHAIRPERSON TAYLOR: It is fine with me, if that's the pleasure of the Committee. I do want to hear from Meketa, Mr. Hartt. So before we take the vote, let's -- I don't have anymore comments, so let's hear from Meketa and then we can hear the pleasure of the Committee.

MR. HARTT: Well, good afternoon Committee. I did want to make a further comment with regards to the Total Fund Policy. Committee members may recall that prior versions of the suggested changes incorporated a number of other items beyond just the Opportunistic Program. And a few of those items included the Private Equity Program.

And one item in there I wanted to bring to the Committee's attention for further thought. In our monitoring of the Private Equity Program and the interactions with staff, one of the areas that is in the Private Equity Program has to do with the targets and the ranges that they have for the different classifications of assets they have within the private equity portfolio, specifically buyouts, credit growth, opportunistic, and venture.

So the item I wanted to bring to the Committee's attention was that the buyout segment currently has a target of 65 and a range of 55 to 75 percent of NAV. And that has been creeping -- the actual allocation has been creeping over time and is currently at 70 percent. And I think that with the continued deployment of capital in private equity is going to be -- continued to be focused on the buyouts area, and that as they continue to think about co-investments, those are going to be also primarily in the buyouts area.

And that what I would suggest is that the Committee consider a change to the target ranges for the different classifications -- strategy classifications in the private equity to increase that in the buyouts area and decrease it in credit. The decrease in credit also can make sense because of the growth in the Opportunistic Program that has -- has some exposure to parts of private credit that could have initially otherwise been considered part of the private equity. So that's no longer going to be done there. It's going to be done in the private -- in the Opportunistic Program.

So specifically would suggest, if it makes sense, to change the range from buyouts from the current allocation of 55 to 75 with a target of 65, and move that to a target of 70 and a range of 60 to 80 percent. And there would be a corresponding decrease in the credit program, which currently has a target of 10 and a range of 0 to 15, and to change that to be a target of 5 with a rang of 0 to 10.

Happy to answer any questions.

CHAIRPERSON TAYLOR: Mr. Hartt, does that change -- and I appreciate that. Does that change anything in the delegated -- to the Total Fund Policy --

MR. HARTT: It wouldn't be --

CHAIRPERSON TAYLOR: -- and not ask for it?

MR. HARTT: It wouldn't be a change actually in the Total Fund Policy, because I believe the Private Equity Program continues to remain as a separate policy. But given the changed taking place now in the total program -- total program policy and not knowing when we're going to revisit this, and knowing this is a relatively near-term item that had been considered in the previous iterations of the total policy change that included the Private Equity Program, that what we would look to do is to change the Private Equity Program strategy limits and targets.

So to your first question about the delegated authority, I would not make any changes to delegated authority and we're not looking for any changes there.

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE: Ms. Taylor, to Mr. Feckner's comment previously, we can certainly make that a -- should the Board like to make this an action item, we can certainly make that part of the action item, which would be to update the Private

Equity Policy according to what Mr. Hartt just said.

CHAIRPERSON TAYLOR: Okay. That's what I was -- what's why I was diligently writing it down, so we can get the motion correct.

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE: Got it.

(Laughter.)

CHAIRPERSON TAYLOR: So, okay, I appreciate it.

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE: And staff will certainly be comfortable with those -- with those ranges.

CHAIRPERSON TAYLOR: Okay. And I'm going to have, when we're ready to do the motion - I have public comment - I'm going to have Mr. Hartt go over it again, so I get it written correctly, so it's included.

MR. HARTT: Sure.

CHAIRPERSON TAYLOR: But right now I do have -- Mr. Fox, I think I have one comment on this, right, 7A?

Kelly Fox?

Is he still there, anybody?

I know I had a 7A comment.

Karen?

Hmm.

MS. PERKINS: You called me Theresa?

CHAIRPERSON TAYLOR: Do I have a commenter --

public comment on 7?

MS. PERKINS: Yes. Mr. Fox.

MR. JELINCIC: Hello.

CHAIRPERSON TAYLOR: Hi. There we are. Sorry.

MR. JELINCIC: Hi. This is J.J. Jelincic, a member.

MR. JELINCIC: I had asked at the shareholders' meeting why and what impact there was from the change in the benchmark in Appendix 5. I was told that it would be addressed on the call and I didn't hear anything. But this does not change or increase by even $1 the amount that's available to pay benefits. It narrows the difference between the theoretical return on the Board asset allocation and the portfolio performance, but it does reduce the reported benchmark and how much underperformance gets reported in the press, and it does make it easier for the management staff to meet their bonuses.

But I really have heard no explanation as to why we want to make this change and I would ask that the Committee actually seriously consider it. And I assume that my whole comments made it through starting with, "I had asked at the shareholder meeting"?

CHAIRPERSON TAYLOR: Yes. We heard everything, J.J. Thank you.

MR. JELINCIC: Thank you.

CHAIRPERSON TAYLOR: Were there any additional comments, Mr. Fox or Ms. Perkins on 7A?

STAKEHOLDER RELATIONS CHIEF FOX: That concludes -- that concludes the public comments for Item 7A.

CHAIRPERSON TAYLOR: All right. Thank you so much. Let me make sure there aren't any additional comments. Boy, this gets crowded.

Okay. So I would like to know the pleasure of the Committee. It was brought up that since there didn't seem to be a lot of questions on the Total Fund Investment Policy that we go ahead and move this to an action item. If that's the case, I need to know the pleasure of the Committee.

COMMITTEE MEMBER FECKNER: I so move.

CHAIRPERSON TAYLOR: It's been moved by Mr. Feckner.

I need a second.

COMMITTEE MEMBER OLIVARES: I second.

COMMITTEE MEMBER JONES: Second.

CHAIRPERSON TAYLOR: Okay. I didn't hear who -- either of those seconds were.

COMMITTEE MEMBER JONES: Second.

CHAIRPERSON TAYLOR: I'm not hearing who it is.

Who is it?

COMMITTEE MEMBER JONES: Second. Henry.

CHAIRPERSON TAYLOR: Oh, Henry. Gosh. Your screen is freezing, so it looks you're not moving.

COMMITTEE MEMBER JONES: Oh. Okay. But I'm talking.

(Laughter.)

CHAIRPERSON TAYLOR: Okay. So I have a motion by Mr. Feckner, a second by Mr. Jones. Is that -- Mr. Feckner, is that inclusive of changing the PE strategy limits to a target of 70 --

COMMITTEE MEMBER FECKNER: It is.

CHAIRPERSON TAYLOR: Okay -- with the 60 to 80 range and the -- what was the other one, Mr. Hartt?

MR. HARTT: It was a corresponding decrease in the credit-related --

COMMITTEE MEMBER FECKNER: Zero to ten.

MR. HARTT: -- from a target of 10 to a target of 5, and decrease the range from 0 to 15 currently to 0 to 10.

CHAIRPERSON TAYLOR: Okay. That is a in the minutes.

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE: Ms. Taylor, just to --

CHAIRPERSON TAYLOR: Go ahead.

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE: Sorry. Just to make sure that the -- that the minutes have this accurately -- captured accurately, it would be taking the buyout target from 65 to 70, taking the range from 55 to 75 to being a new range of 60 to 80, and it would have the corresponding decrease in credit going from the target of 10 to a target of 5, moving it from 0 to 15 as a range to a range of 0 to 10 percent of the overall Private Equity Program.

CHAIRPERSON TAYLOR: Got it.

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE: Steve, do I have that right?

MR. HARTT: That's correct, yes, in Appendix 3 of the Private Equity Program, Table A, Strategy Allocation Targets and Ranges.

CHAIRPERSON TAYLOR: Okay. I'm going to assume that made it into the minutes. The motion has been made. The second has been made. I need a roll call for the vote.

COMMITTEE SECRETARY HOPPER: Rob Feckner?

COMMITTEE MEMBER FECKNER: Aye.

COMMITTEE SECRETARY HOPPER: Henry Jones?

COMMITTEE MEMBER JONES: Aye.

COMMITTEE SECRETARY HOPPER: Lisa Middleton?

COMMITTEE MEMBER MIDDLETON: Aye.

COMMITTEE SECRETARY HOPPER: David Miller?

VICE CHAIRPERSON MILLER: Aye.

COMMITTEE SECRETARY HOPPER: Stacie Olivares?

COMMITTEE MEMBER OLIVARES: Aye.

COMMITTEE SECRETARY HOPPER: Jason Perez?

COMMITTEE MEMBER PEREZ: No.

COMMITTEE SECRETARY HOPPER: Ramon Rubalcava?

COMMITTEE MEMBER RUBALCAVA: Aye.

COMMITTEE SECRETARY HOPPER: Betty Yee?

COMMITTEE MEMBER YEE: Aye.

CHAIRPERSON TAYLOR: Okay.

COMMITTEE SECRETARY HOPPER: Seven ayes, Madam Chair and one no by Jason Perez.

CHAIRPERSON TAYLOR: Okay. The motion carries.

So we are now going to move on to 8 -- Agenda Item 8, information agenda item, mid -- ALM mid-cycle review. A -- 8a.

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE: Thanks, Ms. Taylor. Jared, if you could --

CHIEF INVESTMENT OFFICER MENG: Thank you, Madam Chair --

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE: Sorry, Ben.

(Thereupon an overhead presentation was Presented as follows.)

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE: Let me do this and I'll let you introduce this item. If we can move Kit Crocker, Tom Toth, and Steve Hartt from panelist to attendee. And then if we could please move Eric Baggesen, Christine Reese, and Dianne Sandoval, members of the management team, from attendee to panelist. And then if we could also please more our consultants, Steve Foresti and Steve McCourt, again from attendee to panelist, please. So those are Eric Baggesen, Christine Reese, Dianne Sandoval, Steve Foresti, and Steve McCourt.

CONFERENCE MODERATOR: Okay. So I've moved everyone in, but I don't have any options for Christine Reese. I cannot make her a panelist for some reason.

CHAIRPERSON TAYLOR: Can you move along without her right now or...

CONFERENCE MODERATOR: Christine, can you -- are you dialed in?

INVESTMENT DIRECTOR REESE: Yes. Can you hear me?

CONFERENCE MODERATOR: Okay. There we go. So Christine is dialed in and not on video.

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE:

Thanks, Jared. I'll hand it over to you to introduce, Ben.

CHIEF INVESTMENT OFFICER MENG: Yes. Thank you, Dan. Madam Chairman and members of the Committee, so this item -- if you may recall our last asset liability management workshop was 2017 to '18 fiscal year. And then the next one will be 2021 to 2022. So this is a mid-cycle review, where we give you update on economic -- economic conditions, asset class valuation, and more importantly, an update on the capital market assumptions. So without further ado, I will turn it over to my team.

(Thereupon an overhead presentation was presented as follows.)

MANAGING INVESTMENT DIRECTOR BAGGESEN: Okay. I think this is me, Eric Baggesen, Managing Investment Director for Trust Level Portfolio Management.

Basically, our speaker this afternoon is going to be Dianne Sandoval. She's going to cover just two slides of the attached material, basically dealing with the capital market assumptions and then the next steps in the ALM process. But the whole COVID crisis has really kind of thrown market valuation statistics and characteristics basically into a tailspin.

I think without any further ado, I'll just turn it over to Dianne. And we'll be happy to answer any questions, if you have them.

INVESTMENT MANAGER SANDOVAL: Thank you, Eric. Dianne Sandoval, Trust Level Portfolio Management. If I can ask that everyone please turn to page six, I will walk through that page.

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INVESTMENT MANAGER SANDOVAL: Thank you.

