MEETING

STATE OF CALIFORNIA

PUBLIC EMPLOYEES' RETIREMENT SYSTEM

BOARD OF ADMINISTRATION

INVESTMENT COMMITTEE

OPEN SESSION

CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

FECKNER AUDITORIUM

LINCOLN PLAZA NORTH

400 P STREET

SACRAMENTO, CALIFORNIA

MONDAY, MARCH 13, 2023

10:08 A.M.

JAMES F. PETERS, CSR
CERTIFIED SHORTHAND REPORTER
LICENSE NUMBER 10063

APPEARANCES

COMMITTEE MEMBERS:

David Miller, Chairperson

Theresa Taylor, Vice Chairperson

Malia Cohen, also represented by Lynn Paquin

Fiona Ma, represented by Frank Ruffino

Lisa Middleton

Eraina Ortega

Jose Luis Pacheco

Kevin Palkki

Ramón Rubalcava

Yvonne Walker

Mullissa Willette

Gail Willis, PhD

STAFF:

Marcie Frost, Chief Executive Officer

Michael Cohen, Interim Chief Operating Investment Officer

Matt Jacobs, General Counsel

Nicole Musicco, Chief Investment Officer

Dan Bienvenue, Deputy Chief Investment Officer

Sarah Corr, Managing Investment Director

Sterling Gunn, Managing Investment Director

Drew Hambly, Investment Director

APPEARANCES CONTINUED

STAFF:

Jean Hsu, Managing Investment Director

Simiso Nzima, Managing Investment Director

Lauren Rosborough Watt, Investment Director

ALSO PRESENT:

Bill Bracamontes, Wilshire Advisors

Randall Cheek, Retired Public Employees Association

Al Darby, Retired Public Employees Association

Rose Dean, Wilshire Advisors

Jason Opena Disterhoft, Majority Action

Christy Fields, Meketa Investment Group

Alyssa Giachino, Private Equity Stakeholder Project

Steve McCourt, Meketa Investment Group

James McRitchie

Michael Ring, Service Employees International Union

Sara Theiss, Fossil Free California

Tom Toth, Wilshire Advisors

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PROCEEDINGS

CHAIRPERSON MILLER: I call to order the Investment Committee and I guess the first order of business here will be to do roll for this Committee.

BOARD CLERK TRAN: David Miller?

CHAIRPERSON MILLER: Here.

BOARD CLERK TRAN: Lynn Paquin for Malia Cohen?

ACTING COMMITTEE MEMBER PAQUIN: Here.

BOARD CLERK TRAN: Frank Ruffino for Fiona Ma?

ACTING COMMITTEE MEMBER RUFFINO: Present.

BOARD CLERK TRAN: Lisa Middleton?

COMMITTEE MEMBER MIDDLETON: Present.

BOARD CLERK TRAN: Eraina Ortega?

COMMITTEE MEMBER ORTEGA: Here.

BOARD CLERK TRAN: Jose Luis Pacheco?

COMMITTEE MEMBER PACHECO: Present.

BOARD CLERK TRAN: Kevin Palkki?

COMMITTEE MEMBER PALKKI: Good morning.

BOARD CLERK TRAN: Ramón Rubalcava?

COMMITTEE MEMBER RUBALCAVA: Present.

BOARD CLERK TRAN: Theresa Taylor?

COMMITTEE MEMBER TAYLOR: Here.

BOARD CLERK TRAN: Yvonne Walker?

COMMITTEE MEMBER WALKER: Here.

BOARD CLERK TRAN: Mullissa Willette?

COMMITTEE MEMBER WILLETTE: Here.
BOARD CLERK TRAN: And Dr. Gail Willis?
CHAIRPERSON MILLER: Okay. The next order of business is the election of the Chair and Vice Chair of the Investment Committee. For this, I'll hand the gavel over to Mullissa Willette, figuratively.
COMMITTEE MEMBER WILLETTE: Thank you so much.
Oh, it was for a second.
Thank you so much. So I will now take nominations for Chair of the Investment Committee.
I will recognize Jose Luis Pacheco.
CHAIRPERSON MILLER: Let me get you there.
COMMITTEE MEMBER PACHECO: Yes. Thank you. Thank you very much, Mullissa, and thank you.
I would like to nominate Mr. David Miller for Chair of the Investment Committee.
COMMITTEE MEMBER WILLETTE: Thank you, Mr. Pacheco.
Is there a second to the nomination?
COMMITTEE MEMBER MIDDLETON: Second.
COMMITTEE MEMBER WILLETTE: Thank you, Lisa Middleton.
There -- nomination has been made and seconded for David Miller for Chair Of the Investment Committee.
Are there any other nominations?

Okay. Are there any other nominations?

And final call for any other nominations?

So I have a motion to approve David Miller as Chair of the Investment Committee. Can we please do a roll call vote?

BOARD CLERK TRAN: Okay. David Miller?

CHAIRPERSON MILLER: Aye.

BOARD CLERK TRAN: Lynn Paquin for Malia Cohen?

ACTING COMMITTEE MEMBER PAQUIN: Aye.

BOARD CLERK TRAN: Frank Ruffino for Fiona Ma?

ACTING COMMITTEE MEMBER RUFFINO: Aye.

BOARD CLERK TRAN: Lisa Middleton?

COMMITTEE MEMBER MIDDLETON: Aye.

GRAND JURY FOREMAN: Eraina Ortega?

COMMITTEE MEMBER ORTEGA: Aye.

BOARD CLERK TRAN: Jose Luis Pacheco?

COMMITTEE MEMBER PACHECO: Aye.

BOARD CLERK TRAN: Kevin Palkki?

COMMITTEE MEMBER PALKKI: Aye.

BOARD CLERK TRAN: Ramón Rubalcava?

COMMITTEE MEMBER RUBALCAVA: Aye.

BOARD CLERK TRAN: Theresa Taylor?

COMMITTEE MEMBER TAYLOR: Aye.

BOARD CLERK TRAN: Yvonne Walker?

BOARD MEMBER WALKER: Aye.

BOARD CLERK TRAN: And Mullissa Willette?

COMMITTEE MEMBER WILLETTE: Aye.

So the motion does pass. So congratulations. I will now pass it over to Chair Miller.

CHAIRPERSON MILLER: Okay. Thank you. I appreciate the support.

And next is the election of the Vice Chair of the Investment Committee. And I will entertain nominations for Vice Chair. And I will make the motion to nominate Theresa Taylor as Vice Chair of the Investment Committee.

Are there any further nominations?

Any further nominations?

Any further nominations?

So I'll put that forth as a motion. Do I have a second?

COMMITTEE MEMBER RUBALCAVA: I'll second.

CHAIRPERSON MILLER: Oh, Ramón Rubalcava -- Director Rubalcava seconds.

Okay. Any -- I will call for the question via roll call.

BOARD CLERK TRAN: David Miller?

CHAIRPERSON MILLER: Aye.

BOARD CLERK TRAN: Lynn Paquin for Malia Cohen?

ACTING COMMITTEE MEMBER PAQUIN: Aye.

BOARD CLERK TRAN: Frank Ruffino for Fiona Ma?

ACTING COMMITTEE MEMBER RUFFINO: Aye.

BOARD CLERK TRAN: Lisa Middleton?

COMMITTEE MEMBER MIDDLETON: Aye.

BOARD CLERK TRAN: Eraina Ortega?

COMMITTEE MEMBER ORTEGA: Aye.

BOARD CLERK TRAN: Jose Luis Pacheco?

COMMITTEE MEMBER PACHECO: Aye.

BOARD CLERK TRAN: Kevin Palkki?

COMMITTEE MEMBER PALKKI: Aye.

BOARD CLERK TRAN: Ramon Rubalcava?

COMMITTEE MEMBER RUBALCAVA: Aye.

BOARD CLERK TRAN: Theresa Taylor?

COMMITTEE MEMBER TAYLOR: Aye.

BOARD CLERK TRAN: Yvonne Walker?

BOARD MEMBER WALKER: Aye.

BOARD CLERK TRAN: Mullissa Willette?

COMMITTEE MEMBER WILLETTE: Aye.

BOARD CLERK TRAN: Dr. Gail Willis?

COMMITTEE MEMBER WILLIS: Aye.

Did you hear me?

CHAIRPERSON MILLER: Yes.

COMMITTEE MEMBER WILLIS: Oh.

CHAIRPERSON MILLER: Okay. So I think we're going to be in recess for about five minutes. We change -- what, two minutes? Change out the agenda and shift things around a little bit here, so bear with us, please.

Okay. Okay. It looks like our next order of business is our Executive Report from our Chief Investment Officer Nicole Musicco.

CHIEF INVESTMENT OFFICER MUSICCO: Great. Thank you. Thank you and congratulations, Chair Miller and Vice Chair Theresa Taylor. We're all looking very forward to continuing to do good work with all of you going forward.

So we've a -- we have a full agenda today, but we've also had a big weekend this weekend all of us watching as things progressed with Silicon Valley Bank and the implications in the market, the response of the Fed, et cetera. And so I thought I'd just start, you know, just in the spirit of the fact that we've -- we often refer to our innovation and resiliency as being core tenets to our business. I think that was in full playout this weekend. And I just wanted to give the Board, you know, some perspective or some insight into our kitchen. And we'll use that phrase today as well as we move to try to being a lot more transparent about our operations and more transparent on what's top of mind for us.

And I think this weekend was a good example of -- that I can share with the Board to give you confidence that both resiliency and innovation continue to be, you know, core themes -- core tenets of what -- of how we execute our strategy.

Through the resiliency front, you know, this weekend as we were watching events unfold, the team was extremely responsive and was able to, in very short order, get a good glimpse into and a good handle on any exposures that we may have had to Silicon Valley Bank, to Signature Bank, to regional banks in general. So I was really please. It was my first time where I've had to kind of have in the middle of the evening Friday kind of a reach out to my team. And I was really -- I just want to commend the team. They've been exceptional all weekend. Everyone was really all hands-on deck. So I just thought it was important to share that with the Board, because you don't often get to see the behind the scenes or us in action where -- when we're in the middle of tumultuous times, if you will.

And so that's really on resiliency front and I -- we can get into the -- I think, you know, high level -- and I know Marcie was able to send out a quick note. But as far as exposures are concerned, we have about 67 million of exposure to Silicon Valley Bank and around 7 -- 11 million exposure to Signature Bank. And so those would be assets at risk, likely at a loss. But in the grand scheme of things, obviously a very small percentage of our overall portfolio. But I think more importantly, it was the speed with which the team was able to get back to me on what those exposures were. It was the speed with which our liquidity framework and the folks that are involved in really managing our own liquidity were able to come back and give me reassurances that -- you know, many lessons learned since the global financial crisis and how we manage our own liquidity, the approach that we use to track, and monitor, and report.

And again, just as a shout-out to the team, I was able to get a very detailed review even in the wee hours of late last night as we were continuing just to watch things unfold in the market and the implications. So shout-out to the team, but also more importantly just to give the Board reassurance that we're on top of things.

In the spirit of innovation, that was an interesting and proud moment for us as well this weekend, because we had a number of inbound calls as well as a number of, you know, reach-outs that we proactively did just in response to what we are observing in the market. And I think the word is finally getting out that we can be a very strategic partner. We can be thoughtful. We can be agile in providing solutions for balance sheet restructurings or just in general be patient long-term capital. We weren't called upon at this moment, and in closed we can share more details with you with some things that we're thinking about.

There's nothing right now in the works, but my phone continues to buzz and I think that it's really exciting to see that our pronouncement to the world that we're open for business and open to be innovative, the message is out. And so again, just wanted to share that with the Board.

And really in the spirit of that, if I move into where our agenda is today, we a have full agenda, but again, we're trying to -- we've committed to you to be a lot more involved and engaged with you on what's going on. And as I said, I use the term in our kitchen, and so you'll see that play out when we have Sterling Gunn later today presenting on portfolio construction. We have Sarah Corr reviewing a presentation on our global real estate sustainability. I believe that was a request that came from the Board in our September 22 meeting, and so we'll give you some deeper insights there.

And last but not least, you'll also see our investment -- our Managing Investment Director of Global Equity provide an update on our corporate governance with Drew Hambly who is one of our newer hires to the team.

As well, you're going to hear from our investment consultants and staff on our general market conditions, as well as performance for calendar year to 2022, which again after the wild weekend we've had, you know, it feels like that's very far behind us. But I think it's important for us to walk everyone through what activities went on through the -- from -- through the lens of our policy benchmark as well as through our own investment programs.

And so that's the spirit of the trust level review that you'll have today. And you'll notice we took a bit of a different format. And I am hoping to get some direct feedback on the format we've used. I think historically, we've presented a number of slides, but from my perspective and a new consumer of those old reports, it jumped out to me that without the context around it, without the story around it, it's really hard. It's not as useful of a tool, if you will, for you to use as Board members when you're reading it yourself or walking about with your -- with our stakeholders.

And so we're hoping this story-telling approach and the format that we've used will allow for more questions and a bit more of an education. And so stay tuned for that.

And at first, but -- but first before we carry on and I hand over the mic, I do want to share with you our excitement around the -- and our announcement today, which is we will be bringing on as our Deputy Chief Investment Officer, Daniel Booth, who will be joining us in April, which we're looking very forward to. He has 25 years of investment experience from the United -- and he comes to us from the United Kingdom Infrastructure Bank in Leeds, where he has served as a senior advisor, helping them really set up their entire investment program and equity platforms. And so we're really delighted to bring on, you know, another strategic thinker to add to the ranks here as we really make a big push into private market investing overall. So I'm really delighted to make that announcement.

And equally delighted to welcome Peter Cashion who joins us in a couple weeks, but he is in the audience. There he is. And we're very excited to have Peter join us from the IFC where he was the Global Head of Climate Finance and the CIO of the Financial Institutions group there. As we said, if we think about private markets as being a big area of push for active investing, our Sustainable Investing Strategy is one that is top of mind for us through the advocacy lens, through the risk lens, as well as through the investing lens. And Peter brings a tremendous depth and breadth of experience in all of those areas. So we're just super excited and I can't wait for him to get here, but he was kind enough to join us today, so he could be introduced to the Board. So thank you, Peter, for joining us.

So with that, I believe first order of business is to turn it back over to the Chair and then we'll get started on the agenda items.

Thank you.

CHAIRPERSON MILLER: Okay. There we go.

Okay. Our next agenda item is the action consent items. I don't have anything that anyone has asked me to pull, so I will ask what's the Committee's pleasure on Item 4.

COMMITTEE MEMBER PACHECO: I'll move it.

CHAIRPERSON MILLER: Moved by -- moved approval by Director Pacheco.

Do I have a second?

COMMITTEE MEMBER PALKKI: I'll second.

CHAIRPERSON MILLER: Seconded by Director Palkki.

Any discussion?

I'll call for the question by roll call.

BOARD CLERK TRAN: Theresa Taylor?

VICE CHAIRPERSON TAYLOR: Aye.

BOARD CLERK TRAN: Lynn Paquin for Malia Cohen?

ACTING COMMITTEE MEMBER PAQUIN: Aye.

BOARD CLERK TRAN: Frank Ruffino for Fiona Ma?

ACTING COMMITTEE MEMBER RUFFINO: Aye.

BOARD CLERK TRAN: Lisa Middleton?

COMMITTEE MEMBER MIDDLETON: Aye.

BOARD CLERK TRAN: Eraina Ortega?
COMMITTEE MEMBER ORTEGA: Aye.
BOARD CLERK TRAN: Jose Luis Pacheco?
COMMITTEE MEMBER PACHECO: Aye.
BOARD CLERK TRAN: Kevin Palkki?
COMMITTEE MEMBER PALKKI: Aye.
BOARD CLERK TRAN: Ramón Rubalcava?
COMMITTEE MEMBER RUBALCAVA: Aye.
BOARD CLERK TRAN: Yvonne Walker?
BOARD MEMBER WALKER: Aye.
BOARD CLERK TRAN: Mullissa Willette?
COMMITTEE MEMBER WILLETTE: Aye.
BOARD CLERK TRAN: Dr. Gail Willis?
COMMITTEE MEMBER WILLIS: Aye.
CHAIRPERSON MILLER: Okay. The ayes have it. The motion carries.
Moving on to information consent items, number 5 on our agenda. Again, I have no requests to pull anything. And so what's the pleasure of the Committee?
Do I have a motion? Oh, it's an information. I don't need a motion.
Okay. Moving right along on to information agenda items starting with our global real estate sustainability benchmark. And for that, I'll call on Sarah Corr of the team.

CHIEF INVESTMENT OFFICER MUSICCO: Thank you, Sarah.

(Thereupon a slide presentation).

MANAGING INVESTMENT DIRECTOR CORR: Good morning. Sarah Corr from the Investment Office. I'm here to present the GRESB overview that was requested by this Committee at the September Board meeting.