So what I have here is charted each asset segment for the Public Employees' Retirement Fund along the X axis, and the asset segments forward-looking returns on the Y axis. In the orange boxes, I show the range of forward-looking return estimates throughout this segment, excuse me. In 2017 -- the median 2017 asset segment estimate is captured by the white triangle. And the black bracket illustrates a range of forward-looking return estimates per asset segment as of the end of March 2020 and the black circle illustrate the median estimate for the same period.

So one of the key takeaways I want to point out in this chart, there's a heightened uncertainty being expressed through this survey of investors today versus in 2017. This is illustrated by the dramatic increase in the range of expected returns across every asset class. While I would normally expect the range of outcomes to be the biggest in private asset classes, where the ability to add alpha is the highest, what we see in these forecasts is that the range of outcomes has substantially increased for every asset segment, including in fixed income to levels even higher than what I would expect in private asset classes.

So let me give you an example. In 2017, the difference between the minimum forecasted returns and the maximum forecasted returns from private equity was about 230 basis points. The real assets the difference was 285 basis points. Every other asset class had a lower dispersion of estimates. Today, that difference for private equity has widened to over 700 basis points.

More importantly, the difference for global equity widened by over 500 basis points and even U.S. treasuries has widened over 400 basis points. This tells us that experienced investors with reasonable approaches for forecasting asset segment returns can reach very different conclusions about the next ten years. And these differences have to do largely with the shape and timing of the economic recovery from COVID and the effectiveness of monetary and fiscal policies to bring stability to the market.

The second observation I would like to make about this chart is that in the almost nine years that I've been doing this work for CalPERS, this is the first time that I have seen negative return estimates from reasonable investors in U.S. treasuries -- well, quite frankly, in any assets segment.

Now, the reasons we have negative yield forecasts are varied. Some believe that there is a lower floor of zero or close to zero for U.S. treasuries, thus interest rates, or treasuries, offer asymmetric return profile with a limited ability for upside and higher degree of downside, if rates go up, others are looking at all-time low current yields, and still others argue that in more modern portfolio theory, investors should be willing to pay for protection for defensive assets or future returns will be negative, because this asset class has provided pretty spectacular expensive property. So just, you know, fiscal year-to-date treasuries are up over 19 percent.

Of course, you can see in the range of forecasted return estimates that there's a lot of debate on this topic. And this is why we're also committing to undertake an important effort in collaboration with our research and strategy group and the Global Fixed Income team, under the leadership of Kevin Winter and Arnie Phillips, to understand if U.S. treasuries will continue to stay at the current role of diversifying our equity risk or if there are more cost-effective alternative diversifiers to equity risk that we should consider using in our next ALM process.

Before I move on, I really want to reiterate that the capital market assumptions are critical input into the portfolio construction process, which is rigorously assessed through our four-year asset ability management review. In 2017, the Board went through this ALM process resulting in a total fund portfolio with an expected return of 6.11 percent over the next ten years, and seven percent over the long term.

If I look at the last bar to the far right, I illustrate that if we simply took the median averages from the March 31st 2020 survey as the expected return for each asset segment, and weighted them by our current strategic asset allocation rates, it would leave us close to the bottom of the previous range established in 2017.

This reiterates the difficulty that the Investment Office faces in meeting the seven percent challenge with a conventional portfolio and the need for more assets an better assets. I also want to reiterate that we are specifically not attempting to adopt new capital market assumptions at this point, simply because the degree of market uncertainty does not provide us with sufficient confidence to recommend a change at this point.

Now, page seven shows very similar results for the affiliate funds in terms of a wide dispersion of outcomes and lower global fixed income estimates.

So if I can now turn to page nine where we've outline the next steps.

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INVESTMENT MANAGER SANDOVAL: Thank you.

Since we will be reviewing our ALM timeline and CMA process with you at the Board -- at the July Board offsite, I won't spend too much time on this, other than to reiterate that the key areas of focus for us in the next ALM review in terms of research will be, one, for the PERF focused on the role of U.S. treasuries and the potential alternatives, as well as revisiting the asset segment constraints; and two, for the affiliate funds, we will be focused on reviewing the role of U.S. treasuries and potential alternatives; we will be revisiting the goal of inflation assets and potential alternatives; and, we will be assessing the cost-benefit analysis of factor-weighted and high-yield segments.

With that, I will conclude my remarks and turn this back over to you, Eric.

Thank you.

MANAGING INVESTMENT DIRECTOR BAGGESEN: Okay. I don't know at this point in time, whether or not the folks from Wilshire Associates, Steve Foresti or Steve McCourt, would care to make any comments from Meketa.

MR. FORESTI: This is Steve Foresti from Wilshire. I just want to make sure that -- that my microphone is live.

CHAIRPERSON TAYLOR: It is.

MR. FORESTI: Great. Good afternoon, everyone. You know, the only comments I'd make would just to be underscore a couple of the points that Diane made. Number one, I think even when we go through the ALM cycle, we're always, you know, I think very diligent about making sure that we point to the asset class assumptions, you know, what we know, what uncertainty lies out there, and our just quite frankly just humble about the risk around the assumptions.

I think the point I'd like to underscore that Dianne made today is just in light of the current economic environment, the additional uncertainty that the COVID and partial economic shutdown add to that the outlook is even less certain and that doesn't necessarily mean that there's more risk of undershoot or overshoot to the assumptions, but rather there's more risk to missing on either side of that. So I think, you know, all else equal, that would be just another reason to have a bit of caution around the precision that even the median estimates that have been collected suggest.

The final point I'll make, as we at Wilshire look at our assumptions versus how they -- how they stood during the ALM cycle in 2017-18, there's been a lot of moves in the markets and the economy. Rates have, you know, at first kind of came out that environment and moved up and have recently come down quite extensively.

But as we look at the expected return through Wilshire's assumption for CalPERS portfolio over the next ten years, we've just seen a very modest change, a reduction of maybe 20 basis points from what we would have expected the portfolio with the same allocation to look like three years ago. So all that being said, I think as you know staff has laid out, and as you review the mid-cycle ALM, it looks very much to us like the portfolio that's in place is appropriate, prudent, and the conversations you've had around the objective of moving towards or maintaining a seven percent long-term return target, I think all of those conversations set you up very well for the next full ALM cycle.

Happy to take any questions, but just want to underscore those points.

CHAIRPERSON TAYLOR: Great. Did we want -- is that Wilshire. Did we want Meketa?

MR. McCOURT: Yeah. I -- without repeating what staff and Steve had mentioned already, the one thing I would highlight for the Committee is the -- potentially the most impactful dynamic from the pandemic and the policy responses to it for forward-looking asset allocation decisions is the dramatic reduction in interest rates, which have the direct impact of reducing forward-looking returns for fixed income instruments, but also tend to also reduce the expected return for other types of asset classes as well.

So it's obviously far too early to tell how -- how permanent or semi-permanent the reduction in interest rates is. But as staff continues on its journey in asset allocation, that would be the major -- one of the major factors I'd pay close attention to.

CHAIRPERSON TAYLOR: Great. Thanks, Stephen.

Ms. Yee, you had a couple of questions.

You're muted.

COMMITTEE MEMBER YEE: Sorry. I'm -- Okay. Thank you. Just one question. Dianne touched upon the comparison of the ten-year rate and the long-term rate as compared to 2017. And I was just curious about, you know, given the Feds recent meeting last week about a prolonged recovery and likely that -- unlikely that the Federal fund's rate will increase, I was just looking at the estimated inflation at this mid-year point compared to 2017. I couldn't tell. Could you comment about that?

MANAGING INVESTMENT DIRECTOR BAGGESEN: Dianne, do you have that one?

CHAIRPERSON TAYLOR: Dianne.

I think she went away for a minute.

COMMITTEE MEMBER YEE: Okay.

INVESTMENT MANAGER SANDOVAL: I'm here. I'm sorry. I was talking, but I think I was muted. Sorry about that.

COMMITTEE MEMBER YEE: Okay.

INVESTMENT MANAGER SANDOVAL: Can you hear me now?

COMMITTEE MEMBER YEE: Yes.

CHAIRPERSON TAYLOR: Yeah.

INVESTMENT MANAGER SANDOVAL: Oh, great. Okay. Thank you. What I was saying was I just wanted to reiterate the question. Is the question what are our updated results for inflation --

COMMITTEE MEMBER YEE: Yeah.

INVESTMENT MANAGER SANDOVAL: -- in terms of the survey. So this is actually interesting. The inflation results have not really changed over the next ten years. They're still at two percent. And that's actually very much -- the median survey results for inflation was literally spot on two percent. And I think the reason for that is because if you think about over the short-term what happened with the crisis, those effects have been somewhat deflationary in the short term. And I think there's still quite a lot of uncertainty as to how the structural changes will pan out that will impact inflation the most.

So, you know, what is going to happen with our supply chain, and if we're going to need to build redundancies into that or not. Obviously, certain areas have really fallen in inflation, like oil, and energy, and transport, and airlines, right, but then ensued that might be a very different topic. So interestingly enough, we have not seen a change -- much of a change in the forecast on inflation.

COMMITTEE MEMBER YEE: Okay. Interesting. Thank you.

INVESTMENT MANAGER SANDOVAL: You're welcome.

CHAIRPERSON TAYLOR: Is that it, Betty?

COMMITTEE MEMBER YEE: Yes.

CHAIRPERSON TAYLOR: Okay. So I also have a question from Stacie Olivares. Ms. Olivares.

COMMITTEE MEMBER OLIVARES: Thank you, Madam Chair. This question is for -- also for Dianne. You know, it's a little unfortunate what's happening. And so as I look at these charts, I'm not -- I'm not really seeing a great picture in terms of what the future holds, especially as we're looking at potentially negative interest rates. We've seen that happen in Europe.

I know we're going to get a presentation on this in July, but I'd like to just get a quick overview of what some of the alternatives are for treasuries right now?

INVESTMENT MANAGER SANDOVAL: Yeah. You know, and I'll let -- I'll let Eric speak to this as well. But, I mean, really what we've been looking at so far has been pretty defense -- you know, other ways of bringing diversity into our portfolio like our factor-weighted equities, which have I know lower drawdowns or even high yields. We have slightly lower drawdowns and higher recoveries or faster recoveries than treasuries. So I wouldn't say they're necessarily exactly replacements for treasuries.

COMMITTEE MEMBER OLIVARES: Right.

INVESTMENT MANAGER SANDOVAL: But they do bring more diversification into the portfolio. And we have seen that they were pretty effective during the recent crisis in March.

COMMITTEE MEMBER OLIVARES: Thank you.

MANAGING INVESTMENT DIRECTOR BAGGESEN: Yeah. Maybe -- this is Eric. Maybe I could just add a slight comment to that. And thanks, Dianne, because you have it exactly right. Even at the low interest rates that currently exist Ms. Olivares, we saw for example when the market sold off over 500 basis points last week, treasuries still, even from these low interest rates, actually provided diversification against the equity drawdown that was happening.

So we still think that there's some utility. Albeit, that utility from all practical purposes has to be diminished when you have interest rates that are sub-100 basis points, for example, on these.

COMMITTEE MEMBER OLIVARES: Um-hmm.

MANAGING INVESTMENT DIRECTOR BAGGESEN: But it is not inconceivable that interest rates on treasuries could go negative just as they have in so many European sovereign issues.

COMMITTEE MEMBER OLIVARES: Yeah.

MANAGING INVESTMENT DIRECTOR BAGGESEN: So as long as their is movement potential for the interest rate to decline, there is still an element of diversification. And at this point in time, the only other alternative that we would have basically to try to deploy the capital that is currently allocated to treasuries would be basically to just put it right into equity risk, which would potentially exacerbate any significant, you know, further drawdowns that might be in the offing. So I don't think for me personally, that's not a recommendation that I would be willing to make at this point.

Of course, that could always be overridden by Ben and Dan, and the perspective of the Investment Office. But we do not see a point at this moment in time to abandon whatever diversification we still do get from treasuries.

CHIEF INVESTMENT OFFICER MENG: Okay. Eric, now this is Ben. Sorry, Stacie. Go ahead.

COMMITTEE MEMBER OLIVARES: You're probably going to answer this, but at what point would we consider abandoning it? I think we're at 66 bps or somewhere around there right now. At what point do we have to reconsider?

CHIEF INVESTMENT OFFICER MENG: Yeah. So on that point, since Eric invited me to come in. So let's get back a little bit. So as you know that -- you know, we are constantly in the discussion over conversations with our global peers, you know, market researchers and leading stock leaders in this space. And one of the topics that you see really divergence of view is about the future of U.S. Treasuries. Will the interest rate go up or go down from here. It also kind of hinges on inflation, as Dan pointed out as well. You know, there is a really large dispersion in forecast of inflation and interest rate going forward. So that's the big picture.

COMMITTEE MEMBER OLIVARES: Um-hmm.

CHIEF INVESTMENT OFFICER MENG: But if you think about the roles they expect U.S. treasury to play in our portfolio, there are three -- there are three roles we expect treasuries to play in our portfolio. One is income generating, the other one is being liquidity provider, and then the last one is diversification to active drawdowns.

Let't think about the first one, income generating, you're absolutely right. Given the low yield environment, the income generating capability of treasuries has diminished somewhat. And liquidity, given that, you know, we talk about our enhanced balance sheet liquidity management framework. Having treasury --

COMMITTEE MEMBER OLIVARES: Um-hmm.

CHIEF INVESTMENT OFFICER MENG: Holding treasury as a source of liquidity becoming less critical. It's still important in the consideration, but less important now.

So now the key question really going forward, can treasury continue to provide diversification benefits to potential equity drawdowns. And as Dan just point out in one of our next steps, is they continue to study what's the role for treasury to play in our portfolio.

COMMITTEE MEMBER OLIVARES: Um-hmm.

CHIEF INVESTMENT OFFICER MENG: So as Eric said, we're not there yet, but this definitely is a topic front and center, you know, for the Investment Office. And we'll continue to do our research and we'll come back to the Committee before we formulate a view and we continue working with your consultant on this topic as well.

COMMITTEE MEMBER OLIVARES: Thank you.

CHAIRPERSON TAYLOR: Okay. We also have public comments. And if we could get the timer on my screen. And, Kelly Fox, if you can get the person on. I think it's J.J.

STAKEHOLDER RELATIONS CHIEF FOX: Thank you, Madam Chair. And, yes, I do have the caller coming in. Mr. J.J. Jelincic on Item 8A.

MR. JELINCIC: Can you hear me?

CHAIRPERSON TAYLOR: I sure can.

MR. JELINCIC: I don't know whether you can hear me or not.

Okay. Thank you.

I'm glad that this is an information item, because, quite frankly, if you look at the agenda item, the analysis does not support a change. But I'd also point out that the analysis does not support a decision not to make a change. A review that contains no analysis is not much of a review and it's certainly not much an aid to the Board.

The information provided makes it clear that the world has changed. Among other things, you're being told that 30 percent of your asset allocation is likely to return a third less than you had assumed, but you're also told that this will have no fiscal impact. And all's I can say to that is really?

Thank you.

CHAIRPERSON TAYLOR: All right. Thank you.

So I want to make sure I don't have any additional questions on this before I move on. All right. So I do not. So let's move on to 8B, the consultant public fund universe report.

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE: All right. So let me get our panelists in and then I'll let Ben introduce this one too. So let's start, Jared, if we could move Eric Baggesen, Christine Reese, Dianne Sandoval, Steve Foresti, and Steve McCourt back into the attendee area. And then if we could bring Tom Toth from Wilshire into the panelist area.

(Thereupon an overhead presentation was presented as follows.)

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE: Ben, over to you.

CONFERENCE MODERATOR: Hi, Tom. You should be able to turn on your audio and video.

MR. TOTH: I have. Can everybody hear me okay. Great.

So I will try to be concise with my comments, but I think there's some interesting data points in here that should help inform the discussion as we move forward, particularly as it relates to asset allocation.

If you'd flip forward to page two.

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MR. TOTH: This is the universe comparison of the CalPERS results relative to other large plans defined as greater than -- greater than $10 billion in size.

This is a report that we have historically done in September of each year, but we've moved it into March. So these time frames are all as of the end of Q1. So over the last year on a relative basis versus other large peers, the portfolio ranks in the top quartile. So very strong universe rankings over that last year.

Over the -- I'll call it the intermediate time frames, three, four, five years, the portfolio ranks right around median, give or take a handful of percentile.

The ten-year number at the 65th percentile is where that universe comparison becomes a bit less favorable. And I think it's helpful to try to ascertain why that is.

Now, before I get there, I think it's important to remember on the next two pages, pages three and four, that the plan in aggregate does exhibit less risk than the median plan. And you can see that on page three, because it plots in the upper left-hand quartile, which is kind of where you want to be. That's more return for less risk. And that's true in -- over the three-year period and close over five years. You plotted the median return, but with less risk, as you can see on page four.

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MR. TOTH: Now, page five start to, I think, illustrate some of the drivers of the differences between CalPERS' portfolio and other large public plan universe. This is consistent with past presentations. You can see the portfolio does tend to have an overweight to global fixed income ranking in the top quartile there in terms of its asset allocation weight. If you add up the U.S. equity and international equity weights, the portfolio is also a bit above median with a more global orientation, as you can see, a median allocation to U.S. equity and a top quartile allocation to non-U.S. equity.

And it's that public equity which is really being traded off against private equity. So you can see second from the right column, that the asset allocation ranks towards the bottom of the universe. And over this last ten-year period as Dan pointed out, in the performance report as Dennis talked as well, private equity really has been a very strong driver of performance.

So when you take those two things together, a higher allocation to global fixed income and a lower allocation to less liquid private equity, that starts to explain some of that ten-year performance.

As we get into the portfolio, if you flip to the next page six --

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MR. TOTH: -- the global public equity portfolio has generally plotted right around -- right around the median, except for that ten-year time horizon, you can see that it -- while the universe dispersion narrows quite a bit, the portfolio is ranked in the 83rd percentile. And I contrast that with the page eight --

--o0o--

MR. TOTH: -- the private equity universe comparison. I think this is pertinent as we talk about that going forward to use the terminology you've heard, investment in better assets. The CalPERS private equity portfolio actually ranks rather well versus other large peers over longer time horizons, so over seven and ten years, it ranks close to the top third, in the 37th percentile.

Now, is it a driver of overall portfolio returns because of its lower weight? That hasn't had the same impact as some of your other large peers. The asset allocation chart showed that the median allocation to private equity in this universe was somewhere in the neighborhood of 18 percent versus the eight percent target, and a bit less actually invested within the CalPERS portfolio.

It's also worth keeping in mind and not news I think to the Committee members that finding the right strong private equity portfolio -- private equity opportunities, that will actually move the needle in a Cal -- a portfolio of CalPERS's size is -- is a challenge.

And then finally, as we -- as I wrap-up here on page ten --

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MR. TOTH: -- I did mention that the portfolio does tend to have a higher allocation to global fixed income. When we look at the results of the global fixed income portfolio, you can see that it ranks at or near the top across all time periods. So the -- and that's driven by two primary factors. One is the strategic direction of the global fixed income portfolio, which does have a higher duration component, as well as the active management that the global fixed income team has produced over time. When you put all of those together and compare them to the broader fixed income universe for large plans, you can see some very strong relative results. Let me stop there and see if there are questions on the universe comparisons.

CHAIRPERSON TAYLOR: Sure. Thank you, Tom. I appreciate the report.

I have a couple of questions. Number one, and I think I've asked you guys to do this before, can you make these bigger --

(Laughter.)

CHAIRPERSON TAYLOR: -- for those of us who are older?

MR. TOTH: We can try. There is a lot of white space on here. So let me see if we can -- if we can blow it up to make it a little bit easier to read. I know there's a lot of real small numbers there.

CHAIRPERSON TAYLOR: Yeah. No, it's just -- it's real tiny. And, yeah, on the iPad, I can, you know, squeeze it and make it bigger and stuff, but it's just difficult to read. Especially if this were a slide show on the auditorium, that would be really hard.

MR. TOTH: Right.

CHAIRPERSON TAYLOR: Additionally, then my other question is if we are -- I just have a hard time looking at this, if we're comparing ourselves to other pension funds that aren't as complex as ours, because we have, what is it, 3,000 some odd different types of pensions based on our city, and local, et cetera, et cetera, but also $10 billion isn't even close to us.

I'm wondering if we should start paring that universe down a little bit to be more reflective or pull in other funds that are more reflective of our fund, so that we can get a better comparison, because when you're a larger fund, one of the things we talked about a minute ago was the inability to deploy funds in private equity.

And that -- I've heard often that that comes from us being so big. And it's not -- it's not worth our time to be deploying little amounts of funds in private equity. So I just am wondering if we should -- the universe comparison could be a little more closer to who we are, reflecting the complexity of our membership and the fund itself?

MR. TOTH: Madam Chair, those are all very fair points. And I think that the challenge is you start increasing that cutoff and the universe just continues to shrink. Although, we can certainly take a look and see what that -- what those numbers show.

I think the second point is more pertinent, and that's to your point about complexity, ultimately, this portfolio needs to be managed relative to the CalPERS commitments, not relative to how it looks versus other public plans.

And I think --

CHAIRPERSON TAYLOR: Right.

MR. TOTH: -- while this is useful information, I'm generally leery of universe comparisons for that simple fact this is -- CalPERS has very specific defined liabilities, and this portfolio should be managed to meet those liabilities over time. Maybe that's similar to other large public plans, but maybe there are some differences.

And so while we're -- we'll continue to give you this information, I certainly would caution anybody who would look to try to use this as justification for why a portfolio's strategy should be shifted.

VICE CHAIRPERSON TAYLOR: Great

CHAIRPERSON TAYLOR: And I get that. I get that.

I have another question from Ms. Olivares. Go ahead.

COMMITTEE MEMBER OLIVARES: Thank you, Madam Chair. Thank you, Tom. This is great. As we look at page five of 14, Ms. Taylor commented on private equity, I'm trying to understand why we ranked 79th when it comes to liquidity and cash?

MR. TOTH: So the -- simply the weight of liquidity in the portfolio at one percent is at that 79th percentile versus some of the other peers here. You can see that the 50th percentile is closer to 3.75 percent. That's just based on the targeted asset allocation. This is not a judgment on the liquidity position of the portfolio in aggregate, which, as staff has pointed out, is a much more complex management facet than just a targeted allocation to cash.

COMMITTEE MEMBER OLIVARES: Yeah. Let me rephrase my question. I understand what this says. I want to know your opinion on it, in terms of where we stand with our liquidity position?

MR. TOTH: I think the liquidity position at one percent is appropriate, given --

COMMITTEE MEMBER OLIVARES: Um-hmm.

MR. TOTH: -- the other areas of liquidity that can be tapped, if necessary. One of the things Ben has said around liquidity is that too much liquidity is costly, and too little liquidity is deadly.