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MANAGING INVESTMENT DIRECTOR CORR: So GRESB was founded in 2009 and measures ESG performance based on a set of criteria, including environmental factors such as energy efficiency, waste management, and carbon emission social factors such as worker safety, diversity and community engagement, and governance factors, such as structure, ethics and transparency.

In 2016, GRESB expanded past real estate to include infrastructure. GRESB has become the industry standard for reporting on ESG considerations. For the 2022 reporting period, there were greater than 1800 participants up from just under 900 in 2018. There's growing demand for more consistent and transparent ESG reporting standards from companies, including the proposed SEC Climate Disclosure Rule, which CalPERS is supportive of.

CalPERS also engages in other activities relating to standardizing reporting for ESG considerations in real estate.

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MANAGING INVESTMENT DIRECTOR CORR: On this slide, you can see the components of the GRESB assessment. When submitting to GRESB, managers are required to provide supporting documentation in responding to various questions within management and performance of the survey.

The management component currently has a 30 percent weight and assesses things like strategy, leadership, process, and risk management. While the performance component has a 70 percent weight and looks at asset level ESG data, energy consumption, greenhouse gas emissions, tenant and community engagement. There are approximately 80 questions in the survey with each question having at least one subcomponent to the question.

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MANAGING INVESTMENT DIRECTOR CORR: In total, almost 90 percent of the real assets NAV participates in the GRESB survey, with a higher percentage in real -- in the real estate portfolio than infrastructure. Keep in mind, where we have greater governance, such as our separate accounts, we have great control on whether or not a manager submits to the survey.

There's a greater portion of separate accounts in real estate than infrastructure. The GRESB real estate assessment is more seasoned than infrastructure and therefore has a higher participation rate across the industry.

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MANAGING INVESTMENT DIRECTOR CORR: We generally view GRESB as a consistent framework to engage our managers on ESG topics and better understand what they could be doing to improve. While there is less emphasis in the scores, CalPERS managers continue to achieve scores above the GRESB average with CalPERS managers having a score of 80 relative to the survey benchmark average of 74.

The benchmark provides staff with information about what topics to engage our managers with and how we can partner with them to prioritize economically viable, sustainable projects.

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MANAGING INVESTMENT DIRECTOR CORR: As previously mentioned, GRESB is just one aspect of ES -- our ESG integration efforts and for the time being, despite some limitations, it is providing a common framework for staff to measure ESG performance. This is a continually evolving space with growing number of regulations requiring disclosure as well.

CalPERS will continue to monitor and support standardization of ESG reporting in general, increasing transparency, and better providing an update to understanding the ESG risks within our portfolio.

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MANAGING INVESTMENT DIRECTOR CORR: And that concludes my presentation. Happy to take any questions.

CHAIRPERSON MILLER: Yes, I'll recognize Director Rubalcava.

COMMITTEE MEMBER RUBALCAVA: Thank you, Sarah. Appreciate the stewardship you have over this area. I think it's very important that CalPERS continues to be -- provide leadership in this area of real estate asset and ES -- ESG incorporation.

In the last meeting, we had asked that the Responsible Contractor Policy be updated. And I was wondering where we are in that process?

MANAGING INVESTMENT DIRECTOR CORR: Yeah, that's on the calendar for review during this -- probably during next fiscal year. We'll engage with stakeholders and review the contractor -- or the -- I'm sorry, the policy.

COMMITTEE MEMBER RUBALCAVA: Thank you, because, you know, workforce is very important. And I just want to --

MANAGING INVESTMENT DIRECTOR CORR: Yep.

COMMITTEE MEMBER RUBALCAVA: -- help capital -- workforce capital. So thank you.

CHAIRPERSON MILLER: Okay. I've got Frank Ruffino for Fiona Ma.

ACTING COMMITTEE MEMBER RUFFINO: Thank you, Mr. Chair. And thank you, Sarah, for the presentation. Just real quick, if you can tell us what role, if any, does CalPERS have in providing input to the Global Real Estate Sustainability Benchmark and its survey?

MANAGING INVESTMENT DIRECTOR CORR: Yeah. So CalPERS used to be on the Advisory Council for GRESB and the survey. We stepped off that council in 2020, but we still do provide input and respond to surveys that they put out asking for guidance on areas to make improvements.

ACTING COMMITTEE MEMBER RUFFINO: Do we plan to rejoin that as a member at all or --

MANAGING INVESTMENT DIRECTOR CORR: They were -- they were purchased in 2020, which is why we came off of the council. And their structure now is such that we don't -- we don't participate, but we just respond to surveys about questions we have about the survey results.

ACTING COMMITTEE MEMBER RUFFINO: Got it. Mr. Chair, if I could, one other quick question. Follow up to Mr. Rubalcava's question regarding the review and possible modification of the responsible contractor. I think if I understood you correctly, you said that's been scheduled for review next fiscal year?

MANAGING INVESTMENT DIRECTOR CORR: Fiscal year, yes.

ACTING COMMITTEE MEMBER RUFFINO: So would that be -- I always get confused calendar year, fiscal year, so after July?

MANAGING INVESTMENT DIRECTOR CORR: Correct.

ACTING COMMITTEE MEMBER RUFFINO: All right, excellent. Thank you. Thank you, Mr. Chair.

CHAIRPERSON MILLER: Okay. Next, Director Willette.

Oh, had you.

Let's try again.

There you go.

COMMITTEE MEMBER WILLETTE: Perfect. Thank you so much. I really appreciate this report and for the follow-up work from the information requested earlier. I think our participation in GRESB and our collaboration to ensure the standards across real assets is really commendable. I do want to highlight that I think a future area of work I'd really like to see more robust incorporation of the workforce risk issues through the GRESB processes. I think given our history of leadership in responsible contracting, looking forward to hearing more about that, our collaboration with stakeholders including managers and worker representatives, I'd appreciate that we encourage GRESB to work with those stakeholders to incorporate responsible contracting and other workforce related items into those processes. And I think we'd just be really missing an opportunity on the workforce front. And if we don't -- if we don't do that -- if we don't do that, I think the metrics are really important and any underreporting or under-measuring would be a disservice.

Thank you.

CHAIRPERSON MILLER: Okay. Thank you.

Next, I have Director Pacheco.

COMMITTEE MEMBER PACHECO: Thank you. Thank you, Chairman Miller and thank you Nicole for this, and Sarah.

My question is regarding the GRESB survey. What actions, if any, are you taking to resolve the expressed challenges highlighted in the -- in this -- in the challenges and merit slide?

MANAGING INVESTMENT DIRECTOR CORR: So we're working to try and get more standardization.

COMMITTEE MEMBER PACHECO: Um-hmm.

MANAGING INVESTMENT DIRECTOR CORR: GRESB has a five-year plan that they've actually put in place, where they are also trying to get more definitions and guidance on how to respond to some of the questions. And as infrastructure becomes more -- has more time, it's becoming easier for the managers to evaluate it. Part of the problem was they kept changing the survey questions every year. And now that they've gotten to a place where they're more consistent, it's easier for the managers to participate.

COMMITTEE MEMBER PACHECO: Thank you.

CHAIRPERSON MILLER: Okay. I have Director Middleton.

COMMITTEE MEMBER MIDDLETON: Sarah, thank you. In the last few years, we've seen a dramatic change in the nature of where people work and how they approach work. As you start to plan for a long-term strategy in terms of real estate investments, how do you see the change in the nature of how people work and where they work affecting our long-term investment strategy?

MANAGING INVESTMENT DIRECTOR CORR: That's a challenging question.

(Laughter).

MANAGING INVESTMENT DIRECTOR CORR: We're definitely seeing it impact the office sector. We're internally having debates about whether or not office becomes a long-term hold relative to moe of a tactical play. Within our office portfolio, we are seeing fairly high occupancy rates, and -- but there are still challenges in getting people to come back to the office. I won't say come back to work, because people are working, they're just not working in the office.

So it is making us think about how we approach office going forward. And there could be some -- that could result in some knock-on effects on housing and what metro areas are more attractive from a multi-family perspective.

COMMITTEE MEMBER MIDDLETON: Thank you.

And I know it was a challenging question and not one that I've heard anybody come up with the great answer to, but that's certainly a start.

What I would comment though is at this point, it's becoming more predictable that we have, in fact, had not a temporary but a permanent change in how people approach work. And it strikes me that we should start to be developing a strategy around what does that -- what are those permanent changes going to be and how do we respond to the market long term.

CHIEF INVESTMENT OFFICER MUSICCO: I would just add, you're absolutely right. I think it's top of mind for us. What has not changed is the importance of us understanding that diversification is really important. What's not changed is the importance of being in the right metro areas and being opportunistic when we see that we are engaged with our -- or working with strategic partners that have an angle or an edge that we should be really engaging with them on and being agile.

And so as part of our overall real assets review, which as you know also includes our Infrastructure Program, this is all top of mind for us as we think about what is the next push into, whether it's new verticals, new geographies, or new strategic partners.

COMMITTEE MEMBER MIDDLETON: All right. Thank you very much.

CHAIRPERSON MILLER: Okay. Next, I have President Taylor.

VICE CHAIRPERSON TAYLOR: Thank you, Director Miller. I just really appreciate this report. I understand that this can be challenging every time we adopt new reporting standards, especially for infrastructure.

The only question I had for you, Sarah, was -- I think it was Director Rubalcava asked you about our RCP update report. And you said next year, but it seemed vague. I kind of wanted to drill down on that a little bit. When -- so we are working on the RCP update, yes?

MANAGING INVESTMENT DIRECTOR CORR: We'll be reviewing the policy next fiscal year, so after July 1st.

VICE CHAIRPERSON TAYLOR: After July 1st. Okay. So -- and are you working with GRESB or other stakeholders to adopt the -- or change the RCP or is it just in-house or does the Board have any input into that?

MANAGING INVESTMENT DIRECTOR CORR: We'll engage with the Board consultant on this --

VICE CHAIRPERSON TAYLOR: Um-hmm.

MANAGING INVESTMENT DIRECTOR CORR: -- and the Board as well.

VICE CHAIRPERSON TAYLOR: Okay. Great. That' -- I just didn't hear that, so I do appreciate that. Thank you, Sarah.

CHAIRPERSON MILLER: Okay. I'm not seeing any other questions or requests to speak. Thank you for your presentation. As always, very comprehensive and enlightening. Thank you.

And so that moves us to 6B, proxy voting corporation engagement update.

CHIEF INVESTMENT OFFICER MUSICCO: Great. Thank you. So today, we will be joined by Drew Hambly. As I mentioned, he's our Investment Director for Stewardship and just recently joined us. He'll be giving us an update on proxy voting and our corporate engagement activities.

We present this item annually and just prior to proxy season to give the Investment Committee a preview of the sustainability topics that we're going to focus on for the 2023 proxy season and to share outcomes as well from the '22 proxy season.

Drew joined us at the end of October, so this is his first presentation to the Investment Committee, but I think you'll see that he's taken this challenge on, this very important aspect of our business with great energy. So thank you, Drew for joining us.

(Thereupon a slide presentation).

INVESTMENT DIRECTOR HAMBLY: Great. Good morning. Drew Hambly, Investment Office.

Today, I'm going to try to accomplish two things, take you -- the Board through a recap of the 2020 2022 proxy season and engagement efforts and then we'll look ahead in our crystal ball to what we expect to see in the upcoming proxy season, which we anticipate starting in about two weeks for 2023.

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INVESTMENT DIRECTOR HAMBLY: Oh, there we go. Okay.

So we voted nearly 9,000 meetings in 2022. We expect that will be down. The overall size of the portfolio has contracted a bit, more akin to about 6,000 companies. So we'll see little bit smaller numbers going into 2023, but in 2022, 8,700 proxies voted.

The key governance issue, which has been key to CalPERS for a long time now, was executive compensation. When we're voting on executive compensation, we try to accomplish two things, opine on the package that's being delivered, and then when we don't see alignment with pay for performance, we also hold board of directors on the compensation committee accountable.

We voted against 49 percent of say on pays in the U.S. in 2022. And with that, when we do vote against, we also vote against the compensation committee members. You'll notice a slight dip from 2021, where we voted against 55 percent. I would attribute some of that to the positive engagement we have with companies. After we have voted against, we'll have an opportunity to speak with them post proxy season, articulate some changes that we'd like to see them make. So I think there's some success there in engagement efforts last year leading into 2022, where we voted slightly against, but still a high percentage rate against for a U.S. based owner or manager.

On director diversity and accountability, one of the things we try to look for is diversity and good succession planning in the Board room. CalPERS has had a long history of engaging companies on adding women, people of color to the Board. We did votes against directors at 173, where our engagement efforts did not prove fruitful, but we have observed in the marketplace a nice uptick over the last couple years, certainly not done in the number of women on, for example, S&P 500 boards has now crossed the 30 percent threshold, where that was below 20 percent just five years ago. So I think CalPERS and others have made some nice efforts in corporate diversity in the Board room

In terms of climate risk oversight, as you all know, we are founding members of CA 100. We lead on 22 engagements. CA 100+ has about 165 companies that we're tracking that are high emitters. So in that we have a framework where we talk to companies, look for certain things in terms of disclosure and Board oversight. Where we don't observe those at these companies, we will vote against the Board members that are directly responsible, whichever committee should have oversight of climate risk.

And then on -- enhanced shareholder rights, CalPERS has been a long proponent of vehicles like proxy access, majority voting. Last year in 20 -- I'm sorry, in 2022, we filed 50 resolutions for companies to adopt proxy access. We got 48 of the 50 to do so. Two of the companies had a merger before the meeting, so were merged away.

We're targeting another 50 companies upcoming in this proxy season. To date, we've had over 70 percent response rate from those companies choosing to adopt, allowing us to withdraw those proposals.

Let me stop there for a second and then I can go into our view for the 2023 season.

CHAIRPERSON MILLER: Okay. I have Director Pacheco.

COMMITTEE MEMBER PACHECO: Yes. Thank you. Thank you, Drew, and first of all, welcome.

INVESTMENT DIRECTOR HAMBLY: Thank you.

COMMITTEE MEMBER PACHECO: We really appreciate your input and so forth. So my question is regarding proxy season --

INVESTMENT DIRECTOR HAMBLY: Um-hmm.

COMMITTEE MEMBER PACHECO: -- coming up in two weeks, a lot of activity has been going on in that space from climate change, human capital, and governance. And recently in the news, I've read that, you know, an administrative law judge found that Starbucks, you know, has committed numerous United States labor law violations. And you know, these labor law violations, you know, I feel have the potential to create reputational, legal, and operational risk for Starbucks, and may actually impact the long-term viability or value to our fund.

INVESTMENT DIRECTOR HAMBLY: Um-hmm.

COMMITTEE MEMBER PACHECO: You know, as a fiduciaries of the system here, you know, we have a responsibility to ask if we are doing anything at all to mitigate these risks for the long-term stability of, you know, this -- of -- for the long-term stability of this -- of this company and for our value. So if you can elaborate on that, it would be great.

INVESTMENT DIRECTOR HAMBLY: Yes, I'd be happy to. So in this particular example, Starbucks, they have a meeting coming up on March 23rd. They have a shareholder resolution, Shareholder Resolution number 8, that seeks to address the company to provide a report to shareholders on their commitment to freedom of association is roughly the way the proposal is worded.

In addition to that vote, which is next week -- we have not voted yet, but we also have an upcoming engagement with the company this week to articulate our views that freedom of association is important to CalPERS. And while we haven't voted yet, but we will be articulating those views to the company when we speak to them this week and then we'll vote accordingly next week, probably by next Monday or Tuesday.

COMMITTEE MEMBER PACHECO: Will we know the results of the vote afterwards or how does that work?

INVESTMENT DIRECTOR HAMBLY: Yeah, so this is how it works in the U.S. Within four days of a company shareholder meeting, they have to file an 8-K with the results of the meeting, so we'll know four business days after the meeting. I think the meeting is the 23rd, which would be next maybe Tuesday. So probably by next Friday or the following Monday we'll have the results of that vote.

COMMITTEE MEMBER PACHECO: Okay. Thank you very much for that information.

INVESTMENT DIRECTOR HAMBLY: You're welcome.

CHAIRPERSON MILLER: Next I have Lynn Paquin.

ACTING COMMITTEE MEMBER PAQUIN: Thank you. Thank you for the presentation this morning. I was interested in the work to expand the focus list of Climate Action 100. Just curious if CalPERS is going to be partnering with any of the other investors involved with Climate Action 100 on this expanded list or this an internal approach?

INVESTMENT DIRECTOR HAMBLY: Yeah. So right now -- thank you for that. Right now, this is internal. One of the things I did when I started is we looked at the highest emitters in the portfolio -- in the equity portfolio. And so the Climate Action 100, there's 165 names in that. And that makes up a good portion of that. I believe nearly 80 to 85 percent of our emissions come from about 350 equity companies in the portfolio. And so what we did this year is -- or going into the 2023 season is we're going to expand our review beyond the 165 companies to include these 350. And we have a checklist of items that we look for in terms of disclosure and Board oversight. If we don't observe that, that's where we use our proxy vote to vote against Board members that should be overseeing that.