COMMITTEE MEMBER OLIVARES: Right.

MR. TOTH: And ultimately, it's a balancing between looking to generate returns and then looking to have safety. So I think at a one percent position, that seems reasonable. And, in fact, as we look at doing optimizations, utilizing our asset class expectations, we were talking about that a little bit --

COMMITTEE MEMBER OLIVARES: Um-hmm.

MR. TOTH: -- previously, generally speaking, unless you put constraints in terms of the level of liquidity you want in the portfolio given the dearth of expected returns there, it tends --

COMMITTEE MEMBER OLIVARES: Right.

MR. TOTH: -- to fall out completely.

COMMITTEE MEMBER OLIVARES: Yeah. I'm not expecting great yields from short-term securities right now.

MR. TOTH: Right.

COMMITTEE MEMBER OLIVARES: Short-term treasuries. Yeah. Thank you.

MR. TOTH: Um-hmm.

CHAIRPERSON TAYLOR: My next question is from Ms. Middleton.

COMMITTEE MEMBER MIDDLETON: Tom, thank you. This is really good. And my questions are -- come back to private equity. And I think you had touched on this in your answer just previous to Ms. Olivares. But what I'm reading here is that compared to other institutional investors, we have less in private equity that we are doing well, comparatively in the investments that we do have.

That would seem to argue, not withstanding that you always have to look at the specific deal in front of you, that the strategy that we've adopted of increasing our assets in private equity is heading in the right direction. Am I missing something?

MR. TOTH: Ms. Middleton, no, I don't think you're missing anything. I think those are spot on.

COMMITTEE MEMBER MIDDLETON: All right. Thank you.

MR. TOTH: Um-hmm.

CHAIRPERSON TAYLOR: Great. I don't have any additional questions and I do not believe I have any public comments on this one. So thank you very much, Ms. Toth. It was great a report, except for how tiny it is.

(Laughter.)

MR. TOTH: Thanks very much.

CHAIRPERSON TAYLOR: All right. Moving on to 8c, that's our investment strategy on climate change.

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE: Yeah. And, Jared, can I ask you to move Tom back to attendee. And if we can move Anne Simpson, Divya Mankikar, and Daniel Ingram from attendee to presenter, that would be great.

CONFERENCE MODERATOR: I'm sorry, who was that last one?

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE: The last one was Daniel Ingram from Wilshire.

CONFERENCE MODERATOR: Got it. Okay. Anne and Divya, you should be able to turn on your audio and video.

(Thereupon an overhead presentation was
presented as follows.)

CONFERENCE MODERATOR: And, Mr. Ingram, you should also be able to turn on your audio and video.

CHIEF INVESTMENT OFFICER MENG: Okay. Divya and Anne, are you ready?

INVESTMENT MANAGER MANKIKAR: Yes.

CHAIRPERSON TAYLOR: Anne, you're on mute. Anne.
Anne.

CHAIRPERSON TAYLOR: It's not showing she's on mute. So I think --

CHIEF INVESTMENT OFFICER MENG: Okay. So Anne is having audio problems. So, Divya -- Divya, are you online?

INVESTMENT MANAGER MANKIKAR: I am and I can go ahead.

CHAIRPERSON TAYLOR: Thank you, Divya.

CHIEF INVESTMENT OFFICER MENG: Divya -- please go ahead Divya.

INVESTMENT MANAGER MANKIKAR: Great. So I think we can start on slide two of this deck. And thank you, everyone. Divya Mankikar, Investment Manager.

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INVESTMENT MANAGER MANKIKAR: If we can go to the next slide. If we go to slide two.

CHAIRPERSON TAYLOR: Divya? Divya?

INVESTMENT MANAGER MANKIKAR: I can't hardly hear you. I don't know if you need to be close to your mic or put a headset on.

INVESTMENT MANAGER MANKIKAR: Is that better?

CHAIRPERSON TAYLOR: Much better.

INVESTMENT MANAGER MANKIKAR: Okay. Sorry. So if we can go to slide two of this deck, I can review a few slides. And thank you, everyone, for reviewing the slides and the report.

We're just going to cover three slides here in the interest of time, and then leave plenty of time for questions and answers, of course.

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INVESTMENT MANAGER MANKIKAR: So the -- this item is to discuss our draft task force for climate related financial disclosures report. It's our first report in response to the guidance created by the Financial Stability Board. And we have really taken the advantage to showcase a lot of work that has been developed by CalPERS over years in recognition that climate change presents risk and opportunities to CalPERS.

As an intergenerational and universal owner with a global diversified portfolio, there's really nowhere that we can hide from climate change. And so this report helps to explain how we consider the major risks and opportunities to our portfolio and what activities we've undertaken to mitigate those risks where we can.

I think we have Anne off of mute now. I can continue, or Anne, if you wanted to take over from -- we wanted to now go to slide nine, which covers one of the highlights of the report.

(Voices in the background.)

CHAIRPERSON TAYLOR: Someone is not on mute.

INTERIM MANAGING INVESTMENT DIRECTOR SIMPSON: Thank you. Thank you.

CHAIRPERSON TAYLOR: Someone is not on mute. Hold on, Anne. Someone is talking and not on mute.

Thank you. Go ahead, Anne.

INTERIM MANAGING INVESTMENT DIRECTOR SIMPSON: Yeah. Thank you very much, everybody. And thank you, Divya, for kicking us off. As Divya rightly said, the reason that CaPERS considers climate change as part of its investment strategy is we see both the risk and the opportunity to the portfolio. So this is our first report to the TCFD, the Task Force on Climate-related Financial Disclosure. Everything goes by an acronym these days, right?

And in this 60-plus pages that we've given you, we've really set out in great detail the strategy that

CalPERS has developed, which is -- reflects our size. In other words, we are globally exposed. And it also shows the potential impact for the strategy that we're developing. So the strategy that our Board adopted for climate change was just one element in our strategy on sustainable investment.

And you'll see that we set out on one of the slides that strategy has three parts. The first is engagement. And that's where we as the -- no, we don't need to go back. It's okay.

Thank you.

That engagement, that's where we use our influence as the provider of capital to companies as the owners, the co-owners of these companies. The second part of our strategy is advocacy. And that's where we talk to the policymakers and regulators around the world to make sure that we have the rules in place so that the market does what the market does best. The third element in our strategy is integration. And that's where we use all of this data and analysis to help us as investors make more intelligent and better informed long-term decisions.

What underpins all of his is partnership, because although CalPERS is one of the largest asset owners in the world, whenever we move on a systemic risk like climate change, we need to partner with others. So the slide that we're on at the moment shows you some highlights from the report to show you what we've been doing with our engagement part of the strategy.

I'm glad to say working with Divya Mankikar, who's one of the key architects of this project, the original data and the design, CalPERS convened and became a co-founder of what many of you will know as Climate Action 100+. Now, why does that matter? It's because what we did with look at our whole portfolio and identify where the biggest sources of the emissions were coming from.

And we found that the majority came from just a hundred companies. So we've teamed up with other investors globally. And now, the signatory base for this initiative has $40 trillion in assets under management, which makes it if -- we believe it's the largest shareholder action project that's been attempted on a specific issue.

So just to give a sense of what these 100 companies are responsible for in terms of emissions, you'll see at the end of the report, we've got a very detailed appendix, which sets out the emissions of these companies and then calculates how much difference it would make if these companies came in line with what we're asking for, which is to set targets that get us to net zero emissions by 2050.

Could we have the next slide. Thank you.

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INTERIM MANAGING INVESTMENT DIRECTOR SIMPSON: So we started this project. It was launched at the One Planet Summit. Thank you very much, the Controller. She was there and took that lead role getting us launched at that important global meeting.

We want to just flag in the report that the companies that we're engaging are responsible for such an enormous amount of emissions, that even just looking at their direct and indirect emissions, what gets called Scope 1 and 2, comes from about 55 gigatons. Now, a gigaton I certainly know is very hard to even imagine quite how big that is. But we've calculated that those 55 gigatons are the equivalent to taking 12 billion cars off the road.

And some have said that we're being too ambitious in this project, because we're taking on the biggest global emitters of greenhouse gases. But what we've given you is a few examples on this slide to show you that we're having impact in companies in different markets and in different sectors, and very heavy emitting factors like oil and gas, cement, steel making, and also good old Pepsi-Cola, and Nestlé.

So we're looking at the totality of emissions for companies, which is why this is a very ambitious project. And our goal is each company gets to net zero by 2050.

Could we go to slide 11? Thank you.

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INTERIM MANAGING INVESTMENT DIRECTOR SIMPSON:

The second element in our strategy recognizes that the markets can suffer from a lack of information and that makes them less efficient. So one of our goals here is to have mandatory climate risk reporting. And I'm glad say this is being teed up for part of the agenda for COP26, which will be in Glasgow next year. We've also been working hard at the SEC and also at the international accounting standards community to get this essential information integrated into company reporting.

This builds on the TCFD, which is currently a voluntary framework. We're also feeling very hopeful about the prospect for expanding carbon pricing into new markets. Some of you will have seen and there were no less than eight different bills going through Congress in the United States looking at different ways to bring carbon pricing forward. And another element, of course, is the removal of fossil fuel subsidies.

Both of our priorities in advocacy are designed to foster market efficiency. And from investor's point of view, pricing externalities, getting the flow of information that investors needs is absolutely essential when we're thinking about risk and return.

Could we go to the next slide. Thank you.

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INTERIM MANAGING INVESTMENT DIRECTOR SIMPSON: So this is just a snapshot from the very detailed data work that's been done by CalPERS. And Divya has led this work, but I do want to credit all of our asset classes who took this question of digging in on both transition risk and physical risk across factors, across asset classes took this work very seriously and put a tremendous amount of thought, care, and analysis into this work.

We also commissioned external data providers to give us independent assessment of where we think we are making a difference on the investment decisions that we're taking.

Can I go to the next slide. Thank you.

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INTERIM MANAGING INVESTMENT DIRECTOR SIMPSON:

Here, just for visual purposes, is a range of the partnerships through which we're working. They range from the United Nations, to the Vatican, to groups likes PRI, Ceres, and of course Climate Action 100+, which is very much something that CalPERS put into motion.

So finally, let's look at the last slide.

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INTERIM MANAGING INVESTMENT DIRECTOR SIMPSON: So here's the question. In doing this tremendous amount of work, what did we learn?

The first is that the real economy is not on track to achieve net zero emissions by 2050. And I think this is well understood, that our portfolio reflects the real economy, because of our size and our global diversification. That means our strategy has to get to the root cause of greenhouse gas emissions, which are causing global warming. There are many factors, but the part that's under the control of public, and private, and civil society groups the emissions which are coming out of the real economy. And that's what our strategy is designed to have an impact on.

So through Climate Action 100+ we're modeling what the impact of that will be. Through advocacy, we're focusing on the flow of data and information for the pricing of risk and opportunity. And on integration, you'll see that in line with our target rates of return, CalPERS is already finding very attractive investment opportunities. And we have assessed that about 18 percent of our private markets investments are broadly termed "climate solutions".

So the other message from this big and very detailed report is we have to do two things. The first is we need to build resilience on climate change in our portfolio. So some of the work that you'll see in the report, which looks at modeling vulnerability to physical risk is very important for us making sure that we understand the risks the portfolio is exposed to, and secondly, quite properly in line with CalPERS Investment Beliefs, that those risks are being rewarded.

And the second is that when we're taking opportunity in line with climate change, we need to make sure that we have got that seven percent target rate of return front and center, because if we fall down on that fiduciary duty, then the consequences for our members are really very serious indeed.