And so that's our initial is internal. The CA 100 is moving into phase two of the project, so we've done the first five years. And we're having ongoing discussions with members of that group and it will be second half of this year where phase two from CA 100 will be announced. So those discussions are ongoing at the moment.

ACTING COMMITTEE MEMBER PAQUIN: Thank you. And do you expect there will be some overlap with your new list with the CA 100?

INVESTMENT DIRECTOR HAMBLY: Yeah, so I'm not sure if the CA 100 is going to expand their list, but we will articulate what we're doing with companies in our portfolio. You know, we'll see what kind of appetite and how many engagements we think we -- that the entire group can take on. But that said, we will be sharing with the group, you know, our focus in expanding beyond the 165.

ACTING COMMITTEE MEMBER PAQUIN: Great. Thank you.

INVESTMENT DIRECTOR HAMBLY: You're welcome.

CHAIRPERSON MILLER: Okay. Next, I have Dr. Gail Willis.

COMMITTEE MEMBER WILLIS: Good morning. I have an inquiry. In terms of the corporate board diversity and accountability, where it specifies the 170 directors with diversity engagements that result in constructive outcomes. Can you please elaborate on this?

INVESTMENT DIRECTOR HAMBLY: Yes. Happy to. So what we try to do is we'll run -- so we have data on diversity. We have a lot of data on gender diversity in the board room throughout the portfolio, a little less so on non-white diversity. Although it's getting better. I think you've heard before, reading some past transcripts on that nature.

So we will ask companies to, you know, target certain levels of diversity where we don't see it. And in those cases, where we don't see any new board members being added that we would consider diverse after that initial discussion, we will then use our proxy vote to vote against the members of the nomination committee at that company to, you know, express that we don't see fast enough movement in adopting more board diversity.

So in those discussions we had, we identified a group of companies and it resulted in 173 directors over some number of companies on the nomination committee where we did vote against, because we were not seeing an uptick quickly enough in additional board room diversity, both gender and ethnic diversity.

COMMITTEE MEMBER WILLIS: Okay. Thank you very much. I appreciate it.

INVESTMENT DIRECTOR HAMBLY: You're welcome.

CHAIRPERSON MILLER: Okay. Next, I have Director Ortega.

COMMITTEE MEMBER ORTEGA: Thank you. I had a question about the say-on-pay votes. You mentioned that the no votes had gone down, but it looks like the total votes cast is down pretty significantly too. I wondered if you had any information about why that is.

INVESTMENT DIRECTOR HAMBLY: Yeah, that -- a function of two things. So some companies only put the vote up every three years, so sort of every three years you'll get a spike in votes, and then second, the contraction in the number of total companies in the portfolio. I think those were the two primary drivers for the total number of votes being lease than the previous year.

COMMITTEE MEMBER ORTEGA: Okay. It's pretty significantly less over the whole 10-year period there too, so...

INVESTMENT DIRECTOR HAMBLY: Yes. But the -- but the percentage of votes against have been pretty steady. We've been in a 45 to 55 range over the last few years.

MANAGING INVESTMENT DIRECTOR NZIMA: If I may jump in. Simiso Nzima, staff. We reduced or narrowed our benchmark up by about 50 percent, so that's really translated to that contraction overall less as far as the number of companies where we actually cast votes at.

COMMITTEE MEMBER ORTEGA: Okay. Thank you.

CHAIRPERSON MILLER: Okay. Director Rubalcava.

COMMITTEE MEMBER RUBALCAVA: Thank you, Mr. Miller. Excellent present -- great presentation.

INVESTMENT DIRECTOR HAMBLY: Thank you.

COMMITTEE MEMBER RUBALCAVA: I think you're a great asset to the team, because based on your responses. So I was fortunate enough to attend last week my first Council of Institutional Investors.

INVESTMENT DIRECTOR HAMBLY: Oh, I'm sorry I missed you. I hope you attended my panel.

(Laughter).

COMMITTEE MEMBER RUBALCAVA: I think I missed it, but I don't think I knew you yet, so I apologize. But a lot of what your report has, I've learned, because I -- responding to me -- this -- and I was happy to hear that you used the term freedom of association, because that's one thing that was really clearly pointed out. Let me just start back. I think the main takeaway is that it was clearly pointed out how exercising your proxy voting is the best expression -- one -- truest expression of your fiduciary responsibility.

INVESTMENT DIRECTOR HAMBLY: Um-hmm.

COMMITTEE MEMBER RUBALCAVA: And I am very pleased that CalPERS is taking that seriously, very pleased. And you spoke to many of the issue that were addressed, diversity, workforce, climate risk. And so I -- Pacheco -- somebody raised CEO pay. On CEO pay, there was a lot interesting discussion. I -- there was -- I have more respect for this trustee from -- I forget his name -- from -- Frank was there -- from Marin County. I forget his name, but he's spoken here before, but now I think I understand the context a little better.

And on diversity, I actually was able to attend the workshop by our own Marlene Timberlake D'Adamo. I hope I pronounced it right. And so I'm very -- I welcome this presentation and I look forward to us having a leadership role in making sure that we vote our principles, and publicize that, and be a leader in this area. So thank you.

I did have a question -- well, two comments here, one on workforce issues. I want to follow up Mr.

Pacheco's comment. He mentioned Starbucks. I'm glad I heard -- I like the answer you gave, but I think it's very important that this is with us each and every day and we don't -- should not take it lightly. What's been in the news is this fork -- Norfolk Southern train derailment.

INVESTMENT DIRECTOR HAMBLY: Um-hmm.

COMMITTEE MEMBER RUBALCAVA: One of the speakers at the conference mentioned how this could have been a result -- it's probably the result of some speed-up guidelines that the railroad put in. And though -- that shows an -- where there has to be -- all parties have to be part of the discussion on any -- on the workplace, the workers, the union, and management. We have to make sure that any policy they have is for the betterment of everybody, the community, the workforce. And we want, of course, competitive and productive commerce out there, but it has to be at the right balance between risk and return. So we want to make sure that's happening.

On climate, I just want to understand a little better how that works. And this is more internal, I guess, because our scenarios, I mean, there's -- I read -- I -- my notes are not here, but I read some place - I'm not sure if it's today's report or another report - that our guidelines are based on State law and Paris Agreement, what have you. Are we in line with that still? I mean, are we -- is our portfolio trying to get there or is there? If you could speak to that, please.

INVESTMENT DIRECTOR HAMBLY: Yeah, sure.

COMMITTEE MEMBER RUBALCAVA: I look for my notes on that.

INVESTMENT DIRECTOR HAMBLY: Yeah. So overall, the boundaries we're looking at is 1.5 degrees Celsius --

COMMITTEE MEMBER RUBALCAVA: Yes. Yeah.

INVESTMENT DIRECTOR HAMBLY: -- and then 2.0 to keep our, you know, climate to a level that we're all accustomed to. So most companies are not quite on that path, but have made commitments to put themselves on that path.

And so we -- we're hoping is to see a more rapid adoption of climate-saving technologies that these companies introduce, because most of them have made commitments. I think in the deck in the appendix through the CA 100, we've had adoption of nearly 90 percent of the companies in there have made commitments. But now, they have to act on those commitments. So part of our engagement efforts is to follow the progress of these companies on the commitments, the investments they're making to reduce their energy use, to look at alternative fuels beyond what they're using.

So we're not -- not that we're not trying to get there, but every company that we're engaging with, you know, we're asking to not only make the commitment, make the disclosure, but then act upon and invest to reduce their production of greenhouse gas.

COMMITTEE MEMBER RUBALCAVA: Thank you for your response. And I found my notes here. It was from our minutes of November, where it was James and Travis reporting on our California Senate Bill 996 -- 964 report and recommendations of the TC --

INVESTMENT DIRECTOR HAMBLY: TCFD, um-hmm.

COMMITTEE MEMBER RUBALCAVA: -- TCFD. And if -- I guess the term is climate-related financial risk of our public's market portfolio including alignment with the Paris Agreement and California common policy goals and exposure of fund to long-term risk. So I want to make sure that we're cognizant of that in pursuing policies that really will show that we're there --

INVESTMENT DIRECTOR HAMBLY: Yeah, so TCFD --

COMMITTEE MEMBER RUBALCAVA: -- embracing that --

INVESTMENT DIRECTOR HAMBLY: Yeah. Yeah. So the TCFD report just looks at what the, you know, organization's portfolio looks like. And then my role and my team's role is to really talk to companies and try to get them to take the action. So James, and Travis, and the team have written our report, so we're in line with what we're supposed to do there. And then it's my team that goes in to talk to the companies using our vote and our engagement efforts to try to get the companies that we do own to reduce their carbon footprint.

COMMITTEE MEMBER RUBALCAVA: Okay. I really -- thank you for the answer and I really want to make sure that -- you mentioned, I think in your presentation, something about -- I think I wrote it down -- about there's been some success in engagement. I want to make sure that we publicize those successes in engagement, because we're facing, I think, a legitimate frustration -- where's my notes -- through SB 252. And I think it reflects --

INVESTMENT DIRECTOR HAMBLY: Um-hmm.

COMMITTEE MEMBER RUBALCAVA: -- frustration, because they don't see the success of engagement, especially on climate. So we want to see the positive engagement and show success, I guess, or else we're always going to be saying are we doing our fiduciary duty --

INVESTMENT DIRECTOR HAMBLY: Um-hmm.

COMMITTEE MEMBER RUBALCAVA: -- by continuing to engage or should we just divest. And so I think it's important that we show our traction in these engagements.

INVESTMENT DIRECTOR HAMBLY: Yeah, so in the presentation in the appendix, we have a Climate Action

+100 update. Seventy-five percent of companies in that benchmark have now set a net zero target by 2050, 92 percent have some level of Board oversight up from 90 percent the prior year, and then 91 percent of companies now are aligned with TCFD recommendations up from 90 percent. And so what we're trying to do in our program is expand past this 165 companies to tackle the next group of emitters and then work on these few companies left that haven't quite met all of our criteria. And that is, you know, public in today's presentation, which is available for people to see.

COMMITTEE MEMBER RUBALCAVA: Thank you, because I like this slide here I'm looking at. It's page 10 in the appendix I think. But we want to make sure that CalPERS -- I guess you stated here, CalPERS is playing a leading role in strategy implementation on the Climate Action 100.

So thank you very much.

INVESTMENT DIRECTOR HAMBLY: Thank you.

CHAIRPERSON MILLER: Okay.

CHIEF INVESTMENT OFFICER MUSICCO: I know we had discussed in some of our Investment Committee update sessions leading to the meeting that we could and should do a better job at explaining to yourselves and to the market where that real action is happening and when our engagement is really making a difference. So we'll take that away to figure out how to weave it into either our monthly or quarterly update memos that we send around on what our activities are, if we can be more thoughtful in our ongoing presentations to give very specific examples of how our engagement is making change.

COMMITTEE MEMBER RUBALCAVA: Thank you.

CHAIRPERSON MILLER: Okay. Director Willette.

COMMITTEE MEMBER WILLETTE: Thank you so much. Welcome to CalPERS.

INVESTMENT DIRECTOR HAMBLY: Thank you.

COMMITTEE MEMBER WILLETTE: I don't know if I'm the right one to say that, but I also just want to appreciate the comments and questions from my fellow Board members. It's really sparked a great conversation today. I'm really encouraged -- just wanted to drill in on one of the bullets here. I'm real encouraged by our 2022 success engaging with companies, I think we were, since July 2017. So thank you for that. Thank you. Congrats to the team on that success. I know it seems like it's been a long process. And I think we do have a long way to go. It's great to see how progress -- does the progress give and how the data shows how important moving the needle on this work is, capturing the returns available to leaders on this, and getting the market to be one that allows the talent pool to grow and flourish, so we don't have companies with racism, sexism, homophobia standing in the way of our success for our members.

In that context, I'm wondering if you can comment on a couple pieces. The first, what is our support for racial equity and civil rights audit proposals, which has now been adopted by major companies like BlackRock and State Street? And then second, what's our process for accountability where among board directors where they lag in this area and that may present a risk to our performance going forward?

INVESTMENT DIRECTOR HAMBLY: Yeah. So the first part was on the racial audit proposals, do I have that correct?

COMMITTEE MEMBER WILLETTE: Um-hmm.

INVESTMENT DIRECTOR HAMBLY: Yeah. So we have been supportive. These are proposals asking companies to hire a third party to undertake a racial audit to see if they have race issues throughout their business. We saw a number of proposals in the last -- pretty much since 2020 asking for some of these and some have agreed to take it on. Apple most recently has agreed to do one. So we have been supportive of those proposals. And when we do see the proposal we'll try to engage the company as well to, you know, see what work they're doing, what their timeline is for having that report produced.

On the Board side, every time we engage with a company, one think we will look at is what is the board diversity? What is the succession plan in the board room? It's a key governance tenant and we will engage on that. And then when we see a lack of progress in terms of hitting certain milestones, is when we use our vote to further that message.

COMMITTEE MEMBER WILLETTE: Okay. Thank you.

CHAIRPERSON MILLER: Okay. Next, I have Mr. Ruffino.

ACTING COMMITTEE MEMBER RUFFINO: Thank you. Thank you, Mr. Chair.

I want to go back to the executive compensation piece, if you -- the line. I have a couple questions. But before I ask the questions, I want to share with you, and I'm sure you already know, but for the benefit of the audience and everyone, obviously total pay for S&P 500 chief executives continue to increase --

INVESTMENT DIRECTOR HAMBLY: Um-hmm.

ACTING COMMITTEE MEMBER RUFFINO: -- and I think that's no secret. In fact, multiple studies analyzing pay in a variety of ways come to the same conclusion, CEO pay continues to rise sharply. The gap between CEO and median worker pay has also increased. In fact, according to the

AFL-CIO, the chief executives of S&P 500 companies received an average of 324 times that of their median pay workers up from 299 times in 2020 and 264 times in 2019. And lastly, Amazon wins the prize. The CEO-to-worker pay ratio reached, are you ready, 6,474 to 1 with the CEO making 212.7 million in total compensation while the median worker received $32,855. 212.7 million versus 32,855.

Now, I know we vote in a couple weeks on CEO compensation and I wanted to begin by saying congratulations to CalPERS, because we have voted against the top 100 79 percent of the time, and that's pretty good.

INVESTMENT DIRECTOR HAMBLY: Um-hmm.

ACTING COMMITTEE MEMBER RUFFINO: I think foreign governments, the Dutch pension fund beats us. You know, they were like in 90, but not very many. Well, Minnesota. Minnesota beats us about 91 percent, but we're doing good. Seventy-nine percent is good. Not so good on vote against S&P 500. We are about 46 percent, just a little bit.

So now the question is I'm trying to understand, and as my colleague Ramon Rubalcava was saying, last week we got drilled. What's your policy? What is the policy? And I'm trying to understand, you know, the policy better on how we make those determinate -- those votes, and more importantly, are there any plan changes in the future giving what I just described?

Thank you.

INVESTMENT DIRECTOR HAMBLY: Okay. And thank you for the question. So what we try to look at is a combination of quantitative and qualitative factors that go into CEO pay, so what is the structure, what types of awards are they making, are they sufficiently long-term vesting, so they're really aligned with long-term shareholders. And then we'll look at the overall realizable pay opportunities versus the grant date pay opportunity and to see if it's aligned with peers and performance. So we use a combination of factors that gets us to that 49 percent last year when we voted.

We don't have any specific plans to change that approach. But what we have done for this season is contacted 100 companies in the portfolio that had strong negative performance where we have some pay issues. And we've started a number of meetings with those to try to address some of the key tenets of ours, which is longer term vesting, alignment, and trying to reduce that quantum a little bit where we see the mismatch between realized pay and granted value pay.

So we use those combination of factors. I can't speak to how many. I don't want to tail-wag the dog how many we -- what percentage we may vote against. But we will continue to use that approach, which we think has worked very well.

In terms of the fact that CEO pay generally gets -- and you're right, it was up to -- meeting S&P 500 CEO pay last year was 15 -- or in 2021 was $15.4 million. It was up 15.8 percent year over year, which is the largest increase year over year percentage increase in the last 10. This year, we saw the S&P 500 down for the year about 18ish percent. So I'm actually curious to see what it's -- if we'll see that median go down a little bit this year. But we will be working, like I said, with companies -- our 100 worst performers in the portfolio that we've already scheduled calls with to try to have that conversation. So that's the new element that we've added. But in terms of the -- the approach is pretty solid. It's just can we reach more companies proactively and that's the plan for this year.

ACTING COMMITTEE MEMBER RUFFINO: Do you think -- oh, go ahead.

MANAGING INVESTMENT DIRECTOR NZIMA: Well, if I may jump in. I think what Drew mentioned, which is really important, is this approach that actually looks at it's pay for performance, not just pay. And there are others out there who just look at the dollar quantum and vote against those. Someone may say if you're earning more than, you know, $5 million, regardless of whether they actually deliver in value or not, they vote against a pay plan.

So the differences that you may see with what others do may be how they approach it. We deliberately decided that we wanted to, you know, approach it in a way that those which added value can get rewarded. So if you're actually adding value, then your pay is reflecting that. But if it -- if you're not, then we vote against you, so that's some of the differences when you look at some of our peers in terms of their approaches. And we've discussed with a number of our peers in this area, have spent time speaking with them, and some reached out to us to understand how we actually do the quantitative approach as opposed just to throwing a dollar number on it.

Thank you.

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE: Just, I'm sorry, to add one more pile on here. Simiso is being too modest to acknowledge that the -- when we came out with our new standards around executive say-on-pay, we actually got quite a bit of sort of recognition in the industry. And it was, you know, really kind of a brainchild of Simiso and the team and now Drew really adding to that. And so I do think it's worth mentioning that it is intentionally a very thoughtful approach.

And then I guess just back to Ms. Ortega's question around the benchmark narrowing, this is actually one of the reasons for that narrowing. It happened, of course, under Wilshire's leadership to narrow our benchmark. But going from that sort of 12,000 companies to call it 6,000 companies allows us to take a more thoughtful approach on those 6,000 companies and allows us just to reduce complexity in general. And that was kind of some of the rationale for the narrowing under Wilshire's leadership.

ACTING COMMITTEE MEMBER RUFFINO: Can I just ask quickly, Mr. Chair, just a quick follow-up? And a dumb question on our part. I'm not sure I know. And thank you for sharing that. That's -- Dan, about, you know, that we got recognizing. So kudos big time.

Can we simplify somehow this formula, so that our stakeholders can understand it better, so that even yours truly can understand it better, because right now, it is very difficult to understand and to even communicate? I just want -- just -- you know, just curious to know. And are you familiar at all, even though I have not read it, with the Massachusetts -- they have adopted a policy at all. I'm not sure. We were told actually that they have one that it's like a formula, that it makes it real simple. If you don't make -- you know, if -- if you exceed -- whatever. It -- I was just curious to know if you had an opportunity or if you're familiar at all with that formula or that policy.

INVESTMENT DIRECTOR HAMBLY: Unfortunately, I am not familiar with the Massachusetts formula, but we could certainly take a look at, if you are finding it -- our approach complex, ways that we could simplify that for everybody. It makes a lot of sense to us, but we do this every day, but we'll see what we can do to make it easier for people to understand.

ACTING COMMITTEE MEMBER RUFFINO: Perhaps, Mr. Chair, if I may, maybe that could be an educational item that could be provided to the Board.

CHAIRPERSON MILLER: Yeah, let's consider that Committee direction to bring that back for a little more fulsome discussion and hopefully make it a little more comprehensible to us and our stakeholders.

INVESTMENT DIRECTOR HAMBLY: And just -- it's very complex, the CD&As, which is the section of the proxy statement that talk about the pay of five people have expanded to cover about 60 pages. It boggles my mind having done this for a very long time that it takes 60 pages to explain the pay of five people, but unfortunately that's where the entire industry has gotten to. And one of the things I did in my talk at CII was talk about reducing that complexity too, because it shouldn't be this complex, I agree.

ACTING COMMITTEE MEMBER RUFFINO: Thank you and thank you, Mr. Chair.

CHAIRPERSON MILLER: Thank you.

Next, we have Director Middleton.

COMMITTEE MEMBER MIDDLETON: Thank you. And first, I want to compliment both of you and everyone involved in these efforts. CalPERS has historically taken a leading role in trying to advance good corporate governance.

INVESTMENT DIRECTOR HAMBLY: Um-hmm.

COMMITTEE MEMBER MIDDLETON: And that's very important to all of us.

Are there any organizations that you could single out as being examples of organizations that are doing it right, particularly in the area of diversity and inclusion?

INVESTMENT DIRECTOR HAMBLY: In terms of other asset owners for example or --

COMMITTEE MEMBER MIDDLETON: Um-hmm.

INVESTMENT DIRECTOR HAMBLY: So I did have the benefit of having some discussions at CII last week with some of the -- I think the European owners, the Dutch, Norway, for example. I spoke on a panel in December with some UK pension funds that are thinking a lot about these issues. We have frequent conversations with some of the New York pension funds and then some of the ones here in California. So I think those are the ones that are -- have the bandwidth to spend the most times on these issues, and we're trying to make sure that we keep collaborating with them to make sure we're staying up to date on best practices. So those are some of the organizations that I try to, you know, frequently talk with to make sure that we're staying on top of the most relevant issues.

COMMITTEE MEMBER MIDDLETON: It's always dangerous to deal in anecdotes, but I attended a couple of National Association of Corporate Directors annual conferences. And particularly from the conference last fall, it was clear that progress is being made in terms of diversity of gender equity, and that while there is a very long way to go, the BlackRock presentation on some of the corporate boards is certainly improved.

What did not appear to have had much of any progress whatsoever was members of the Latino community or among the lesbian, gay, bisexual, and transgender community. Can you comment on work in that area, and most particularly when it comes to the LGBT community, have we made any progress in getting corporations to develop data around membership?

INVESTMENT DIRECTOR HAMBLY: So in terms of -- and I'll speak in terms of the corporate boards. So you are correct on the, you know, Latin American community. We don't see the uptick that we've seen in per se women on boards. One of the things we have tried to do when we engage with companies is ask them to self-identify, because we don't want to be in the business of trying to guess --

COMMITTEE MEMBER MIDDLETON: Right.

INVESTMENT DIRECTOR HAMBLY: -- what somebody identifies themself in. And we're starting to see some progress. I don't have hard numbers for you, but we're starting to see, especially large-cap numbers, in their proxy statements disclose at an aggregate level what they consider to be the diversity. We know some directors might not want to be -- oh, I don't want to be the Latin American director, I just want to be a director. But we're asking companies to, at a high level in the proxy statement, talk about their overall boardroom diversity.

And so it's getting better. Our vendors -- for example, Glass Lewis and ISS are sending out questionnaires to companies usually in the large cap space to try to get them to disclose as well, so we can start capturing this data. It's better than it was three years ago. We'll probably have more efforts on the ethnic diversity. I haven't seen as much on the LBTQ[SIC] community in terms of disclosure, but, you know, hopefully we'll see some more of that, but that's the first steps that we have been taking is asking companies to self-identify their board members or at an aggregate level.

MANAGING INVESTMENT DIRECTOR NZIMA: And if I -- if I may jump in. I think a couple of years ago, we expanded the definition of diversity on our governance and sustainability principles to include, you know, sexual orientation, gender identity, and so forth for those same reasons. I think this is one of the areas where we run into data issues, because unless someone is self-identifying, then we really don't know. And so this work that is ongoing right now, where the vendors are trying to get companies to get that data is going to help us going forward.

On the Latino side, we've engaged in the past with Latino Corporate Directors Association and exchanged views around that. And we still continue to have contacts there in terms of just expanding diversity across the spectrum. So this is really an issue which is of high importance. We know -- you know, this is one of the things in our 2016 governance and sustainability strategy plan, which was identified by the Board. So we'll take it really seriously and it's a high priority for us.

COMMITTEE MEMBER MIDDLETON: Thank you. And again, the progress that has been made over the last decade or more is a demonstration that these efforts do work.

INVESTMENT DIRECTOR HAMBLY: Um-hmm.

COMMITTEE MEMBER MIDDLETON: And that they can work. We still have a much longer way to go. And I know identification and self-identification is important. I will say here publicly what I've said many times, any corporation in this part of the 21st century who has employees who are members of the LGBTQ community, who are afraid to identify is the very definition of a corporation that has a serious problem.

Thank you.

CHAIRPERSON MILLER: Next, I have Director Pacheco.

COMMITTEE MEMBER PACHECO: Thank you, Chairman Miller. And again, thank you, Drew. I want to just follow up with another question about how, if at all, has the anti-ESG legislation being drafted in certain states impacted CalPERS's approach to corporate engagement?

INVESTMENT DIRECTOR HAMBLY: Yeah, thank you.

Yeah, a lot of discussion about that these days. So it hasn't changed our approach to engagement at all in our view. We think companies are very willing to talk to us, because when we are engaging with companies, we're trying to take ESG issues in time to material issues that might affect the balance sheet or the income statement of that company either today or in the future, and companies like that input from us.

So privately, when we're talking one-on-one with companies, they want to hear from thoughtful long-term oriented investors, because they worry about some of the short-term investors that in and out. So they really do appreciate those discussions. So, you know, I guess luckily for us we don't see any legislation coming out of our state that would inhibit our ability to do it.

And so the other state legislation isn't affecting us and to date haven't had any companies, you know, turned down engagement with us. They do want to hear from us on these topics and hear our views.

MANAGING INVESTMENT DIRECTOR NZIMA: If I -- if I may jump in. I think the one potential impact is if these states' pension funds or external managers change their voting practices, in such a way that some the work that we're trying to do in improving governance and sustainability, some of these companies, then they'll get less support of those shareholder proposals than in the past. So I think that's a potential impact, depending on what the pension funds or external managers that manage money for some of these states do.

COMMITTEE MEMBER RUBALCAVA: Okay. Thank you. One more, just a follow-up from the previous question on Starbucks and so forth.

INVESTMENT DIRECTOR HAMBLY: Um-hmm.

COMMITTEE MEMBER RUBALCAVA: You had mentioned that next week you're going to have an engagement --

INVESTMENT DIRECTOR HAMBLY: This week actually.

COMMITTEE MEMBER PACHECO: This week with the actual company or --

INVESTMENT DIRECTOR HAMBLY: Correct.

COMMITTEE MEMBER PACHECO: So have we taken a position yet on what -- on how we would be voting or is that something -- I just want to know the process of that, how that works.

INVESTMENT DIRECTOR HAMBLY: Yeah. So we -- the team is, you know, formulating our view today. We'll have a discussion with the company to see if they tell us anything that either they're working on or not before we make a final determination. So I don't want to kind of show my hand to the company --

COMMITTEE MEMBER RUBALCAVA: Of course.

INVESTMENT DIRECTOR HAMBLY: -- we're going to talk to later, but that was top of mind for us. We reached out to them and we had them on our short list for a number of topics that we'd like to talk about including this one. And so we'll have that meeting at some point this week before we make a final voting decision.

COMMITTEE MEMBER PACHECO: Very good. Thank you very much.

INVESTMENT DIRECTOR HAMBLY: You're welcome.

CHAIRPERSON MILLER: All right. Thanks. Well, I don't see any more questions or requests to speak. And I must say this has been a wonderful presentation, wonderful discussion. I thank you and the team. I thank my colleagues for their thoughtful questions and appreciate your equally thoughtful and helpful answers, so -- and welcome aboard and look forward to many more such discussions.

INVESTMENT DIRECTOR HAMBLY: Great. Thank you, everybody.

CHAIRPERSON MILLER: And so that brings us to 6C, our CalPERS trust level review consultant reports.

BOARD CLERK ANDERSON: Chair -- Chair Miller, we had public comment for that item.

CHAIRPERSON MILLER: Oh, so do we want to take the public comments before we go to the next item or at the end? Okay. Let's start -- I think the -- we've got public commenters. I've got a number of them for 6B. We'll start with Mr. Jim McRitchie who I believe is on the phone

STAKEHOLDER RELATIONS ASSISTANT DIVISION CHIEF TEYKAERTS: Yes, Chair Miller. Thank you. Go ahead, James.

MR. McRITCHIE: Yes. This is Jim McRitchie. You can hear me, right?

CHAIRPERSON MILLER: Yep. Welcome. You have the floor.

MR. McRITCHIE: Okay. I'd like to get four minutes, if possible. The CalPERS -- as a CalPERS retiree, active in shareholder engagements, I was excited to see the pie charts on page 11B. It looks like we've filed hundreds of proposals. But a more careful examination turns up only two on climate risk and two on diverse elections. That's beyond the 50 proxy access proposals over negotiated out.

Now, I myself I filed 90. So I look at four proposals and think that's far too few. My recommendation is the reports should highlight the work of CalPERS, so that you can tell how many proposals we filed in the different categories and we should hire staff or partner with organizations, so that we can file more proposals.

Some other topics. CalPERS is targeting 50 companies for proxy access. Our propose -- I looked at the proposal SKLA in 2020, which sought to place an upper limit on the number of directors shareholders could nominate to or one-quarter of the Board, but lower limits. So, for example, Arch Resources known for mountain top removal, and EOG Resources formerly known as Enron, limit nominees to one. Yet, it takes two directors to even consider a motion.

Additionally, since the CalPERS proposal is silent on the size nominating group -- the size of nominating groups, companies are free to impose group limits, such as 20, which the Council of Institutional Investors finds unworkable. These proposals are worse than nothing. They can't be used by even the largest public pensions and they can't be amended. What's in place? Since the group limit of 20 is fine for the big 3, they won't vote to raise group limits once set, since they can use proxy access without any partners. This is one reason why proxy access has only been used once in its full history. So my recommendation is to either reword these proposal or stop the effort.

I'm sure the Board is also aware that anti-ESG movements to restrict power of large funds. One tactic is to require that funds survey their investors to pass through votes they hope that individual investors will vote against measures that address climate change, diversity, and other critical topics. CalPERS isn't immune from these attacks. Companies, such as Iconik App to Broadridge offer surveys and pass-through voting services.

My recommendation is that CalPERS should survey its members on broad categories of proxy issues. This would serve to first educate members, and second to buttress the systems when it's attacked. The new services offered by Iconik App, Broadridge and other also allow retail shareholders to automate votes with their values, much like CalPERS uses Glass Lewis to cast most of -- most of our votes automatically based on our proxy voting policies.

The New York City Comptroller and others consistently post their votes before voting deadline. CalPERS, on the other hand, posts our votes after the meeting, so we don't influence other voters, even though the Board committed to do so years ago. My recommendation is that CalPERS should post it votes in advance to increase our influence and to help our proxy voting policies succeed.

Thank you very much.

CHAIRPERSON MILLER: Thanks, Jim. Appreciate it and we've got your handout here as well.

Okay. Next, we have Sarah Theiss. Is Sara in the room or is she on the line?

Oh, okay. There she is. Come on up.

Okay. Welcome. You'll have three minutes and the light will come on and the clock will start when you identify yourself and begin.

MS. THEISS: Yes. Thank you. As you know or some of you know, I'm Sara Theiss. I am a happily retired CalPERS retiree and I can't tell you how much I appreciate the retirement I have. I know you do a lot of stuff and you're very -- you know, work hard. I myself, of course, have my one thing that I care about a lot that I often talk about and that is the issue of engagement, divestment and fossil fuels. So anyway, what I want to talk about today is the relationship between the two of them and it's really becoming mainstream thinking that an engagement strategy must include the threat of divestment. And one example of why that -- you know, how mainstream it is, the in -- the International Association of Insurance Superintendents, that's the standard setting body for insurance company regulation. They concluded that an effective shareholder strategy requires a clear threat of divestment if performance is unsatisfactory.

And it was interesting to me to hear the Climate

Action 100 report, because when I looked at Climate Action 100, they had in the fall done a report that said even targeted companies with net zero commitments have not developed or implemented credible decarbonization strategies, or plans, or -- and are not on track to align with the Paris goals. So I don't know what the -- you know, there's a big gap between what I read from Climate 100 and what was reported today, so I can't really say anything else about that, but I was surprised at the report.

It's clear all the oil majors continue to explore and drill. So, I mean, that goes to the second point, which is, you know, engagement is not working. It's not working in the timeline that the planet needs. You might remember that last year -- last December, the House of Representatives committee released its findings of a two-year investigation of the fossil fuel industry. Documents from the company showed that for decades, they had worked to deceive the public, undermine the credibility of climate science and scientists, mislead the public by advertising the commitment to cleaner energy, even as invest in fossil fuels, and engage in extensive greenwashing with public images, you know, promises and actions they knew would not meaningfully reduce emissions, even as they are moving to lock in continued fossil fuel production for decades to come.

And as one member of the Committee put it, it was a successful PR strategy. The cynicism was breathtaking, and unfortunately it was quite successful. So the climate disaster is at a point where really engagement -- it's too late for engagement, so I really urge you to begin to divest.

Thank you.

CHAIRPERSON MILLER: Thank you. Next, we have Al Darby.

Oh, there he is.

MR. DARBY: I don't want to speak under this item. I want to speak on E and F I believe.

CHAIRPERSON MILLER: Okay. Then we have Jason Opena Disterhoft. I hope I didn't mangle that too badly.

Welcome, sir, and you'll have three minutes. The time will come up when you identify yourself and start your presentation.

(Thereupon the meeting reconvened open session.)