So the message finally from this report, we were writing it just as the COVID-19 impact was being felt around the world and with it's brutal impact on communities. And we've said this and we wanted to finish with this message, when tackling a systemic risk, the lessons are evident. We need vision, we need partnership, and a relentless pursuit of science to drive decision making.

And when we're fiduciaries and we're allocating the capital for our members, nothing could be more important. So Divya is our expert on the climate change data and analysis in this report. And she and I will be glad to answer any questions that you might have.

Thank you.

CHAIRPERSON TAYLOR: Thank you, Anne. Thank you, Anne and Divya. Great reports. I read through the entire TCFD report. I'm very happy with it. I do know that, yes, we are not on track to net zero by 2050. And that's because our portfolio reflects the entire economy, but -- and I appreciate what you've got here at the end. I really hope that we are looking to work harder, drill down some more on some more of these companies to get to where we need to be. But I applaud the work you have already done. It's really, really good work. So thank you very much for a great report.

I do have a question --

INTERIM MANAGING INVESTMENT DIRECTOR SIMPSON: Thank you.

CHAIRPERSON TAYLOR: -- from Ms. Yee.

Go ahead, Betty.

COMMITTEE MEMBER YEE: Okay. Got it. Thank you. Thank you, Theresa.

Let me also add my compliments to Anne and to Divya. You know, this report has only been possible because of all of the years of work that both of them have done, and certainly the leadership position that both of them have, you know, really thrust CalPERS in in a global setting relative to how we continue to do this work on climate risk. And I have to say how historic this report is. You know, reading through it. I just see a lot of potential for moving the needle with respect to setting an expectation for companies to also report in this manner. The fact that we have Scope 3 emissions information here is telling companies this is not impossible to disclose. And so I think this is really a game changer with respect to no longer dragging our feet on the -- in response to the TCFD framework. So thank you both for -- for really just putting CalPERS out there as a leader in this regard.

I have a couple questions. And that is I guess now in terms of incorporating this work into our ALM process, and this is really, as you said, both about, you know, capturing and really identifying where the risks are, but also looking at some solutions and opportunities. And so I wanted to first just ask, you know, how will this work be incorporated, and if you can describe perhaps the -- the -- how the asset classes will use this information going forward to transition the portfolio to a more sustainable one, hopefully meeting the goals of the Paris Agreement, but as you said very much focused on our seven percent return?

INTERIM MANAGING INVESTMENT DIRECTOR SIMPSON: Thank you. Thank you very much for that -- for those kind words, Controller Yee and also Madam Chair. We greatly appreciate that.

I'd like to answer the first part and then ask Ben to comment on the ALM process.

COMMITTEE MEMBER YEE: Great.

INTERIM MANAGING INVESTMENT DIRECTOR SIMPSON: The first part, and this I think reflects the tremendous work Divya has been leading, so she may like to add to this, the asset classes are already using this information. When you see in the report sector by sector the guidance from the TCFD was to, you know, start with energy and get all the way down to agriculture. The building of that analysis on risk is done across the asset classes. So Divya, let me just ask you to add a little more on that, because I think it really is the foundation of the report and then ask Ben to comment on where he see the value with this type of analysis for the benchmark work.

So, Divya.

INVESTMENT MANAGER MANKIKAR: Sure. Yeah, happy to. Thank you. And thanks to both the Chair and Controller Yee for your comments. It was very appreciated.

So in terms of how we are working with asset classes to integrate information. I can use an example of really (inaudible) the report, as it has become -- it has gained some momentum. So we look with the asset classes across asset class teams at transition risk, which are, you know, changes in consumer demand that might drive (inaudible) on way or another for companies. Changes in technology, for example, scaling up the availability of easy use and changes in policy, for example, carbon pricing. And then we also looked at physical risks developed by Wellington and Woods Hole Research Center, and really went asset class by asset class to say how does this impact their investment decisions.

And one of the things that we heard back from our peers is, for example, we have a colleague in fixed income who engaged some transportation companies on the back of this and learned that sure enough, it's in the report as well, there's a rail company operating in the Southern United States that has higher exposure to (inaudible) and is sending more capital on placing rail ties. So we're seeing those impacts already occur in our portfolio and seeing companies respond to increased climate change.

And I think one of the main benefits of this research is that the asset classes are asking more detailed questions from their portfolio companies and then, you know, (inaudible) create across their sort of sector of places.

So I'll turn to Ben for the response to your other question.

CHIEF INVESTMENT OFFICER MENG: Thanks, Divya. Controller Yee, thank you for the question. Yes. We understand that one, two among many to address our exposure to climate risk is to consider climate data in our benchmark. The research for this is on the way. And the new development is that we're seeking a university partner to help us validate the data and the models that exist. By doing this, we can incorporate the most verifiable evidence into such a decision at the appropriate time.

As you may recall, the CalPERS commissioned the Sustainable Investment Research Initiative, or what we call in short SIRI, to review evidence as we develop our strategic strategy plan, the five year strategic plan. So this new work, or what we call SIRI 3 on climate change will form the third round of that project. So the research is underway. Another point as we just -- the item right in front of us now, you know, it's also highlighted the challenge we face in terms of the data, the TCFD only requiring, you know, monitoring reporting data, and this isn't the first time that we, among others

TCFD participants, but disclosing monitoring data.

So as Anne and Divya mentioned, we would need to see mandatory data and also some standardization of data. And with data, and the research, and the science, and evidence, we'll make a decision at the appropriate time.

COMMITTEE MEMBER YEE: Thank you.

And I guess on that last point, maybe back to Anne. So what can CalPERS do in terms of really appealing to other institutional investors to engage with their companies similarly, so we can, you know, have more to work with and hopefully get some more accelerated and expanded considerations for these types of disclosures and decisions.

CHAIRPERSON TAYLOR: Anne, you went away again.

INTERIM MANAGING INVESTMENT DIRECTOR SIMPSON:

Hello. Am I back?

COMMITTEE MEMBER YEE: Yes.

INTERIM MANAGING INVESTMENT DIRECTOR SIMPSON:

Thank you. Two pieces of equipment going on at the same time. I apologize greatly. The -- you've raised a very important point, Controller Yee. And I think what we need to do is get out of the work -- the world of treating voluntary reporting as an end in itself. It's a means to an end. It's where we develop best practices, we experiment, we pilot, but then if we don't get it mandatory and integrated into the financials, we're never going to move the money.

So I think making that argument and we know, because we have some wonderful groups like SASB, and the GRI, and Ceres doing fantastic work, PRI doing fantastic work. But you know, at the end of the day, if you don't get this in with the financials, the markets will not move the money, because they have no way to ensure that it's standardized, as Ben said, that it's timely, that's it relevant, or that it's very verified.

So, you know, 150 years ago, all of that was true of financial accounting. And it took a lot of work to get -- to get you U.S. GAAP and IFRS overseas. So -- but we are feeling hopeful with COP26 next year that Mark Carney, who's special advisor to the UN, that he is actually now championing this, even though TCFD started off life as a voluntary framework.

So it's sort of time for a little more ambition. And investors that's for whom these reports are produced. So the customer is always right, right?

We, the investors, we're the customers for financial reporting. So make sure it's got what we need, as long-term universal owners. So I think there's great possibility in the next round.

Thanks very much.

COMMITTEE MEMBER YEE: That's great. Thank you. Thank you for the great work.

INTERIM MANAGING INVESTMENT DIRECTOR SIMPSON: Thank you.

CHAIRPERSON TAYLOR: Thank you, Ms. Yee. I just wanted to also reiterate I think Ben and I have discussed this before, and I agree we need mandatory reporting. We're in no position to get that through advocacy right now I think through the federal government, and get rid of fossil fuel subsidies as a must as well.

So I guess my question is in the meantime, the advocacy that we have to wait for a little bit and hope that we can get in -- in to get it passed soon, not just in California but federally. In the meantime, as we're asking for more companies to do what we're doing, do the TCFD reporting, et cetera, how -- we have really good successes. We don't have a lot, but I'd like to see -- we have huge companies though. But at the same time, how do we double down and get more results without, you know, the mandatory stuff? Because right now, we're in a position where we can't get the mandatory stuff. So I guess I'm just asking for some of your ideas. I know this is a difficult position to be in, but we're kind of stuck.

INTERIM MANAGING INVESTMENT DIRECTOR SIMPSON: Well, if it was easy to do, it probably wouldn't be worth doing. So if we're tackling an issue as big as this, we should expect to commit our very best ideas, work with others, and then stay the course be committed. So I'd just like to say that internationally, the European Commission is actually moving on this. And this is now posed a question to the SEC.

CalPERS has long had a seat on the Investor Advisory Committee at the SEC. I'm very honored that that's currently me. And what we have written is a whole series of recommendations reviewing the evidence, reviewing the data that we don't have, as much as the data that we do, and making the economic, the financial case for the reporting.

Now, the final piece of work that we've just done is pointing to the fact that U.S. companies are going to start to be at a disadvantage in the capital markets, because if investors don't feel confident about how companies are mitigating these risks, how they're redeploying capital for the long term, how they're picking up the technology, how they're dealing with the impact on their employees and their communities, you know, that's all part of the Climate Action 100+ agenda.

And, you know, they're going to have -- you know, the competition will eat their breakfast, maybe eat their lunch as well. But it's very interesting to see how this has now turned into a competitive issue between companies. And it's global markets, we're a global investor, so we just need to keep moving.

And I have to give credit to the Chair of the SEC, Jay Clayton, because he is really very thoughtful about the fact that we've got a 21st century economy and we've got 19th century thinking about reporting. Those are my words not his, by the way. You know, backwards looking, fixed point in time, with a focus on tangible assets.

So, you know, the time is right for really thinking about what investors need by way of information, not just because of climate change, but because of the nature of what the economy really is.

CHAIRPERSON TAYLOR: Excellent. Thank you, Anne. Also, because we engage like we do, I just wanted to ask you to talk a little bit about what would happen if we weren't there to engage, as big as we are?

INTERIM MANAGING INVESTMENT DIRECTOR SIMPSON:

Well, here's the thing, how -- what's our theory of change? Our theory of change is this, that we provide the capital to companies. We have ownership rights, where we hold equity. And we're also saying that climate change brings two risks. One is transition risk. That's, wow, what's going to happen to this company as they have to --

it's a utility. They're going to move from coal, to gas, to renewables. These are very big changes. And we want that company to be successful, so that's one consideration.

But there's a second, which is if we walk away from the companies where these emissions continue to belch out into the atmosphere, we feel vulnerable, because even if we don't own a piece of that company, we're going to feel the impact of those emissions. So we need to get to the spigot. We need to turn off the spigot through a new strategy for these companies, which is a very ambitious thing to do. But the examples that we're showing you in oil, in cement, in agriculture show that by being very clear and very specific that companies want, that they need to do. This target of net zero by 2050 means about an 80 percent cut in emissions in the biggest group of emitters in industry.

So even if it was a question of walk away, because it all feels too difficult and too tough, we don't mitigate the risk. You still have global warming, because those emissions are continuing to belch out. So it's a problem that many don't want to solve. You're going to have to. So it's a question of rolling your sleeves up and getting on with it.

And you can't do that if you're not -- if you're not there, if you're not an owner. And also we've been able to show it's not just that it's CalPERS, building this alliance of $40 trillion globally, where we're asset owners right around the world, asset managers in every market are joining us, that is really going to be the force of the fiduciary, bringing to bear for the risk and for the opportunity on behalf of our members.