MR. OPENA DISTERHOFT: Hi. Thanks. My name is Jason Opena Disterhoft with Majority Action, an advocacy group focusing on systemic risks to shareholder value and proxy voting tools to mitigate those risks. Thanks for the illuminating presentation on CalPERS vital stewardship work and the Committee's really deep engagement on this issue. We appreciate CalPERS leadership in acknowledging that climate change is a top threat to the fund's primary mission of paying benefits to plan participants and fiduciary duty demands a robust strategy to bring portfolio companies into alignment with the Paris Agreement.

As acknowledged, one of the most powerful tools is holding directors accountable at climate-laggard companies. So members should be pleased with the new steps that were announced today continuing CalPERS leadership on this score.

As we documented in our report on Climate Action 100+ signatory voting in 2022, CalPERS flagged six directors at misaligned companies, three times as many as any other investor. It also opposed more directors overall year on year. So in support of CalPERS efforts to mitigate climate risk, we do see an opportunity for the fund to fortify its board accountability work going forward.

Our data indicates that in 2022, CalPERS voted in support of the entire Board at 8 of the 25 most climate misaligned companies in the S&P 500. That includes four key companies from the oil and gas sector, which as MSCI has shown is on track for a 6.8 degree temperature rise and includes four utilities in a sector on track for 3.4 degree increase.

So from our vantage point, CalPERS may want to join two PRUS pensions who supported zero full boards at those companies. So we'd like to offer two opportunities for strengthening this work. First, given CalPERS influence in moving markets, the fund could amplify the impact of its votes by declaring climate votes in advance ideally within two weeks of proxy filing, expanded flagging of director votes, and publishing rationales for all climate director votes.

And second, CalPERS may want to join peer funds who have recently strengthened the criteria in their proxy voting guidelines. CalPERS could consider making it clear that it will vote against directors at companies that did -- do not take basic steps to mitigate climate risk including a net zero by 2050 commitment, medium-term targets compatible with cutting emissions in half by 2030, and CapEx and policy influence aligned with those targets. And we'd be happy to provide specific suggestions on language if helpful.

So thank you for CalPERS work in this area nd we urge the fund to continue to build on its leadership in the coming months.

Thanks.

CHAIRPERSON MILLER: Thank you very much.
I think that's all we have on 6B.
Okay. So we will move on to 6C
COMMITTEE MEMBER RUBALCAVA: Mr. Chair, can I make a quick comment?
CHAIRPERSON MILLER: Oh, yes, Mr. Rubalcava. Let me get you --
COMMITTEE MEMBER RUBALCAVA: I just want, if I could have early --
CHAIRPERSON MILLER: Microphone.
There you go. You have the floor, sir.
COMMITTEE MEMBER RUBALCAVA: Thank you, Mr. Vice President.
As I said earlier, I was fortunate enough to attend my first CII conference along with Mr. -- Frank. And I was very pleased to have a lot of materials available. I, too, have those reports from Majority Action and I appreciate Majority Action and all the activists there participating in this sphere of influence, if you will, trying to be responsible speaking for the -- for the stockholders, I guess.
And I'm glad we have the opportunity to here from our public testimony. So appreciate all this more and more every day. Thank you. Sorry.
CHAIRPERSON MILLER: Thank you. So okay, moving

on. 6C, CalPERS trust level review, our consultant reports.

(Thereupon a slide presentation).

MR. TOTH: Good morning. Tom Toth Wilshire Advisors. In your Board packet, we've included Wilshire's trust level performance report, which includes a few slides on the market environment to provide some context around portfolio performance. Heading into 2023, we started to move past some of the investment risks that presented pretty unique diversification challenges from a portfolio construction perspective.

The investment outlook does remain beset with elevated geopolitical risks, slowing economic growth, heightened uncertainty around corporate earnings, and now concerns about the banking system. And given these tight financial conditions and more restrictive monetary policy, investors are looking toward the next phase of the cycle and the timing of a potential market recovery. So we'll talk about how some of these challenges have evolved to start this year before moving into the portfolio outlook and total fund performance.

If I can direct you to Attachment 1, page 3 of 57.

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MR. TOTH: This shows the significant growth in the Fed's balance sheet from less than 1 trillion pre-global financial crisis to four and a half trillion dollars in 2014 to a high of almost $9 trillion in the aftermath of the pandemic and it currently stands at about eight and a half trillion.

On the same chart, you can see in blue the path of short-term interest rates. And on the far right, you can get a sense for the speed with which the Federal Reserve has acted to tame inflation.

On the next page 4, you can get a sense --

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MR. TOTH: -- for what that pace looks like in comparison to prior tightening cycles. And suffice to say that the speed of rate increases stands out versus these past cycles. And the ultimate impact on the real economy is yet to fully play out. And we're certainly seeing some of those impacts in the market today.

Now, elevated levels of inflation fuel this aggressive action to tighten monetary policy, which pushed up treasury yields across the curve. This in turn weighed on investor sentiment and led to meaningful retrenchment in equity valuations. Just this last week, we were offered a sharp lessen around risk in the current environment with the collapse of Silicon Valley Bank and others, which over the weekend resulted in the Federal

Reserve program to support bank withdrawals and provide deposit guarantees.

I think there are two lessons worth highlighting for the Board. One is the value of diversification. As company or sector-specific investment concerns can rear their head in an unpredictable way and consistent with Investment Belief number 6, the CalPERS portfolio is diversified across many distinct risk factors to help mitigate these company or sector-specific downside risks.

The second is the value of liquidity management, which, in many ways, appears at the heart of the ban -- some of the banking collapse. And this is a risk that CalPERS has executed on successfully during a particularly challenging market environment.

If we can turn to page 5 --

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MR. TOTH: -- at the start of the year, the market had increasingly priced in a more moderate pace of rate hikes as measured by the red line. Think about that as market expectations for the path of interest rates. This was in contrast to the Federal Reserve communications that interest rates were going to stay as high as necessary for as long as necessary to tame inflation. That would be the blue line on that chart.

This year, we have repeatedly seen investor sentiment shift between optimism and pessimism that peak interest rates are in sight. This was positive for assets in Q4 of 2022, which we'll see in the performance report, and the first month of 2023. In February and the start of March, market expectations moved closer to the federal reserve. And you can see those market expectations shift in the green line. This led to a pull back in asset class performance over the last few weeks. And as it happens, we are in the midst of another reevaluation of the path of interest rates literally as we speak, as those expectations have once again shifted down.

You can see on page 6 --

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MR. TOTH: -- that fortunately we are beginning to see a reprieve in inflationary pressures with declining commodity prices, improvement in supply chains, and some falling demand for goods. But inflation remains much higher than the Federal Reserve's 2 percent target.

On the next page, you'll note that labor markets remain tight --

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MR. TOTH: -- which is supportive of wage growth, but is also potentially inflationary. And it's this balance between economic activity and inflation, which is a delicate one that the Federal Reserve is striving to navigate.

If we flip forward to page 11 of 57 --

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MR. TOTH: -- the silver lining of the market volatility experienced in 2022 are more attractive forward-looking expected returns for multi-asset investors like CalPERS. On page 11, rising interest rates have increased expected returns from core fixed income to almost 5 percent from 2 percent one year ago, so more than a doubling in expected return for that building block asset class.

Moving out on the risk spectrum, high yield expected returns have increased from below 4 percent to over six and a half percent. Global equity expected returns have also increased from around 5 percent to just over 7 percent. An important point is that that increase has been a little bit smaller than that seen in fixed income. So when you consider the relationship between expected returns for equities versus fixed income, the equity risk premium has compressed. And this is an important point for investors as they think about portfolio construction and risk taking in an uncertain environment

Utilizing tease expected returns, if you can flip to page 12, you can see that outlook --

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MR. TOTH: -- for the portfolio. And we actually have three different expected returns here. I'll explain briefly what they each are starting from the left-hand side. The left-hand side is the target allocation approved by the Board. The middle is the interim target allocation as set forward in the transition plan from the old asset allocation to the new target. And the actual allocation is, in fact, the snapshot of the portfolio at the end of 2022.

The big takeaway from this chart is not so much the comparisons across them, although suffice to say you are moving from a portfolio with an expected return over the next 10 years of 7.2 percent to one with an expected return of 7.35 percent with some enhanced diversification. It also has a moderately lower risk level for the target portfolio of 12.33.

But a big takeaway from here, which I wanted to mention is the change for these numbers relative to where we sat one year ago. So given the expected return change as I mentioned, a year ago, those portfolio expected returns were closer to 5 percent versus 7.2 to 7.4 percent. So very significant increase in forward-looking expected returns.

Now, turning to portfolio performance starting on page 16.

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MR. TOTH: The total fund was up strongly in the fourth quarter, up 5.5 percent outperforming the benchmark return, which was up 4.7 percent. This recovery did come after a number of very challenging quarters, which leaves the full year performance at negative 11.2 percent, which does represent outperformance versus the policy benchmark, which was down 12.6 percent.

If we turn to fiscal year performance, and this gets into attributing the drivers of that relative performance versus the benchmark, on page 18 --

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MR. TOTH: -- you can see the single biggest contributor there was, in fact, private equity, which added 181 basis points on a fiscal year-to-date basis. That was followed by private debt, which added 14 basis points of positive relative performance.

Those outsized impacts, I want to, you know, point out for the Board and kind of set the stage for time -- for results moving forward as valuations for private assets come into line with the drawdowns and the volatility that we've seen in public markets. We do expect that to moderate. A lot of that is going to come down to strong underwriting, what that drawdown looks like. But I want to make that point for the Board as we look at these performance reports through time.

You'll note that real assets was a negative relative performance contributor to the tune of about 35 basis points for the fiscal year, but that was the single asset class for the full year that was positive. So from a diversification standpoint, real assets did play a strong role. Again going back to that high level portfolio construction and the desire to have a number of different risk factors present in the portfolio.

And then to wrap up, I will point you to page 19.

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MR. TOTH: This shows the rolling excess return of the portfolio versus its policy index. You can see that it turned positive in call that the middle of 2021 and has remained above zero since. The goal in terms of portfolio construction and implementation is to improve the consistency of active returns going forward to effectively shift that line higher and that is a key topic across the Investment Office is looking for the most appropriate places to take active risk in areas where you feel you will be compensated. Again, very much aligned with the CalPERS Investment Beliefs.

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MR. TOTH: And then on page 20, we don't just want to focus on returns, we want to look at risk as well. This is one measure of risk admittedly imperfect, which is rolling tracking error or active risk. You can see that that active risk line has moved higher, moderately, after bottoming at just under 1 percent. It currently sits at just under 2 percent. But for the Board, important to keep in mind that that is well within reasonable levels of total fund active risk.

And on a related note, the actionable tracking error, which you'll see mentioned in your materials, sits at 10 basis points. And this is -- for the benefit of the Board, this is active risk, which is directly controllable by staff actions. So less not im -- it's not impacted by the differences in valuation between public and private markets, for example.

So at 10 basis points, that's well within the 1 percent limit set by the Board. So there is room to increase that in a thoughtful and judicious way in the current market environment. And as you think about investment broadly, it is nice to have room to add active risk when there's uncertainty in the market.

So with that, I will stop and see if there are any questions from the Committee.

CHAIRPERSON MILLER: Thank you very much and there are. I'll start with Director Pacheco.

COMMITTEE MEMBER PACHECO: Yes. Thank you. Thank you, Tom, for that wonderful presentation as always. So my question is on page 16 of 57, I notice that the real assets and the private equities were the top performing asset classes in 2022. I'm curious, what are the -- what are the near-term challenges facing those asset classes in particular, if you can elaborate on that?

MR. TOTH: I'd be happy to, Mr. Pacheco. So for private equity, I think the challenge is from a mark to market standpoint is one of valuation. At the end of the day, as you think about economic drivers for private equity, they are subject to the same economic strictures as public equity, but they're not valued in the same way, minute by minute, every trading day. So they just tend to move more slowly. So I think that valuation component is going to flow through across time and it will be a mix of both the -- if we get a recovery in public markets, that -- you know, that's how they could sort of come together through time.

I do think it's important to point out that as we look at performance comparisons, if we look at the 10-year number for private equity, it has been very robust, a significant premium over both the policy benchmark with a return of 12.4 percent versus a benchmark of 10.8 and relative to public equity, which had a return of 8.5

percent. So those are the most pertinent performance numbers on here for those less liquid asset classes, but in terms of the say upcoming challenges, in terms of mark to market, I think valuation is one for private equity.

For real assets, it's related, but I think there are a lot of underlying -- and we actually talked about this a little bit in the last discussion, the demand for real estate and the composition of that demand is undoubtedly shifting. And that's going to take some time to play out through the portfolio's valuation, less demand for office space, more demand for industrial, shifting demand for retail, potentially more demand for multi-family given housing constraints. And managing that through time, I think is that's a portfolio construction discussion. But you're likely to see some more challenging marks as we -- as we move through a new higher interest rate environment and that flows through real estate activity.

COMMITTEE MEMBER PACHECO: Thank you, Tom, for that.

Thank you.

CHAIRPERSON MILLER: Okay. I'm not seeing any other requests to speak. Oh, no I am.

Director Palkki.

COMMITTEE MEMBER PALKKI: Thank you again for the report. In a scenario of cause and effect, does the dramatic increase in interest rates over the past 12 months change how we should view bonds in the asset allocation? And then how would that -- if so, how does that change how we view asset allocations moving forward in the future?

MR. TOTH: Mr. Palkki, great question. The -- so the straightforward impact is that looking forward expected returns for fixed income are meaningfully higher. In other words, from a strategic asset allocation perspective, the utility of utilizing bonds is much stronger. In addition, from a diversification and a risk perspective, there is room for interest rates to act as a buffer for riskier segments of the portfolio. So there's utility on both a risk management per -- from a risk management perspective and from a return perspective relative to where we were 12 months ago.

Now, as we think about the targets for the current portfolio, the PERF portfolio never dramatically reduced its exposure to fixed income in a very significant way. And by significant, I mean moving from let's say 25 percent core fixed income to 10 percent core fixed income. So the value to increasing fixed income from here doesn't really exist to my -- in my view. I do think it was -- this discussion was part of the asset allocation process in the last go round and will be part of the mid-cycle review where it would be appropriately reevaluated based on where market -- or expected return assumptions sit at that point.

As it stands now, given the target asset allocation that you do have a reasonable level of fixed income within the portfolio to take advantage of that higher utility I referenced at the outset.

COMMITTEE MEMBER PALKKI: Thank you.

MR. TOTH: Of course.

CHAIRPERSON MILLER: Okay. I've got Lynn Paquin.

ACTING COMMITTEE MEMBER PAQUIN: Thank you. Thanks so much for the presentation. I'm just curious with the ongoing volatility and, you know, we discussed a little bit about the events this past weekend with the regional banks, do you have any concerns about the portfolio's liquidity at this point or about the use of leverage?

MR. TOTH: Ms. Paquin, the short answer is no. I think that because -- and this is a great example of planning and then execution, because the liquidity dashboard has been in place now as a liquidity management tool for quite some time, it can be -- you have time series of data looking at coverage ratios in stressed environments. Not surprisingly, this would qualify as one of those stressed environments and has not run into challenges from a liquidity management perspective that I'm aware of.

Now, could other issues crop up? I believe it's possible. But because of the coverage ratios that the liquidity dashboard illustrates, you have room there to the point where you're not in a position where you're a forced seller of assets. And that's what's really important, being able to maintain your investment portfolio through volatile environments, potentially even take advantage of those volatile environments, and then come out the other side with higher levels of expected return.

So the short answer to your question, Ms. Paquin, is no, I don't -- I don't anticipate challenges as a result of this weekend's events.

ACTING COMMITTEE MEMBER PAQUIN: Well, thank you. And what about the use of leverage as we see interest rates continuing to remain high, has that changed the strategy at any point?

MR. TOTH: So strategically, no, I don't believe it changes the strategy. But tactically, if you think about the shape of the yield curve, and given that it's inverted, i.e. short-term interest rates are higher than long-term interest rates, that does play into the calculus of borrowing, because when you're borrowing, you're generally borrowing towards the short end, and assets that are being purchased tend to have longer duration.

So from a tactical implementation standpoint on a day-to-day management basis, leverage looks a bit less attractive than it did previously. But strategically, and this again is a multi-year time horizon, the benefits of leverage from a diversification standpoint should hold as the interest rate environment normalizes, whether that's with shorter term rates coming down to where they're below longer term rates or the longer and moving a bit higher in order to get that upward sloping yield curve.

ACTING COMMITTEE MEMBER PAQUIN: Great. Thank you.

MR. TOTH: Um-hmm.

CHAIRPERSON MILLER: Okay. I'm seeing no further questions. Thank you very much.

MR. TOTH: Very good. Thank you all.

CHAIRPERSON MILLER: Appreciate it. Great report.

And looking at the time, I'm thinking we might want to break for lunch and then come back and kick it off with Mr. McCourt at 1 o'clock. Is that -- so we will be in recess until 1 o'clock to have some lunch and then come back in on the rest of Item 6C, because it's been over two hours now that we've been at it. So see you all at 1 o'clock.

(Off record: 11:55 a.m.)

(Thereupon a lunch break was taken.)

AFTERNOON SESSION

(On record: 1:00 p.m.)

CHAIRPERSON MILLER: Okay. Let's reconvene and we'll jump right back into Information Agenda Item 6C with our consultants.

MR. McCOURT: Good. Great. Thank you, Chair Miller and nice to see everybody. Steve McCcourt, Meketa Investment Group. Meketa is your Board consultant on real estate, infrastructure, and private equity asset classes that I'll be presenting our reviews to you today.

The other experts at Meketa on these asset classes are behind me, Christy Fields, Steve Hartt, and Reggie Ross, who will help me answer any questions that you have at the end of this presentation.

Just as a reminder, the purpose of these trust level reviews is that this is our formal comprehensive review of each of these asset classes that we conduct once every six months. But it is important to note that we're in constant communication with your staff and you can expect that we'll communicate to you any material observations, concerns, or recommendations in real-time and not wait for these six months -- six-month reviews. For efficiency, I'll verbally summarize the reviews. And as mentioned, Christy, Steve, and Reggie will help me answer questions.

The first report I'll go through is the private equity report. That is presented in your packet in Item 6C, Attachment 3. Private equity as an asset class is the investment in privately owned companies, generally through private equity managers that CalPERS engages. You invest in private equity largely because it's the asset class that's expected to have the highest rate of return over long periods of time. And in your case, that expectation has been met.

CalPERS approach to the private equity asset class is one that includes significant diversification within the private equity asset class, invests predominantly through fund vehicles, which themselves affect diversification, and in recent years has emphasized more investments in customized investments accounts and co-investments, which are lower fee, lower expense modes of investment in the asset class.

As a reminder, private equity as an asset class had its target allocation of the fund increase from 8 percent to 13 percent in the last asset allocation review. And your staff has been in the process of meeting that new target allocation over time. Risks in the asset class include leverage, illiquidity, execution risk, and headline risk.

I'll summarize the review quickly. From a performance perspective, returns have been very strong. Over the last decade, your private equity portfolio has returned 12.4 percent per year exceeding its benchmark index over that time period. Over the last one year, you'll note from your report that your private equity asset class, while being down 2.3 percent, exceeded the return of the benchmark by 17.3 percent. And as was highlighted in the previous presentation to you, much of that difference is a result of your benchmark in private equity being a public market benchmark, and private market assets have been slower to adjust valuations to the reality of higher interest rates in the economy than the public market is. The private equity portfolio is invested within all risk parameters and is aligned with the policy that you've set forth for it.

On a forward-looking basis, the two most significant items we would highlight to you is on the risk side as was noted before, valuations of private equity vis-à-vis public companies. There's clearly after two years of the private equity asset class outperforming public equities by a significant amount. Some gap between private equity valuations and public equity valuations, the big question mark of course that nobody can answer with precision is how big of that gap actually exists?

And so we do expect that in 2023 private market valuations will over time adjust to reflect the current interest rate and economic environment. Just how much they adjust is anyone's guess. And we would fully expect that at the end of the adjustment period, the performance of private equity continues to be stronger than the performance of public equity.

The other item I would highlight, which you're well aware of is amongst the many initiatives and progress within the private equity asset class. The area that has had the most significant activity for the last several years has been the growing emphasis on co-investment opportunities within the asset class, which aligns with your strategic goals and plan for the asset class to grow the allocation and continually look for ways to invest with lower fees and expenses.

Moving on to the real estate review, this will be Item 6C, Attachment 4. Real estate assets in your fund are privately owned commercial real estate properties. They, too, are generally managed by third-party asset managers. And those assets predominantly fall for institutions like yourselves in the office, retail, industrial, and multi-family sectors of the real estate market.

CalPERS business model and approach to real estate investing involves allocating the bulk of the real estate capital to 10 external managers that manage sector-specific customized accounts where your investment team has significant control over the strategy, deployment, leverage and risk involved in those accounts. That model is -- has proved scalable and fee efficient over time for CalPERS.

The program is very diversified by property type and is focused in the U.S. The assets in the portfolio today are largely conservative core assets with relatively low leverage.

The allocation to real -- to real assets, which real estate comprises a piece of, also increased modestly during the last asset allocation review. And the risks within the asset class include leverage, economic risk, and illiquidity.

Summarizing our six-month review of the real estate. First and foremost, our conclusion is that the real estate team is executing strategy as you would anticipate as the Board setting policy for real estate. Returns for the asset class for you have been roughly between 8 and 10 percent per year over all trailing periods. In fact, all of these private market asset classes have returns of roughly 10 percent or higher over the last decade.

2022 and so far in 2023, and we think probably in

2024, real estate is one of the more interesting asset classes across the capital markets really for two reasons. One, arguably no other asset class was impacted in such a significant and structural way by the pandemic than was real estate. It changes the way -- the pandemic changed the way people work and live in ways that are structural for the asset class.

Also, as much as any other asset class, real estate has been impacted by rising interest rates. Both of those factors have been recognized fairly swiftly with real estate properties in companies that trade publicly, but they have not been recognized swiftly by real estate managers and their funds that operate in the private markets. And as a consequence, you saw in 2022, real estate returns strongly positive and obviously valuations not just stable but increasing throughout the year, despite the fact that interest rates were rising and fears of a recession were growing.

Again, like private equity, we would think that over the next 12 to 18 months, there'll likely be some rationalization of valuations within real estate. Like private equity, the -- as real valuations become rationalized and assets are repriced in the marketplace, it's hard to know -- hard for anyone to know exactly where real estate values will end up when the dust settles, when transactions start happening in the market place again.

For the meantime, your portfolio is very diversified across sectors, very diversified across all elements that one would be concerned with from a risk perspective and is in a very strong position relative to where many institutions saw their real estate portfolios prior to the last major recession, the global financial crisis.

In terms of forward-looking risks and opportunities, the major risks that we see in the short term relate to valuations and real estate sectors. Those are referred to as cap rates generally. We and everyone else in this industry do expect valuations to contract as we go through the year somewhat.

Structurally, there's risk and uncertainty around those pandemic issues I alluded to. Exactly how are businesses going to be using office space over the next decade? Exactly how are stores going to be selling goods over the next decade? The answers to those questions, you know, will be a big part of the decisions that your team makes on your behalf going forward.

The final asset class I'll review is infrastructure. This is Attachment 3. Infrastructure you'll recall was folded under the real assets asset class several years ago. Infrastructure investments are investments in privately owned infrastructure assets. These are largely assets in the energy and renewable space, utilities, transportation assets, and assets that generally have long-term contracted revenue with strong counterparties from a credit risk perspective.

Institutions like CalPERS invests in infrastructure because it tends to be a defensive asset class relative to others, produces cash flows, and it has a time horizon of the assets that's aligned with the time horizon of liabilities of defined benefit plans, multi-decade in most cases.

CalPERS approach to investing in infrastructure is one that involves largely investing in infrastructure funds and separate accounts. It's a very diversified approach, as all of your asset classes are. And unlike real estate, your infrastructure asset class is globally diversified. So a little more than 40 percent of your assets today are outside the U.S. in infrastructure. And that's largely a reflection of the reality today that most infrastructure assets are held outside the U.S.

In a really positive trend, we're very pleased to see that the allocation to infrastructure has now reached 3 percent of your total fund. That's a significant increase relative to where it was just five or six years ago. And for a fund the size of CalPERS, it's no small task to move these allocations up a few percentage points. Risks in the asset class include valuation risk, leverage, and counterparty risks.

Summarizing the review. The returns of asset -- of infrastructure for you have been 8 to 10 percent -- 8 to 11 percent per year over time, since you began investing in the asset class about 12 or 13 years ago. You'll see in the infrastructure report that because infrastructure assets are held inside your Real Asset Program and your Real Asset Program has a benchmark that's a real estate benchmark, the report for reporting purposes compares your returns to the real estate benchmark, so it's kind of apples and oranges. And in recent years, where real estate valuations continue to expand, infrastructure assets did not. So in this past year, your infrastructure portfolio returned 8.3 percent, which is strong on an absolute basis when capital markets are going down, but underperformed the technical policy real estate benchmark of 21 percent. Over time, the infrastructure assets have outperformed the real estate benchmark.

Your infrastructure team has invested, over the last 6 months, the infrastructure assets within all the parameters set by policy by you. And on a forward-looking basis, when we think about risks and opportunities in the asset class, the risks for this asset class have been fairly consistent for the last 12 or 13 years, which is really risks of scaling, how does an institution the size of yours deploy sufficient capital, so that the attributes of the asset class can move the needle for CalPERS as a whole. And your staff has been doing a nice job of that.

So with that, that concludes my formal presentation of the reviews. Happy to take any questions.

CHAIRPERSON MILLER: Great. Thank you for the presentation. And I think it's been very well received and we have a few questions. And I'll start with Director Pacheco.

COMMITTEE MEMBER PACHECO: Thank you. Thank you, Steve, for that wonderful presentation and so forth. So my question is back to the real estate question, should the Committee be concerned with the one year real estate return underperforming the benchmark by 5.2 percent? Does Meketa have any recommendations or suggestions for suggest -- for such an action or its -- for its -- or its -- or is the long-term strategy still working?

MR. McCOURT: Great. Thank you. The short answer is we do not have concerns about the one-year underperformance of roughly 500 basis points. In our estimation, the environment that we find ourselves in is one where different asset owners are taking different approaches to valuing real estate. And those that are more aggressive at valuing real estate properties precisely relative to the current interest rate and economic environment will have very different return outcomes than those that try to maintain their valuations higher.

So -- and I think unfortunately, Jose Luis, that probably for the next 12 to 18 months, it's going to be very difficult to compare any investor's returns in real estate -- private real estate to broader real estate benchmarks, because valuation of the policies can differ significantly. There's also a lot of difference in returns across real estate sectors.

So short answer is we don't have any concern. Longer answer is we think that for the next few reporting periods, the returns differentials, which may look really good in some periods, may look really bad in others is really more a reflection of the idiosyncrasies of how valuations work in the marketplace as opposed to reflecting any skill or luck from your investment team.

Longer terms are very strong, consistent, and aligned with your expectations of the asset class.

COMMITTEE MEMBER PACHECO: Excellent. Thank you very much.

CHAIRPERSON MILLER: Okay. Next, I have Director Middleton.

COMMITTEE MEMBER MIDDLETON: Steve, thank -- (clears throat) -- excuse me. Thank you. And I've got a few questions for you.

Let's pick up right where Mr. Pacheco left off with real estate assets. And clearly, there is a great amount of uncertainty in valuation in real estate today. Shouldn't that be creating some opportunities to leverage our ability to move in the market?

MR. McCOURT: Yeah. Maybe I'll invite Christy and Reggie to come up to give you some more perspective on their day-to-day involvement with the real estate asset class. But as they come up, I would highlight that there's bound to be opportunities in the marketplace. The most interesting part of the asset class so far is the lack of transactions.

COMMITTEE MEMBER MIDDLETON: Right.

MR. McCOURT: So we're just at a point in time where there's no ability to execute on opportunities that you see, even if you see them. That will change, eventually, but I'll hand it off to Christy first to say a few words.

MS. FIELDS: Thank you. I would also just reiterate I think a point that Steve made earlier is what a tremendously better position the portfolio is in today relative to 10 or 12 years ago when it took literally three or four years to get yourselves back on track and get those portfolios worked out. And so you have both an interesting opportunity set ahead of you and you're also in a position to take advantage of that opportunity set as it begins to present itself.

MR. ROSS: And the one thing I would add is for an organization like CalPERS that has the ability to by properties without using leverage, without using debt. So you are going to be and your teams are going to be able to take advantage of owners who have broken capital structures, need to refinance their debt but can't get -- borrow money from a loan -- from a bank. So those opportunities should be available.

Whether that happens? I mean, we've seen, you know, SVB over the weekend.

COMMITTEE MEMBER MIDDLETON: Right.

MR. ROSS: The depositors be bailed out, right? And so we don't know to what extent real estate owners will be distressed.

COMMITTEE MEMBER MIDDLETON: Um-hmm.

MR. ROSS: But in the case they are, your teams will be able to take advantage of those.

COMMITTEE MEMBER MIDDLETON: All right. So I think what I'm hearing is there are going to be opportunities. They've just not occurred yet.

MR. ROSS: (Nods head).

COMMITTEE MEMBER MIDDLETON: All right. Move on to a couple of questions in private equity. We're trying to move from an 8 percent to a 13 percent allocation. Are you satisfied with the pace of growth that you're seeing?

MR. McCOURT: Yes, the -- your allocation has grown for two reasons and Nicole can probably tell you within a few basis points the contribution of each. One has been the increased volume of private equity commitments that your staff has made over the last several years.

And just to give you a general sense of that, 7 or 8 years ago, your private equity staff was allocating about $4 billion a year to private equity opportunities. Now, you're 12 to 15 billion dollars a year-ish. So they're executing at a much higher volume than they were before. And as those commitments get called over time, the dollars you have invested in the asset class increase.

Also, what's happened at the same time is what's referred to as the denominator effect, and private equity at its current valuations has monumentally outperformed public stocks and bonds for the last two years. And so I've -- your allocation has increased meaningfully because of that as well. So we're -- we'd rather it increase, while public stocks go up, and -- but the denominator effect has elevated the allocation even beyond, you know, where I'm sure staff's expectations were at this point.

COMMITTEE MEMBER MIDDLETON: Does that argue to you that we should be re-examining whether or not 13 percent is the right allocation given this market, and does it have any impact on what you think our pace of growth should be in private equity?

MR. McCOURT: So two separate things. From a strategic perspective, the -- one of the reasons that CalPERS historically has had the private equity target allocation it has over time is CalPERS' ability to deploy capital in the marketplace.

And so as CalPERS finds ways to deploy more capital efficiently in the market place, the -- that limit of scale becomes less present. And so it allows tow think about higher allocations.

Whether a higher allocation than 13 percent target is merited, that's really obviously an asset allocation --

COMMITTEE MEMBER MIDDLETON: Um-hmm.

MR. McCOURT: -- decision by which, I mean, it's a function of how attractive is the asset class relative to all others? And since liquidity was brought up in the past, probably -- well, almost certainly, the constraining factor on private equity and real estate and infrastructure tends not to be the return expectations or risk in the asset class. It's really the illiquidity that CalPERS can afford or not over time.

And so to the extent that CalPERS considers higher allocations to private market asset classes, that analysis should be married closely with liquidity stress testing and liquidity analysis.

COMMITTEE MEMBER MIDDLETON: Right. As we try to deploy more resources in private equity, are you satisfied that we have the internal capacity to grow?

MR. McCOURT: Yeah. Obviously, a new -- a new head of private markets was announced this morning, which is a great leadership position. We're, you know, aware of efforts, you know, with inside the private equity team to elevate the leadership within the team and also continue hiring more people to do the work to get the allocations up.

So it's something we have our eye on closely. For now, you know, I'd say that we're satisfied that the team, as it currently consists, is able to execute the policy well.

COMMITTEE MEMBER MIDDLETON: All right. Thank you. One last question on infrastructure. With the Inflation Infrastructure and Jobs Act that the federal government has put into place, does that, in your mind, create some additional opportunities for American-based infrastructure projects and do you see that as an area that we should be growing our investments?

MR. McCOURT: Yeah. So the Infrastructure Act probably has elements that will be helpful for deploying capital and maybe some elements that compete with you for deploying capital. But the overriding element of it is the deployment of those federal fund is very long term.

COMMITTEE MEMBER MIDDLETON: Um-hmm.

MR. McCOURT: So it's not like it would have a meaningful impact one way or the other in the short term. Most of your infrastructure assets are what's called core assets. They're not -- they're not development assets. Most of the federal funding will go towards development of infrastructure. So to the extent -- but probably the most favorable thing to come out of that legislation would be really a refocus of the country on the benefits of investing in infrastructure. And as more -- if it leads to more and more states and federal government recognizing the need for more modern infrastructure in the country, that will certainly increase the sourcing of deal flow that you see as an institution.

COMMITTEE MEMBER MIDDLETON: All right. Steve, thank you and your team, and thank you, Mr. Chair.

CHAIRPERSON MILLER: Okay. Next, I have a question from Dr. Gail Willis.

COMMITTEE MEMBER WILLIS: First of all, Steve, I'd like to thank you for your presentation. It was excellent, very well done, very organized. I would like to know why 43 percent of our investment in infrastructure is outside of the U.S.? If you can kind of clarify that information.