CHAIRPERSON TAYLOR: Well again, thank you, Anne. Thank you, Divya. This is a great report. Great answers to our questions. I want to roll up my leaves and work harder. Let us know what we can do for you. We will continue to work on this and get it in line to where we need to be. So let's triple our efforts and do that.

Thank you.

INTERIM MANAGING INVESTMENT DIRECTOR SIMPSON: Thank you.

INVESTMENT MANAGER MANKIKAR: Thank you.

CHAIRPERSON TAYLOR: I've got public commenters on 8C. So Mr. Fox, Kelly.

COMMITTEE MEMBER OLIVARES: Oh, Theresa, I actually had a question and a comment.

CHAIRPERSON TAYLOR: Oh, I'm sorry. I didn't see yours. I saw Lisa Middleton's, but I didn't see yours, and she pulled hers back.

Go ahead. Go ahead, Stacie.

COMMITTEE MEMBER OLIVARES: Thank you, Madam Chair. Divya and Anne, this is a very compelling report and so timely. As we struggle with the COVID pandemic, there have been many articles and studies most notably from Harvard School of Public Health on the relationship between climate change and pandemic risk.

And so as it seems as our climate will continue to change, right? We can't completely put that to a stop. That we have increasing risk from pandemics, which will, of course, increase our health care costs, increase liability, and suppress economic returns. What are we looking at in this space in terms of 10, 20, 30 years ahead?

INTERIM MANAGING INVESTMENT DIRECTOR SIMPSON:

Ms. Olivares, thank you very much for that thoughtful question. I think when we're looking ahead in that way, we're looking for a theory of everything. We're looking for joined-up thinking, a holistic -- a company that tackles climate change, but doesn't take care of its technology innovation, doesn't look after its employees, doesn't look after its reputation is going to fail.

And I think, you know, some years back when they were launched, CalPERS was one of the first investors to recognize the sustainable development goals. And there's 17, which were adopted by close to 200 governments. And we've said, you know, this is the world's to-do list.

And this includes issues of gender equality, inequality, the future of work, health, and really provides a framework in which governments are attempting to not just understand these individual risks, but how they compound each other, how -- you know, what's the domino effect as one -- as one issue hits another.

And I think the Board is aware that our Chief Executive, Marcie Frost, sits on a special panel that the UN Secretary General drew together precisely to look at, well, what are the financial markets going to make of this framework of holistic thinking for sustainable development?

Because I think if we don't, you know, start to look at these issues in an integrated way, we're not going to make progress. And I do feel that's very consistent with CalPERS' Investment Beliefs. You know, our three forms of capital that we highlight, that long-term value means stewardship of financial capital, but also human capital, physical capital. And the relationship between all three are not just the source of risk when things go wrong, they're also the sense that they're potential returns, which we -- which we are, more precisely the Board, was hearing all about today and the important work that Ben's leading in the Investment Office.

So we can't -- we can't do -- we can't pick and choose particular issues. We've got to understand the relationship between risks. And I think this new research project, which Ben just mentioned, SIRI 3 is going to give us an opportunity not just to dig in more deeply on the climate issue, but it's going to help us understand how these other factors are going to accelerate and affect progress, because nothing proceeds in a neat and tidy linear way. The connectivity between issues, the catalytic effect from one issue to another is going to be an extremely important part of this.

Thank you.

COMMITTEE MEMBER OLIVARES: What about the health care impact? So as we have pandemics, right? If the risk of pandemic increases with climate change, then we're going to see more health care impacts. We're going to see an increase in our liability. Are we working with health care insurers to look at their models?

INTERIM MANAGING INVESTMENT DIRECTOR SIMPSON:

That isn't something that we've done. We've kept a fairly clear bright line between, you know, the three sides of the shop at CalPERS, the portfolio, the health, and the pension system for benefits. So I -- I think that would be a question for Marcie. I feel that's above my -- above my pay grade.

But my understanding is that the -- there needs to be a careful separation for administrative purposes. But Marcie or other person will be able to give a better answer on that.

CHIEF EXECUTIVE OFFICER FROST: Thank you, Anne. Yeah, there -- there really isn't a policy reason why we would keep health care analysis and data outside of the portfolio. We have been looking at opportunities where if we can invest in health care types of assets, that would help us with our long-term liabilities. That would be a win-win for, you know, the two policies for the program --

COMMITTEE MEMBER OLIVARES: Um-hmm.

CHIEF EXECUTIVE OFFICER FROST: -- or of CalPERS. So I don't -- I don't think we've looked at it from the health care side. I think that's a legitimate question that we should go back and take -- take a look at. But there is no reason why we would be prevented from doing so.

COMMITTEE MEMBER OLIVARES: Thank you.

CHIEF EXECUTIVE OFFICER FROST: Great insight. Thank you.

CHAIRPERSON TAYLOR: Great. Thank you, Stacie. Thank you, Marcie. Again, thank you Anne and Divya.

I'm going to move on to our caller. And Kelly Fox.

STAKEHOLDER RELATIONS CHIEF FOX: Thank you, Madam Chair. We have several callers. And I will start with the first one on Item 8C and that would be Leonard Skylar.

MR. SKYLAR: Hello. Can you hear me?

CHAIRPERSON TAYLOR: Yes, we can.

MR. SKYLAR: Hello. Thank you very much.

Yes. My name is Leonard Skylar. And I'm a CalPERS retiree and I'm concerned about CalPERS investments in fossil fuel companies, especially those companies that are developing new sources of so-called extreme fossil fuels, particularly from tar sands and fracking.

My concern grows out of my career as a professor in the Earth and Climate Sciences Department at San Francisco State University, where my research was focused on understanding how climate change is affecting water resources in California and around the world.

And I want to, first of all, thank you for producing the TCFD report. It is a very important advance and shows continued leadership by CalPERS on addressing climate change. I want to make that clear. We're very pleased with this report.

But I also want to point to a key limitation that I see to CalPERS strategy of engagement. And that is engaging with companies whose business model fundamentally relies on carbon emissions. For example, CalPERS owns several billion dollars worth of tar sands exploration companies. And the only way to reduce the emissions from these companies is to reduce the activity of the company, ideally to shut them down completely the way Michael Bloomberg's company bought coal plant -- coal power plants and shut them down.

You know, in the context of our climate goals, exploration and development of new extreme fossil fuels are simply not legitimate business activities from a climate safety point of view. And what makes them extreme is the high cost of exploiting these marginal fossil fuel sources. Extracting oil from tar sands is only profitable if oil prices are very high. But oil prices are now at historic lows and may never recover, due in part to competition from low-cost renewable energy sources, such as wind and solar.

But I have to say, as a CalPERS retiree, it's a bitter irony that the good news of rapidly falling costs of renewable energy means bad news for aspects of my pension fund. CalPERS is losing money by investing in tar sands and fracking companies, and to my knowledge, failing to reap the benefits of the boom in renewables.

So I urge you to change your algorithm for selecting companies to invest in. Why can't CalPERS equity investments track the S&P 500 fossil free index, which over the ast several years has out performed the market as a whole and greatly outperformed the fossil fuel based energy sector.

I mean if the University of California pension fund can manage its $130 billion portfolio without subsidizing the fossil fuel industry, why can't CalPERS?

So I'm making this comment today, not only as a climate scientist and as a concerned CalPERS retiree, but also as a father. My son graduated from high school just last Friday. He and his generation face a very scary future. By investing our pension money in these extreme fossil fuel companies, CalPERS is putting my son's future at risk --

STAKEHOLDER RELATIONS CHIEF FOX: Mr. Skylar, I've got to ask you to wrap it up.

MR. SKYLAR: -- as well as the future of my pension. So please direct CalPERS staff to draft a plan for an orderly wind down of CalPERS investments in the fossil fuel section --

CHAIRPERSON TAYLOR: Leonard. Leonard, I'm sorry.

MR. SKYLAR: -- starting with the companies engaged in tar sands.

Thank you very much.

CHAIRPERSON TAYLOR: Thank you. Go ahead, Kelly, with the next person.

STAKEHOLDER RELATIONS CHIEF FOX: Yeah. Madam Chair, it just takes a couple minutes to go through the process here on the online access.

So the next caller Ferris Kawar. Are you timing these as well, Madam Chair? And if you are, I can -- I'm timing them, but it doesn't seem like they can hear me.

CHAIRPERSON TAYLOR: I think he was ignoring us.

(Laughter.)

CHAIRPERSON TAYLOR: So, yes, I have a clock as well.

STAKEHOLDER RELATIONS CHIEF FOX: I'll make the announcement.

CHAIRPERSON TAYLOR: Pardon me?

STAKEHOLDER RELATIONS CHIEF FOX: I'll make the announcement at three minutes.

CHAIRPERSON TAYLOR: Okay.

STAKEHOLDER RELATIONS CHIEF FOX: And Mr. Ferris Kawar, on Item 6C.

MR. KAWAR: Thank you. Yes. This is Ferris Kawar. I have been a CalPERS member for over 11 years. And in that time, there have been many indicators that the fossil fuel industry is not the best investment for us.

You know, headline after headline from cities, states, foreign nations show that they're passing laws to move away from the burning of fossil fuels.

Military leaders and the world's top scientists have all, you know, urged the transition from fossil fuel products by the year 2030 or the consequences will be too much for any of our systems to handle. Yet, you know, our CaLPERS still has over 30 billion of our investments locked up in product that everyone agrees should not be used anymore.

In addition, in the decades since I've been -- in the decade since I've been a member, the fossil fuel sector has consistently lost billions in fact. And the -- based on the analysis of public security filings over the past ten years, the CalPERS' retirement fund would have generated an additional 11.9 billion had the fund divested their fossil fuels stocks a decade ago.

We need to take a stand for what is not only right, but for what will protect our members' investments, and afford us a solid financial retirement, as well as a livable and enjoyable planet on which to retire. I urge CalPERS to rapidly shed its fossil fuel holdings and reinvest in clean energy companies, which is one of the only sectors that can really provide enough good-paying jobs to rebuild the economy we need so badly.

I appreciate your net zero-emissions goal by 2050, but that's not aggressive enough to avoid the worst impacts of a warming planet by -- we should really be doing it by 2030.

I also appreciate your willingness to engage with companies. But it only can work on industries like you mentioned, cement and agricultural -- agricultural industries, but not on industries like oil, gas, coal, because it's the primary business and it's a product that is unburnable.

You have had decades to pressure these companies to become energy providers as opposed to fossil fuel providers. But we just simply don't have enough to show for it. I would much rather see divestment as a next logical step.

Finally, I would also suggest expanding the list of a hundred companies that you're looking to -- to -- looking at to 200, which are -- have been well researched in the fossilfreeindexes.com. I suggest taking a look at those.

And I appreciate your time and the direction you're going. I would just like to see it accelerated. Thank you very much.

Bye-bye.

CHAIRPERSON TAYLOR: Thank you. Our next

comment, Kelly, when you can queue them up.

STAKEHOLDER RELATIONS CHIEF FOX: Madam Chair, next we have Richard Godfrey.

CHAIRPERSON TAYLOR: Go ahead, Mr. Godfrey.

STAKEHOLDER RELATIONS CHIEF FOX: Mr. Godfrey, go ahead.

DR. GODFREY: Hello.

STAKEHOLDER RELATIONS CHIEF FOX: Yes, Mr. Godfrey. Go ahead.

DR. GODFREY: Thank you. I'll be very short, because I'm in the midst of a rotary webinar. I just want to thank you all for the work you do. I want to totally support any direction, and it looks like you're looking seriously at the issues of climate change and are making changes in that direction. I'm also representing the Union of -- excuse me, the United Churches of Christ.

And as you know, we divested in 2013. The University of California has divested. We look forward to your divestment. We feel very strongly that you're going to make the right choices, and hopefully you'll do that in good order. And thank you for the opportunity to comment.

CHAIRPERSON TAYLOR: Thank you.

STAKEHOLDER RELATIONS CHIEF FOX: Okay. Madam Chair, we have Vanessa Warheit.

MS. WARHEIT: Hi. Can you hear me?

Hi. Can you hear me?

STAKEHOLDER RELATIONS CHIEF FOX: Yes. Go ahead.

MS. WARHEIT: Thank you.

My name is Vanessa Warheit. I'm Executive Director of Fossil Free California. And my mother had intended to speak today, but it's -- she's a retiree. CalPERS retiree. I'm speaking on my own behalf. I signed up to speak to Item 6C, because what I had to say is actually about financial risk of fossil fuels and not about climate change per se, because the fossil fuel energy sector has suffered more than any other sector in the current recession.

It suffers from huge oversupply, coupled with shrinking demand. And this was even before the pandemic. Falling oil prices had already made fracking and tar sands a money-losing proposition. They were highly leveraged and financed by junk bonds. During the pandemic, oil prices plummeted and banks have now begun threatening to seize the assets of fossil fuel companies that can't pay back their loans.

CalPERS suffered huge losses in its fossil fuel holdings in both equities and bonds. As of June 30th, two year ago, CalPERS held $2.7 billion in fossil fuel bonds, including in companies that have since failed or are now nearing bankruptcy. Unfortunately, a large share --

shareowner like CalPERS will be last in line to get paid when these companies fail or when they're acquired for pennies on the dollar.

Intolerable risk and miserable returns are the hallmark of fossil fuel companies today, large and small. On the small side, there's the California Resources Corporation heading into bankruptcy, while handing out its CEO a $10 million bonus, and ExxonMobil, which was once the darling of the stock market and one of CalPERS' largest holdings, has seen its share price declines 42 percent over the past year. CalPERS lost nearly $279 million in value from eight and a half million shares in Exxon alone.

As other callers have told you, extreme fuel extraction is the riskiest. During this recent crash, CalPERS holdings in just 23 tar sands and fracking companies lost $1.5 billion in value in just nine months. And even prior to the crash, between June 30th of last year and February 21st of 2020, CalPERS holdings in tar sands and fracking companies were already negative 3.3 percent. This is part of a long-standing trend of poor performance.

The financial picture moving forward continues to indicate that peak oil demand may have already been reached. Demand for renewable energy will soon outpace demand for fossil fuels, and oil prices will never recover enough to support the economics of extreme fuels. To put it bluntly, continuing to invest in fossil fuels is financially irresponsible. And these losses were predicted prior to the pandemic and could have been avoided.

There's no longer any justification for gambling with our public employees retirement savings on these toxic investments. And I would like to submit some charts to the Board to illustrate these losses. But I understand that for some reason you decided not to take written comments for this meeting. And I'd appreciate it if our written comments would be accepted into the public record.

But I'd like someone to respond to that particular request, please. Thank you.

CHAIRPERSON TAYLOR: Kelly, can -- can she mail that to us?

CHIEF EXECUTIVE OFFICER FROST: Mr. Jacobs, can --

STAKEHOLDER RELATIONS CHIEF FOX: Yes, direction -- direction was given that they would be able to provide their public comments as well.

CHAIRPERSON TAYLOR: In writing?

STAKEHOLDER RELATIONS CHIEF FOX: That's correct, Madam Chair.

CHAIRPERSON TAYLOR: Okay. Then, yes.

Go ahead, Marcie. I think you were going to say something.

CHIEF EXECUTIVE OFFICER FROST: Kelly took care of it. Thank you.

CHAIRPERSON TAYLOR: All right. Thank you.

STAKEHOLDER RELATIONS CHIEF FOX: Okay. Madam Chair, our next caller is Sarah Theiss.

MS. THEISS: Hi. My name is Sarah Theiss. I'm a CalPERS retiree and Fossil Free California board member.

We also appreciate the enormous effort behind the report and the wealth of information in it, including the attempt to quantify the portfolio's risk and its contribution to the remaining carbon budget. And this is despite inadequate data, especially as to Scope 3. The report names the problem. The portfolio's public asset classes have a warming potential of 3.23 Celsius tracking that of the wider world economy.

But we respectfully disagree that the strategy laid out in the report is sufficient, given the speed And enormity of the unfolding climate disaster. First, I wondered whether the goals, based on the 2018 IPCC report, are already outdated. Last November, the UN Environmental Program Emissions Gap Report found that global emissions have to fall by 7.6 percent each year from now till 2030 to stay within the 1.5 degree Celsius ceiling.

Second, as has been acknowledged, the pace of data availability trails the rise of greenhouse gas emissions. So waiting for better data seems highly problematic especially as to Scope 3 emissions.

Third, as reported about one percent of the portfolio is in climate change solutions versus about ten percent in fossil fuel related businesses. Per the report, most private equity assets in the report's analysis won't be held beyond 2030, but that doesn't match up to the need to cut emissions drastically in the next ten years.

And finally, given this timeline, the planet's timeline, we urge CalPERS to measure success in greenhouse gas reductions rather than promises especially with fossil fuel companies. Thank you.

And I'll have a public comment at the end as well.

CHAIRPERSON TAYLOR: Thank you. Go ahead, Kelly.

STAKEHOLDER RELATIONS CHIEF FOX: Okay. Ms. Theiss, I will put you back into the queue to speak on Agenda Item 10.

All right. Madam Chair, we have Mr. Doug Thompson.

MR. THOMPSON: Hi. Good afternoon. I'm also a

CalPERS member. I'm calling in today to urge Board members to support divestment from the fossil fuel industry. There are both risk-based and public policy reasons for this. This sector has been losing value especially as people reduce use of transportation fuels.

The steep drop in oil prices during the pandemic is a sign of more uncertainty and volatility to come. We see teleworking becoming the norm of many office workers as an example of this shifting market.

The TCFD staff report does a nice job citing the risks posed to CalPERS other holdings, fixed assets, like real estate and infrastructure, and its potential disruption of portfolio companies, supply chains, and operations.

The report cites climate impacts on food security, migration, water supply, other ecosystem services that could bring heightened volatility to the financial markets and harm economic growth.

As to matters of public policy, I have career experience as related to our State's legislative and executive direction going back now 15 to 20 years. Our state has encouraged and effectively mandated, through programs like Cap-and-Trade, reduced fossil fuel use. We shouldn't be investing in markets that State policies are working with good reason to effectively diminish.

I think you now have further legislative direction under SB 185 requiring divestment from companies earning half or more of the revenues from coal mining.

These policy directions are driven by concern for public health and the environment because fossil fuel combustion is the chief source of greenhouse gases, of smog and small particles, which, as it happens, make our lungs more susceptible to respiratory viruses.

Today, there's new urgency for racial justice to be considered. U.S. EPA has data published in the American Journal of Public Health revealing that race is an even more profound predictor of particle exposure than poverty. African Americans have a 54 percent greater exposure to small particles than the general population. Thus, fossil fuel combustion compromises their ability to -- in particular to fight viruses. It could be one key to the higher death rates they are experiencing, that the Governor spoke of in his press conference today.

I don't want my retirement funds helping to prop up a dying and volatile sector that's leaving a dangerous unjust legacy for ourselves and future generations. I hope you'll agree this is not a good retirement plan for any of us and will move on to a serious discussion of fossil fuel divestment.

Thank you.

CHAIRPERSON TAYLOR: Than you. Is there another question or another commenter?

STAKEHOLDER RELATIONS CHIEF FOX: Yes, Madam Chair. The last commenter on Item 8C Sheila Thorn.

MS. THORN: Hi. My name is Sheila Thorn, and I'm a retired member of CFA and a CalPERS beneficiary concerned about climate change.

I question the strategy of relying on your role in the Climate Action 100+ group to address climate change. Your revised addressing climate change report considers one of the quote significant impacts of engagement. The fact that Shell announced targets for reductions every three to five years towards a goal of shrinking its net carbon footprint by about half by 2050 and agreed to include its emissions among its supply and demand chain, Scopes 1, 2, and 3.

One half of net carbon emissions by 2050 is far from Paris goals and hardly something to boast about. But the clincher is that according to an article in the Financial Times, May 17th, 2020, a disclaimer at the end of Shell's announcement states that Shell will not change its strategy or capital deployment plans in line with the announcement until society acts. What does Shell mean by society acting?

Apparently, it does not mean shareholder engagement. It is going ahead with a new project in Nigeria to produce 30 million tons of liquefied natural gas a year to meet what expects to be double demand by 2040.

Your report also lists as an accomplishment of engagement Chevron's recent announced production goals for greenhouse gas intensity in production. However, Chevron plans to double its production in the Permian Basin over the next five years and expects 900,000 barrels by 2023. Thus, its overall emissions, and especially Scope 3 emissions, will rise.

Chevron also opposed a majority pass but nonbinding resolution that it discloses its lobbying expenditures on climate change and has refused to say if and how it will implement it. LA Times, May 2020.

ExxonMobil in double speak like Chevron, promises reduction of flaring and methane emissions while planning to triple daily production in the Permian Basin. Overall, your report admits that only nine percent of companies in the Climate Action 100+ group have targets in line with the Paris Agreement goals, and only eight percent have lobbying activities that are aligned with necessary climate action.

The big picture of Climate Action 100+, is that the oil companies announced misleading targets of reduced carbon intensity rather than absolute greenhouse gas reductions, or set goals of net zero by 2050 without outlining concrete interim steps. Oil firms tout resolutions of Climate Action 100 to maintain support of their investors, while actually making huge hydrocarbon investments in a foolhardy expectation of increased demand through 2040.

Is big oil -- big oil gaming us? It's time to disinvest from these hopeless and financially failing companies and invest in a sustainable and just green future.

Thank you for listening to me.

CHAIRPERSON TAYLOR: Okay.

Kelly, was that it?

STAKEHOLDER RELATIONS CHIEF FOX: Madam Chair, that concludes Item 8C. You'll have four callers on Item 10.

CHAIRPERSON TAYLOR: Great. Thank you. We will move on to summary of committee direction, please.

I guess that's Mr. Meng.

CHIEF INVESTMENT OFFICER MENG: Madam Chair -- Yes. Madam Chair, I did not notice any Committee direction for the open session.

CHAIRPERSON TAYLOR: Okay. I can't remember either, so let's hope that's right.

CHIEF EXECUTIVE OFFICER FROST: Yeah. Ms. Taylor, I would -- I would only note Ms. Olivares's comment about looking at the TCFD report and potential impacts to health care. And so we'll go back and take a look at it. It won't make it in this report, but we'll take a look at that.

CHAIRPERSON TAYLOR: Great idea. And thank you, Ms. Olivares, for that recommendation.

All right. Thank you. We will move on to public comment. So, Mr. Fox, we're back to you.

STAKEHOLDER RELATIONS CHIEF FOX: All right. Madam Chair, our first caller is Mr. Al Darby.

MR. DARBY: Hello, Madam Chair and Board members. Al Darby, RPEA president.

I was surprised to hear from Wilshire today that the PERF is still overweight in non-U.S. stocks and underweight in U.S. stocks. The U.S. market has outperformed the non-U.S. market over the past three years. How much did the PERF lose over the past three years due to the U.S. market being overweight -- excuse me, underweight by CalPERS, while the U.S. market was up 50 percent and outperforming the non-U.S. market.