MR. McCOURT: Yeah, infrastructure, as an asset class, the vast majority of the transactions that occur, that occur outside the U.S. So relative to the broader market, your portfolio is U.S. biased. You have more investments in the U.S. than the average investor. But without the ability to invest in infrastructure outside the U.S., it would be very challenging to achieve even the 3 percent allocation to the asset class that you have today.

So the strategy in infrastructure, the primary objective and goal of it was to and is to deploy capital at a scale that will make a difference for CalPERS. And in the current marketplace, that requires that a certain amount of the capital be deployed outside the U.S.

In the future, who knows if infrastructure becomes a more available asset class in the U.S. There's more room for your investment team to orient the portfolio to the U.S. at that time. I will highlight as well though that the assets outside the U.S. in all other ways reflect the risk -- the conservative risk posture that the assets inside the U.S. have. They're core assets that are defensive in nature generating cash flow for you.

COMMITTEE MEMBER WILLIS: Thank you very much. Appreciate it.

CHAIRPERSON MILLER: Okay. Next, we have Director Willette.

COMMITTEE MEMBER WILLETTE: Thank you so much. Thank you for these reports. And I appreciate the thoughtfulness and thoroughness of your whole team.

So in the, I guess, private equity conversation, I recall at the November Committee meeting, this Committee asked for a team to prepare a proposal of a workplan for the incorporation of workforce issues into our private equity policies and practices. I think it's really critical for our fiduciary interest to be able -- to kind of be able to analyze that and look at it. An example recently has hit the news with the child labor, a portfolio company at one of our major partner firms. And so I'm asking if you can give us an update on where we are with those private equity policies and practices.

MR. McCOURT: Yeah, I'm not aware of the investment team's engagement in that, so maybe I'll hand it over to Nicole if she has any update.

CHIEF INVESTMENT OFFICER MUSICCO: Right. Yeah, I just was -- sorry, Mullissa, I was just clarifying if this is the RCP question that we had at the last Board meeting and our incorporation into private equity, is that -- is that correct?

COMMITTEE MEMBER WILLETTE: Yes.

CHIEF INVESTMENT OFFICER MUSICCO: Yeah. So what we've tried to do, it's a -- it's a tough needle to thread to have our private equity investors where we don't have the vast majority of ownership or the vast majority of the capital to basically direct the GP to do certain things. And so the approach we've been taking, which we found great success in, is more through the lens of our ESG framework, if you will, where in diligence for each and every diligence exercise, we do, whether it's with a GP or with a co-investment itself we have a set framework that would be in the spirit of what is being asked through the responsible contracting program, but not with the same legal teeth or, you know, signatory if you will.

So the activity, and the thoughtfulness, and the endgame being that we're -- we are aware of and getting the information that we need in order to either make new decisions or make a decision not to invest, because we don't think that the practices line up with our values or our views of -- that are important, we've been using this

ESG framework approach in diligence, as opposed to the impossible -- the impossible ask of us having our GPs within the private equity space take on that RCP approach that we've used with our -- with our real asset managers.

COMMITTEE MEMBER WILLETTE: Okay. Thank you for that response.

CHAIRPERSON MILLER: Okay. Next, we have Director Rubalcava.

COMMITTEE MEMBER RUBALCAVA: Thank you. Great. I like the presentation also. Thank you.

I -- one of the questions I had, Trustee Middleton asked about the infrastructure, but I do have a follow-up on the infrastructure. Actually two. In the risk presentation, you mentioned one of the risks is counterparty risk, which when I looked through the -- through your memo and it wasn't there. So what is counterparty risk?

MR. McCOURT: Counterparty risk -- and I know -- I know in the presentation that the investment team is going to give next, they have a slide which is really nice, because it highlights some counterparty risk. Counterparty risk is contracting risk. When you have a contract for someone to pay you money over a certain amount of time, they can only pay you money if they have it to pay. And the risk of them going bankrupt or defaulting on that is a risk to you, because they won't -- they won't satisfy their contract.

In not all, but many infrastructure assets, there are long-term often take-or-pay contracts with counterparties. And the counterparties can be cities, or states, or foreign governments, other agencies that will purchase a certain amount of fuel or energy in some cases from you for 10, 20, to 30 years. They will guarantee you a stream of revenue, but that guarantee is only as good as their credit worthiness. And their credit worthiness is what we describe as counterparty risk.

COMMITTEE MEMBER RUBALCAVA: Thank you.

MR. McCOURT: Yeah

COMMITTEE MEMBER RUBALCAVA: The other thing -- one thing you did have in your presentation is a slide about dry powder and how it's dramatically increased. Do you see that increasing, continually increasing, or you think there will be a point where things will again provide opportunities? I mean, I know it's only three percent asset at the total fund, but it seems like this is something that can't go forever, I mean, especially as we -- Mr. Middleton raised the administration's Federal Infrastructure Act and things like that.

MR. McCOURT: Yeah. I've been doing this a long time. I've never seen dry powder come down in the private markets. I don't -- I think there's a significant amount of demand. I know there's a significant amount of demand for infrastructure, and private equity, and real estate from all institutional investors. And there's only a limited ability to deploy that capital at any moment in time. And to the extent that that demand exceeds the supply, you have elevated levels of dry powder.

So my guess, Mr. Rubalcava, is that the dry powder will probably continue to increase over the next several years and it may increase, you know, up until institutional investors have kind of reached their natural equilibrium of allocation that they can make to these illiquid asset classes.

COMMITTEE MEMBER RUBALCAVA: Okay. Thank you.

And my last comment, and also like a request, Mr. Chair, is one follow-up on Ms. Willette's statement on private equity. And I think that the question is not how much -- I mean, I guess it was a question about how -- what the ESG framework is. But one thing that I think I raised at the last meeting is that there needs to be document -- I'm not sure document is the right term, but we need to promulgate some sort of policy like just like we do on the other asset classes for private equity. And it could be -- like you said, it's -- there's some challenges, but we should still try to create the language as to what -- how are we going to align with our partners, our fund managers, what have you, around private equity? Because, you know, we all heard, you know, the sad story about children who were vulnerable because they were undocumented being used to clean slaughterhouses at night.

And I mean, that's a tragic story, but I don't know that it's that unusual in certain industries and in certain sectors where the private equity tries to say it's not our fault because it's a subcontractor of a subcontractor and we're not responsible.

I don't want to hear those stories, so I'm thinking I need to reiterate what I did last time is that we need some sort of policy, particularly for private equity. And that would be my request, Mr. Chair.

Thank you.

CHAIRPERSON MILLER: Okay.

CHIEF INVESTMENT OFFICER MUSICCO: If I may just respond. Again, I just want to put -- make sure there's some clarity and context on what you're asking for when you say policy, because the challenge we have is that we treat our ESG approach with our partners. And I would think of it similar to our engagement. So every single one of our GPs knows that we have an extremely high standard of expectation or they simply just do not become our partner.

The way that it manifests itself is during our diligence process, where we have very specific questions and asks, not only in the moment, but as part of our ongoing monitoring and engaging with those partners. And as you know, those private equity partners come back to us every couple years for more capital. Those private equity partners call upon us for co-investment opportunity. And each and every time that they do that, where they're asking for more capital from us or engaging with us, we're setting this very high expectation. And it's an overt, if you are not able to deliver us on certain asks or requests through our diligence lens -- our ESG diligence lens, then that absolutely feeds into our ability to fund you.

And so we use more of an engagement approach, because we are a teeny-tiny piece of any one of these investment pools alongside these GPs. And so I'm just -- I want us to be careful when we use that word "policy", because with it brings weight. Because if we, CalPERS, were to have a policy, then we will be shut out of the private equity investing industry, because no private equity firm is going to be open to there being a policy put on them to take sour capital.

What they absolutely have to do is respond to our requests for transparency, respond for our requests to fix things. And oftentimes, you're our biggest allies, because your stakeholders bubble up many of these issues, which allows us to go to our partners and say, hey, this has been brought to our attention and we would like an answer on this. We would like to see a fix on this.

Having that engagement approach is going to be much more impactful, if you will, because we just simply will not be able to invest in private equity programs, if we try to impose a so-called policy on them, because they'll just say we don't need your capital.

COMMITTEE MEMBER RUBALCAVA: I'm very appreciative of the engagement approach and I understand there's challenges, but just like -- but there still has to be something articulated. Maybe it could be summarizing what those -- that screen -- those questionnaires or whatever. There needs to be something that we can point to saying we do have standards --

CHIEF INVESTMENT OFFICER MUSICCO: Yes.

COMMITTEE MEMBER RUBALCAVA: -- because we don't -- I don't want to keep reading about things where we're reacting instead of being proactive. They should know up front, you know, that CalPERS will be monitoring, that CalPERS does have guideposts, or does have expectations, and they have to align with our values too.

CHIEF INVESTMENT OFFICER MUSICCO: We could absolutely --

COMMITTEE MEMBER RUBALCAVA: I know we -- I know that --

CHIEF INVESTMENT OFFICER MUSICCO: We could absolutely come back for -- to you and give you --

COMMITTEE MEMBER RUBALCAVA: Yeah, and it has to be a balance, because you know, we --

CHIEF INVESTMENT OFFICER MUSICCO: -- a much deeper view into that.

COMMITTEE MEMBER RUBALCAVA: I know like the presentation was that private equity is the -- has the biggest returns, but at the same time, I don't want to have blood on our hands either, so...

CHIEF INVESTMENT OFFICER MUSICCO: Understood.

COMMITTEE MEMBER RUBALCAVA: I want us to make sure, especially young kids.

CHIEF INVESTMENT OFFICER MUSICCO: Absolutely.

COMMITTEE MEMBER RUBALCAVA: So I just want to make sure we do something that lays it out as best as we can, given the constraints and the challenges we have.

CHIEF INVESTMENT OFFICER MUSICCO: Well, we'd welcome the opportunity to come back to the Board --

COMMITTEE MEMBER RUBALCAVA: Please.

CHIEF INVESTMENT OFFICER MUSICCO: -- and give you a real insight into what our ESG risk framework looks like. Again, I say risk, it's risk and investing, and how we layer that into --

COMMITTEE MEMBER RUBALCAVA: Framework is fine.

CHIEF INVESTMENT OFFICER MUSICCO: -- each of our conversations. And that starts our dialogue. And we'll learn, you know, maybe we're missing an area that you'd like us to dig into deeper as we move forward in our diligence, but allow us to bring that forward and then let's go from there.

COMMITTEE MEMBER RUBALCAVA: Thank you.

CHIEF INVESTMENT OFFICER MUSICCO: Okay. Thank you.

CHAIRPERSON MILLER: Yeah. Let's take that as Committee direction.

And it looks like I have Frank Ruffino.

COMMITTEE MEMBER RUBALCAVA: Thank you, Mr. Miller.

ACTING COMMITTEE MEMBER RUFFINO: Yeah, thank you, Mr. Chair. I just want to add a quick comment and I'm not an expert on this, but obviously policy it's an issue with respect to what was just discussed. And maybe you want to call it expectations. Maybe it's just some general principles, you know, that -- around things that I think should be common sense. Well, forget common sense. I'm not sure what that means nowadays, but --

(Laughter).

ACTING COMMITTEE MEMBER RUFFINO: -- some things that we can all agree, you know, like -- or even suggesting to our LP, to the general partners and their portfolio company to adopt, you know, such policy. Maybe we don't impose our policy, but we can say, the general framework of expectation. We can set that up.

So I believe, Mr. Chair, it would be worthwhile to engage both our consultant and our staff and input from this Board to see if we can come up with something that it could work for everyone, under the guidance of Nicole.

Thank you, Mr. Chair.

CHIEF INVESTMENT OFFICER MUSICCO: Thank you. Yeah, the good news is we're not starting from a standing start, because there's been just incredible work done by the Institute of Limited Partners Association, ILPA. We often refer to them. And for years now, they've been very focused and engaged on all areas of the E, and the S, and the G, and they have very specific frameworks that each of us limited partners evolve -- adapt, evolve, et cetera, and use. And so maybe we take this in phases. We come forward with the tools that we have at our disposal. We layer on the additional things that we as CalPERS have been using in our framework and open the dialogue and go from there, if that makes sense. Is that a comfortable next step?

CHAIRPERSON MILLER: Um-hmm.

CHIEF INVESTMENT OFFICER MUSICCO: Okay.

CHAIRPERSON MILLER: And I thought I had somebody after Frank, but I'm not seeing anybody. Did I lose somebody here with the -- okay. I think that about wraps it up then. We have a public comment on this item, but thank you, everyone, for your presentations and your thoughtful responses, and really appreciate it.

MR. McCOURT: Thank you.

CHAIRPERSON MILLER: And we have public comment on 6C from Alyssa Giachino, if you would come down.

Okay. And you'll have three minutes after you introduce yourself and start speaking.

MS. GIACHINO: Good afternoon, Committee members. Alyssa Giachino with the Private Equity Stakeholder Project. Thank you to the Board members that flagged the child labor issue. I am here to speak on that and appreciate that you are already paying attention to it.

So CalPERS has more than $8 billion invested with the private equity and real estate from Blackstone. Blackstone owns Slaughterhouse Cleaning Company, Packers Sanitation, or PSSI.

Packers Sanitation last month paid 1.5 million in civil penalties after the U.S. Department of Labor's Wage and Hour Division found the company had employed at least

102 children, some as young as 13 years old, in hazardous occupations of quote/unquote oppressive child labor and had them working overnight shifts at 13 slaughterhouses in eight states. The children were working with hazardous chemicals and cleaning meat processing equipment, including back saws, brisket saws and head splitters.

Investigators learned at least three minors suffered injuries, including caustic chemical burns while working for Packers. Quote, "These findings represent a systemic failure across PSSI's entire organization to ensure that children were not working in violation of the law", the DOL said. The DOL alleged that Packers Sanitation also interfered with an investigation by intimidating child workers to stop them from cooperating with investigators. Packers also lee -- allegedly deleted and manipulated employment files.

Blackstone has owned Packers Sanitation since 2018. Blackstone senior managing directors Peter Wallace, David Kestnbaum, Vikram Suresh, and Blackstone operating partner Jeffrey Overly served or recently served on Packers Sanitation's board.

A year ago in March 2022, we released a report detailing how Packers Sanitation stood out as a dangerous workplace even as Blackstone has collected hundreds of million of dollars in debt-funded dividends from the company. Since May 2018, when Blackstone acquired PSSI, OSHA has conducted investigations of at least four amputations and three fatalities of PSSI employees including a decapitation. Blackstone has not responded to multiple requests to discuss labor violations at Packers.

Given that Blackstone has half a million employees in the U.S. and around the world, the DOL findings should be a wake-up call about the risks that Blackstone poses to workers and investors. CalPERS should halt new investments with Blackstone until the firm adopts and implements a comprehensive policy to address labor standards, labor compliance and human capital risks across its portfolio. Packers underscores the risk in CalPERS private equity portfolio. Some of you were alluding to that a moment ago.

It is not the only case where PE managers are failing to appropriately respond to labor concerns. We urge CalPERS to take further steps to ensure its external managers are accountable for their impacts on communities and workers.

Thank you so much.

CHAIRPERSON MILLER: And thank you for your comments. I think that wraps up Item 6C.

And so that brings us to 6D, CalPERS trust level review.

CHIEF INVESTMENT OFFICER MUSICCO: Thank you very much. I'm going to ask Lauren to join. Thank you, Lauren.

(Thereupon a slide presentation).

CHIEF INVESTMENT OFFICER MUSICCO: So this our -- the new version I referred to in my opening remarks today of our trust level review. The approach we through we'd take today, since we've had great presentations on macro in general, we're hoping this is going to be a very open session for questions. I've chosen maybe a dozen or so slides for us to focus on just to give a little bit more detail on our specific performance, but we'll keep this interactive. I've asked Lauren to come up to give an overview through the macro lens initially, and then I'll, as I said, go through a few slides.

The idea here is that I referred to it in my opening remarks as, you know, you -- it gives you an opportunity to be in our kitchen. And what I mean by that is we want to give you insight into what we're thinking about, not only what happened but going forward different strategy thinking that we have through the different asset classes and as well just to keep the dialogue open. And we'll have further opportunity during closed session to get into questions as well.

So maybe with that, I will pass it over to Lauren to get us started.

INVESTMENT DIRECTOR ROSBOROUGH WATT: Thank you, Nicole. Hello. Lauren Rosborough Watt here, Investment Officer at CalPERS. And it's a pleasure once again to be in front of you today. Although, I have to say it's always a difficult task after Tom at Wilshire. He does such and excellent job at talking through the key drivers and themes in the market and global economies.

My role here today is to talk to you around the macro drivers of our 2022 calendar year returns. And to do that, I'm going to take a step back and remind you of the starting point where we came from, and that is the pandemic three years ago now, hard to believe, but it's still impacting us today.