This problem was identified two years ago. When will something be evident that there's some change in the allocation of U.S. and non-U.S. stocks to take advantage of the better performance from U.S. stocks?

Thank you.

CHAIRPERSON TAYLOR: Thank you, Mr. Darby.

Next person, Mr. Fox.

STAKEHOLDER RELATIONS CHIEF FOX: Madam Chair, the next caller is Glen Maloney.

MR. MALONEY: I'm here. Can you folks hear me?

STAKEHOLDER RELATIONS CHIEF FOX: Yes, sir.

MR. MALONEY: Okay. Thank you very much.

Madam Chair and Board members, thank you for taking my call. I'm calling from Connecticut. My name is Glen Maloney. I have worked at a hospital up here called Rockville General Hospital for the past 19 years. I am an AFT Connecticut member, local 5121 in the capacity of a chief steward.

As I understand, CalPERS invests in companies like Leonard Green. Leonard Green owns a company called Prospect Medical Holdings, who acquired us four years ago. Since that time, things haven't been that good. Two years ago, we were promised to have a money match put back into our pension plans and evidently that fell through. So we've been nine years waiting for any company to give us something towards our pension plan. And so far, we've gotten nothing.

We currently -- our hospital, you know, after the pandemic or during the pandemic, it is almost half closed. We have no operating rooms are being used. We have no ICU. We have no pre-operative department, no post-operative. We have no elective surgeries going on at our out hospital. We have no gift shop. We have no patient wings. What we see is we are being slowly strangled, if you want to put it that way. We're getting no communication from Prospect Medical Holdings, as far as anything in detailed writing that they will stand by. A lot of vague memos. A lot of vague memos that we can't hold them too.

We have employees who don't -- are not given direction as far as whether they're going to have a job next week. We have another department closing, presumably on the 26th. So I read articles about Leonard Green collecting millions of dollars in fees and dividends from Prospect and we're sitting here not knowing if we're going to have a hospital to go to in the not-too-distant future.

Every employee is struggling. There's -- there's just a lot of stuff going on. And I ask if I was the one loaning -- I know my time is almost up. If I was the one loaning Leonard Green money.

STAKEHOLDER RELATIONS CHIEF FOX: Yes, sir. Bring it to a close, please.

MR. MALONEY: I'm sorry?

CHAIRPERSON TAYLOR: Bring it to a close.

STAKEHOLDER RELATIONS CHIEF FOX: Bring it to a close.

MR. MALONEY: I didn't quite hear. I'm sorry. The time is up?

CHAIRPERSON TAYLOR: Yes, sir.

MR. MALONEY: Okay. Sorry. Thank you very much.

CHAIRPERSON TAYLOR: Thank you.

Mr. Fox, next person.

STAKEHOLDER RELATIONS CHIEF FOX: Madam Chair, the next person, same subject, Kristen Ellis.

MS. ELLIS: Hello. I'll try not to reiterate what Glen already said.

My name is Kristen Ellis. I'm an RN, employee of RGH, Rockville Hospital, which is in ECHN at three different places, Manchester, Woodlake, a nursing home, and Rockville Hospital.

I want to thank you for taking our call tonight and about -- my concerns about Prospect Medical Holdings. I appreciate your concern for the bigger picture of society and the environment, which I learned a lot today, and holding companies accountable that you invest in.

We hoped that when we were purchased by them in 2016, that the financial backing and the business expertise would help our hospital thrive. We've been grossly disappointed, as Glen pointed out, and not only in the lack of progress, but we are actually going backwards as he described in areas especially that should be profitable.

The lies that we've been told in not returning our money match, after being promised verbally in a meeting and in a letter, and closing our profitable and shrinking our hospital, telling us things for once that would -- just would not happen and then it does. It's just like a bunch of lies, as well as not withholding a negotiated three-way agreement, which just the -- and they said the reason why they weren't withholding that agreement was because it wasn't working for them. It doesn't matter that it was signed and negotiated.

Our PPE was limited, as I realize it was everywhere during the pandemic. But when I asked last week if the COVID admissions were decreased and why we are still sterilizing masks, I was told there's no answer for me. I was told to ask in a meeting about that next week, which was today, and I did. And I still haven't really gotten an answer of why that's going on.

I feel they're using the pandemic to save money and further agendas. Leonard Green, as Glen said, has expected millions in dividends and fees, and they're taking a lot of money that's needed for the -- from these hospitals that need improvements in development of their facilities, not in threat of losing jobs for employees.

I don't think that this is a conduct that you would align yourselves with, in light of what I heard here today. They also have recently denied staff a $5 hazard pay during this pandemic when lots of places have been -- even Dunkin Donuts and everything, Home Depot have been giving their employees like $3, $5. Instead, they gave us three percent --

CHAIRPERSON TAYLOR: I'm sorry. Your time is up.

MS. ELLIS: -- which came out to like $0.30.

CHAIRPERSON TAYLOR: I'm sorry your time is up.

MS. ELLIS: I just want to thank you. Okay. Sorry.

CHAIRPERSON TAYLOR: Thank you.

Mr. Fox, next person.

STAKEHOLDER RELATIONS CHIEF FOX: Madam Chair, Sarah Theiss.

CHAIRPERSON TAYLOR: I'm sorry?

STAKEHOLDER RELATIONS CHIEF FOX: Sarah Theiss will be talking again.

CHAIRPERSON TAYLOR: Okay. Thank you.

STAKEHOLDER RELATIONS CHIEF FOX: I can't get her to connect now, so I'll skip to the next caller. The name is David and did not provide his last name.

CHAIRPERSON TAYLOR: Okay. Thank you.

MR. SOARES: I'm sorry, is that -- I did provide my last name. I'm David Soares. I'm an annuitant retired after 32 years as a Prosecutor in Silicon Valley. I'm currently an Assistant Area Director with the California Retired Public Employees Association.

And my public comment is to express my concern about Chief Investment Officer Meng conducting his business in the press rather than during this meeting. And there's already been some reporting beyond that in the Financial Times of London and in Bloomberg.

And I'm particularly concerned because Mr. Meng explained to Bloomberg yesterday June 15th that the likelihood of success at the strategy to apply leverage -- the 20 percent leverage to the fund is as follows, and I quote, "Even if Meng succeeds in allocating more money to private assets and adding leverage, he said CalPERS's chances of hitting its seven percent target return over a decade will still be less than 50/50". That's the quote from Bloomberg.

In other words, adding risk of -- not just missing return targets, but adding the risk of actually losing trust assets to creditor failure and bankruptcy during the coming global pandemic downturn has less likelihood of success than guessing when a coin flip will turn up heads.

Even under the modern interpretation of the law of trusts and fiduciary duty, the prudent investor rule requires that a fiduciary avoid speculation and waste of trust assets. Speculation is defined as purchasing risky investments that present the possibility of large profits, but also pose a higher-than-average probability of loss. A bet that has less likelihood of success than a coin flip is speculative, per se.

Given that this afternoon's asset liability management mid-cycle review presentation indicates that no asset class is expected to return anywhere near the seven percent ten-year expected return, except possibly private equity, which just barely will get over the line, Mr. Meng's leverage strategy is speculative in nature, and by its very nature is an inappropriate strategy for a fiduciary charged with protecting Public Trust assets to pursue.

If the Board President of CalPERS and the Chief Executive Officer had political relationships with the Governor, and the Legislature, and the leadership of our local agencies, a better strategy in this return environment would be to work on coming up with a plan for deferring costs relating to lower returns further down the road, rather than engaging in speculation unlawfully with trust assets.

Thank you.

CHAIRPERSON TAYLOR: Thank you, Mr. Soares.

Kelly, did Sarah get on or not?

STAKEHOLDER RELATIONS CHIEF FOX: Yes. She has called back. I'm going to try to enter her in.

CHAIRPERSON TAYLOR: Okay.

MS. THEISS: Hi. This is Sarah Theiss again, a CalPERS retiree and board member of Fossil Free California.

Pursuant to SB 185, in 2015, CalPERS began the process of divesting from thermal coal companies that generated 50 percent or more of their revenue from mining thermal coal. CalPERS remained invested in three companies after each informed CalPERS that it was transitioning its business model to clean energy generation.

As we wrote in a letter to you that you got on Friday, these companies have not kept their promises. Adaro Energy has steadily increased coal output and revenues. XRO's coal mines recorded all-time production highs last year. And despite being a diversified company, Bamboo's coal revenue and production have remained study.

While these companies may be using a bit less energy these days to produce coal, or otherwise playing around the edges, they seem to remain deeply committed to coal as a primary or major source of revenue.

We hope that the Board will ask staff to look at these companies, and if, as it appears to us, they have not been transitioning to cleaner energy generation, then it's time to remove them from CalPERS portfolio. Please don't reward their failure to make significant progress in five years with more years of engagement.

And then second, we also looked at CalPERS coal holdings below the 50 percent revenue threshold through a database run by coalexit.org. Companies in that database make 30 percent or more of their revenue from coal or meet other criteria. CalPERS total investment in these companies is in the seven to eight billion dollar range. While we don't have access to data on the percentage of these investments that are specifically in coal, the presence of the companies on the coalexit database demonstrates that these -- these are actually major coal holdings for CalPERS.

Following the current crash, it's predicted that the coal industry will never recover, even with the continued buildout in India and elsewhere, and it's time for CalPERS to finally get out of coal.

Thank you so much for your attention so late in the day.

CHAIRPERSON TAYLOR: Thank you very much.

Mr. Fox, is that the end of our comments?

STAKEHOLDER RELATIONS CHIEF FOX: We have one more commenter. Mr. Ken Lee.

MR. LEE: Hi. Yeah. I just want to make a quick comment on -- as a general comment on the investment strategy. Given the size of CalPERS, it is -- I think this is not in position to cherry pick, which is the ESG investment or for that matter is any other investment strategy. It would be like an elephant in the room trying to pick and choose where you stand. So the result would be failing to meet return expectation.

So if this is a 50 billion hedge fund, then it's perfectly okay to pick and choose. But if this is a 300 billion fund, then they just don't have the luxury to choose.

And that's all I have to say. Thank you.

CHAIRPERSON TAYLOR: All right. Thank you very much.

I don't know what's going on.

STAKEHOLDER RELATIONS CHIEF FOX: Madam Chair, that concludes -- that concludes the public comment.

CHAIRPERSON TAYLOR: Great. Great. Thank you very much.

So that's the end of our agenda for the

Investment Committee open session. I am adjourning our committee at 6 -- 5:45. And we'll adjourn tomorrow morning. I don't know what time.

Rob.

CHIEF EXECUTIVE OFFICER FROST: Ms. Taylor, we begin at 8:00 a.m. with Pension and Health Benefits Committee.

CHAIRPERSON TAYLOR: All right. Great, 8:00 a.m. Thank you so much. We will adjourn for now. Thank you very much.

(Thereupon California Public Employees' Retirement System, Investment Committee meeting open session adjourned at 5:46 p.m.)

C E R T I F I C A T E OF R E P O R T E R

I, JAMES F. PETERS, a Certified Shorthand Reporter of the State of California, do hereby certify:

That I am a disinterested person herein; that the foregoing California Public Employees' Retirement System, Board of Administration, Investment Committee open session meeting was reported in shorthand by me, James F. Peters, a Certified Shorthand Reporter of the State of California, and was thereafter transcribed, under my direction, by computer-assisted transcription;

I further certify that I am not of counsel or attorney for any of the parties to said meeting nor in any way interested in the outcome of said meeting.

IN WITNESS WHEREOF, I have hereunto set my hand this 17th day of June, 2020.

James F. Peters

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