From a macroeconomic perspective, and you can see here on this slide - and I've spoken to this previously when I was hear last year as well - that the pandemic was exceptionally large and very rapid external, what we call, exogenous shock, and the corresponding fiscal and monetary support was equally historically large. So key economic variables in this case in the U.S., but also globally, such as real economic activities, real GDP, and inflation experienced significant variability, in fact, the most that we've seen in 40 years. And you can see that on the chart identified in the red oval.

So to give some context to the asset returns, because I'm talking of course about economics here. So when we're coming into the start of 2022, let's recall, as I said the starting point, the U.S. and global economies had sort of come out of this pre-opening boom. And so asset valuations were high across most asset classes, you know, you and I, residential real estate. That one we're familiar with, but of course equities and bonds, a number of other asset classes as well. And importantly, short-dated interest rates both here in the U.S. were at or near zero.

When we think about what happened over 2022, expectations are a component of that, because the market pricing today is based on expectations for the future. And those expectations by both analysts and market pricing was for economic activity to ease back, but there was quite a wide range of expectations around the pace or the path by which that would occur.

So what actually transpired, well, the U.S. And global economies did indeed slow, but there was a revaluation as expectations weren't met, both for growth and for inflation. What we saw was that the pace of growth hastened in the middle of 2022 and throughout the remainder of that year until -- sorry, into 2020 -- into the middle of 2022 into Q3.

Inflation was more persistent than what the market was pricing. And, you know, we can -- we can talk to two notable events that I'm sure you're familiar with, one being the Russia-Ukraine conflict and the other one being China's zero COVID policy. And that had an impact both on growth, inflation, and also the variability in inflation. Key here for asset returns also was in 2022, it saw the most rapid tightening of monetary policy since the early 1980s and Tom spoke to that. And that was globally, not just in the U.S.

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INVESTMENT DIRECTOR ROSBOROUGH WATT: So when we think about the implications for that, we had rising inflation and rising policy rates, and that pushed long-data treasury yields higher. And as you know, as yields go up, bond returns decline. We'd fall in growth -- we meaning the -- what we -- what we experience falling growth and growth expectations, rising central bank or short-dated interest rates, and very high inflation, and that pushed down equity returns.

And as you can see on this cart here, which is displayed using annual data for clarity of the illustration, 2022 was one of only a handful of years in nearly the past 100 where both treasury bonds and stock market returns were negative. And you can see that in the bottom left-hand quadrant.

So in this situation, bonds were no longer acting as a reliable hedge to equities as they have done in recent history. Looking forward, even if this relationship remains, bonds still do act as a diversifier to the portfolio, especially when yields are much higher as they are that we see today. And, in fact, the movement that we've seen over the past couple of days, today in particular with treasury yields rallying, so treasury yields falling, bond returns rising as testament to that behavior.

My final chart here today is just to reinforce the point that we had this very unusual combination in 2022 of tightening monetary policy, so rising rates -- that would be the next slide, please.

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INVESTMENT DIRECTOR ROSBOROUGH WATT: Thank you -- higher uncertainty and volatility, which were raising what we call the risk premium. We had high inflation, lower growth, and greater uncertainty. It's a very unusual combination. And as you can see here once again, this is an illustrative example. It hurt the majority of asset prices over 2022 calendar year.

Thank you for your time. I'll pass now back to

Nicole.

CHIEF INVESTMENT OFFICER MUSICCO: Great. Thanks, Lauren.

So please forward one slide, please.

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CHIEF INVESTMENT OFFICER MUSICCO: So again, the purpose of this slides we're drawing out here is just to try to get a little bit more into the weeds of what happened in 2022 and then we'll dig into whatever questions you may have.

And the context and the backdrop of everything that Lauren and others have brought forward, you know, this chart really just reflect the fact that we have experienced tremendous volatility over the most recent year. However, we did remain relatively stable over a longer period, which is what that solid line shows us.

As a result of where the markets have been this year, however, we did record the worst one-year period since the global financial crisis, which again you can see up on the chart. This definitely highlights to us the importance of a long-term perspective while remaining nimble and flexible in the short-term.

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CHIEF INVESTMENT OFFICER MUSICCO: So this slide here just represents a bit of a deep dive. Again, it's helpful to see the challenges that occurred across almost all segments in the last year. Consistent with the broader markets, as we show here, all of the PERF public markets posted were down. And simply put, we just did not have very much benefit from diversification whatsoever, as you can see in this slide. If we go into each of the segments, just to give a bit of color, public equity results, as we've chatted about today, were mostly driven by contraction and valuation multiples in the market. And the market adjusted multiples downward to reflect, as Lauren just pointed out, this effect of the rising rate interests -- the rising rates and the expectation for those rates to rise as well as the speed with which that those rates were rising.

While the growth stocks overall bore the brunt of the downturn in equities, due to their high interest rate sensitivity, generally all investment styles unfortunately, including regions and sectors, all registered negative returns, with the exception of energy stocks. You may be reminded that over 90 percent of our -- of PERS portfolio is index oriented. So unfortunately, we cannot be spared the brunt of the broad equity downturn that we experienced in 2022. Although we did have -- we did experience positive returns relative to our policy benchmark

In general, active strategies overall outperformed their benchmark during the calendar year, although their overall absolute returns were negative in line with the broader market as we just chatted about. And we'll talk in closed session a little bit more about our strategies around active strategies.

The impact of the active performance was limited by the fact that our active book however is only 8 percent of our portfolio. So again, this is an area for us to continue to think about pushing more into as we -- as we look forward in our investment strategy.

Fixed income, you'll see, as an asset class, was hurt by the long duration nature of the portfolio. With inflation impacts of the pandemic and the Russia-Ukraine conflict, 10-year treasuries rose nearly two and a half percent during 2022. This resulted in large absolute losses in our longest duration assets, which are the U.S. Treasuries and investment grade corporate holdings.

This shortage duration assets, high yield, and mortgage backed securities had great than 10 percent absolute return drops. The income asset class has strong long-term relative returns, but lagged in the most recent year given again the current defensive posture of the portfolio, especially in investment grade. Given the large increases in central bank interest rates, our anticipation is that this will ultimately impact risk assets like corporate bonds. That has not been the case so far.

And moving on to real assets, we had the benefit of hearing from the consultants, but I'll reiterate a few ideas here. Cap rates, as we talked about in previous slides, have increased over 100 basis points in 2022 and are forecasted to increase even more, which is going to have real impact on valuations. In general, higher interest rates, broader economic uncertainty and recessionary fields have -- fears have really stalled the markets, which is continuing to put this downward pressure on our real asset values and returns. As we talked about, leverage does play a significant role in real assets, and refinancing has become more costly, and more challenged sectors like office and malls quite difficult, as we talked about.

Infrastructure sectors such as renewables are benefiting from structural tailwinds. Utilities and other highly concern -- highly contracted assets with essential services are also likely to hold up a bit better. Most regulated infrastructure assets are benefiting from the increase in inflation and interest rates, so there's a bit of a bright light there.

Private debt, as you know, it's a newer strategy for us. One of the observations we've had is that private equity sponsors are gravitating more and more to private date. We're certainly going to see that and we've been feeling that over -- through the news and over the weekend with the news of SVB. But I think, in general, this is another area of opportunity, which was a question we had earlier around where different areas of opportunity are being presented with current market dynamics.

Private equity, this came up a little bit with the question around dry powder. What we have seen is this higher cost of debt has slightly curtailed the abilities of the GPs to drive returns through financial engineering. And so we're thinking about that as we think about where will the valuation of these assets go. Again, as we've chatted about in the past, the valuation lag that you have with the private market assets, because we use public market benchmarks, is something that we are paying close attention to.

If we could flip to the next slide, please.

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CHIEF INVESTMENT OFFICER MUSICCO: This slide just helps to give context for where the one-year total return contributions are coming from within the policy benchmark. And so as you'll see during this very rough volatile ride of 2022, the PERF NAV dropped more than $50 billion. Most of this change in value is driven by the beta or the asset allocation, which is reflected in the Total Fund Policy benchmark, which returned negative 12.6 percent.

Stocks and bonds account for more than 70 percent of the PERF value, and both experienced losses as we've just described in previous slides for '22. The public equity benchmark returned negative 16 percent and the fixed income benchmark returned negative 18 and a half percent. As we said, diversification really did not help. We didn't not get the -- see the benefits of diversification.

The real assets benchmark, which we chatted about early, returned almost 21 percent and offset some of the losses. And additionally, portfolio management and implementation contributed about 6.4 billion in value-add, bringing the PERF total return to the negative 11.2 percent for the year. We'll remind everyone that this is a relatively short period of time to evaluate returns. But the unusual market conditions, we thought it was really appropriate for us to take a look at what that one-year -- what happened in the markets during this one-year period.

So we flip the slide to the next page, please --

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CHIEF INVESTMENT OFFICER MUSICCO: -- where we can focus on decomposing the impact from our portfolio management and implementation over a five-year period, which is a -- is a more appropriate period to take a look at.

Relative to our benchmark, the PERF outperformed by 157 basis points in 2022, and 37 basis points for the five-year period. As we've been pointing out, the largest contribution for this outperformance has certainly been coming from private equity with a significant portion coming from the most recent one-year period. But again, I caution the Board that we will see movement in those valuations, given the lag in the private equity valuations.

This brings our cumulative five-year value-add to round $9.7 billion. And over time, we're going to start talking a lot more about value-add, and that's one of the education pieces that we will be bringing forward during our Board off-site, where we'll talk more about risk budgets and thinking about value-add dollars as opposed to just speaking about relative performance, if you will.

It's important to note that even over a relatively longer five-year period that these value-add numbers can really fluctuate rapidly. So again, I think it's an important education piece. And going forward, we expect to be increasing our focus, because of what we outlined today on active management and in particular in those -- in the private market space.

And again, with the announcement of having the opportunity to onboard a Deputy Investment Officer for private markets, my hope is that in short order, you'll start to see us having a lot more interesting activity in more cost effective ways across the private market space.

Maybe just briefly shifting to allocation changes, and Dan will get into this a bit in his presentation, but to closeout. In 2022, it's -- next slide, please.

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CHIEF INVESTMENT OFFICER MUSICCO: In 2022, we made significant progress towards shifting the portfolio to the -- towards the new long-term strategic asset allocation that we rolled out as of July 1st last year. The public markets team - I thought this was an interesting stat - they transacted over $90 billion to better position and diversify the portfolio.

We added new -- two new segments, emerging sovereigns and private debt and we began to introduce leverage as a tool of strategic allocation, which was allowing us to incrementally reduce or reliance on equities as the primary engine of risk and return.

Overall, we did see a significant increase in our private asset allocations. And a lot of the activity that happened in the private asset side of things was moving more towards co-investing, which offers a better overall cost advantage.

Next page, please.

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CHIEF INVESTMENT OFFICER MUSICCO: This is just to help us understand again the drivers of the net asset value. And while some of the increase in the privates, the denominator effect that we referred to earlier was due to this rapid drawdown in public markets. We are continuing to deploy, and I know it is often difficult to access the opportunities in private markets, but I actually feel we're in a very good position at CalPERS right now with respect to our allocation, unlike many other large institutions that are frankly at their allocation caps, if you will, we continue to be able to provide dry powder to the market if and when those opportunities present themselves. And that's a -- that would be relevant across private equity, private debt, infrastructure, and real estate. So I'm feeling very good about that. Overall, we contributed just over 30 billion gross into private programs or 16 billion net of deployments when we take out distributions.

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CHIEF INVESTMENT OFFICER MUSICCO: We'll just closeout maybe on a few comments on risk in the program.

As we've discussed previously, equities, and more broadly our assets, are sensitive to growth, which remains the dominant risk in our portfolio, so equities and equities that are sensitive to growth. This chart is -- we've shown this before, but it basically is a rough simulation of our current allocation through history.

It is a sobering reminder that being a long-term investor can entail significant periods of pain, which is what is demonstrated on the chart, but it also highlights that PERF's risk is still very closely tied to the equity markets. So this is an opportunity for us. Everything that we can do to innovate in active management to deploy into private market opportunities and to stay on top of our strategic asset allocation is a huge area of focus for us, because what we're -- what the messaging is today is it's not just about returns, but it's also equally important around managing the risk by adding diversifying returns sources.

And that's what you would have seen starting to come through with our strategic asset allocation and why we're really pushing a lot of our focus into deploying into some of the new segments and more into private markets. So that concludes my remarks. I thought those were some of the more pertinent graphs to tease out of the trust level review that you received, but we've put a lot of content in there, and so more than happy to address any questions that you might have from the report itself.

CHAIRPERSON MILLER: Okay. Thank you very much. Really comprehensive great reports. I really appreciate the economic updates and everything. And so that brings us to Director Pacheco.

COMMITTEE MEMBER PACHECO: Thank you, Nicole.

CHAIRPERSON MILLER: Wait. One second.

COMMITTEE MEMBER PACHECO: Sorry.

CHAIRPERSON MILLER: There you go.

COMMITTEE MEMBER PACHECO: Again, this is -- this technology is incredible.

Thank you very much for your narrative. I really appreciate this new approach just telling the story. I think it's a great way for the -- for the -- for our members to really understand our material in such a -- kind of almost a story-like narrative. And I think I -- I just want to compliment you and your team on doing that.

So my question is regarding the -- actually, the actionable tracking error. I noticed that in our policy limits are less than 1 -- 1.0. And currently, we're at 0.10. And there seems to be some -- you know, from what I can tell, there seems to be a lot of opportunity there for additional active management. I was just wondering if you could elaborate more on that and give us some highlights on how that could work. Thank you.

CHIEF INVESTMENT OFFICER MUSICCO: Absolutely. Thank you.

First of all, thank you for the recognition. And it's -- I really have to pass it on to the team. You know, as we keep using this push for innovation as well as resiliency, this body of work is absolutely a reflection of the team really owning and wanting to demonstrate that this spirit, this culture of innovation is alive and well. And so it was a real collaborative effort across multiple teams. And so I'm really proud of the team. So thank you. We appreciate the feedback.

COMMITTEE MEMBER PACHECO: You're welcome.

CHIEF INVESTMENT OFFICER MUSICCO: As far as your observations on tracking error for the piece that we have control of, you're absolutely right to observe that there's a lot of room there for us to take on more active management.

And again, I will keep going back to it, but some of the nine business initiatives that we've taken on for this fiscal year that we've been working on, a number of them are precisely to start building this culture of innovation, which leads to building a culture of being comfortable with taking active risk that will -- that will return great risk-adjusted returns.

And I'm excited to see that even though it's a very short period of time, we are starting to see that culture seep through and we are starting to see it manifest itself in the -- in activities like the teams seeking out proactively who some of the best active managers are out there. Simiso and team have been doing a tremendous job at thinking about how could we get more exposure to active managers. As an example, our GFI team, our fixed income team are doing a lot more on the active management side. We have a ways to go. I think part of it is just frankly culture.

If you look at the history, we've taken very little active risk. A lot of that is because we've kind of been built around being beta investors for the most part. But I'm starting to see great green shoots of cultural change around that. Our private market program, while not reflective in the tracking error number that you refer to, because that's -- it's track different, we're seeing a tremendous roll up the sleeves, innovative spirit, if you will, across all of the private markets.

And that's where you'll start to see a lot more active management. We're taking many more calls, if you will, and doing a lot more homework on co-investing.

COMMITTEE MEMBER PACHECO: Um-hmm.

CHIEF INVESTMENT OFFICER MUSICCO: And so it's not just on the public market side that you will see the 10 bps hopefully start to trade up -- or trend up. You will start to see a lot more active management within our private markets program too. And frankly, it's just required in order for us to hit the return thresholds that we're seeking.

COMMITTEE MEMBER PACHECO: Thank you. Thank you, Nicole, for that. I just want to elaborate on talking about metrics and understanding tools. I also, when I was reading this material, I noticed that there's no equivalent quantitative metrics for private -- for the private markets, because I guess there's inherited limitations in modeling, measuring, and benchmarking. Are there -- are there tools out there that we could utilize or just -- or something? I mean, I'm just trying to understand how we could measure these -- this -- these active measurements in that -- in that space.

CHIEF INVESTMENT OFFICER MUSICCO: Yeah. It's -- it really is an industry-wide dilemma. No one has come up with the perfect mouse trap to -- for creating benchmarks for private equity programs different than what we're all grappling with. We use public proxies. But that said, it doesn't mean we can't sharpen our pencils more and be -- get more in the weeds. Once we're able to have a real line of sight into the underlying portfolio of companies of each of our GPs, once we're able to collect that data, we can really take a deeper look at what the proxies are that we're using and get more sophisticated.

The tool we're using -- the approach we use today is no different than the vast majority of the industry.

COMMITTEE MEMBER PACHECO: Right.

CHIEF INVESTMENT OFFICER MUSICCO: But as our data and tech strategy, which is one of our nine business objectives --

COMMITTEE MEMBER PACHECO: Um-hmm.

CHIEF INVESTMENT OFFICER MUSICCO: -- once our data and tech strategy is up and running, part of it is that this knowledge can be quite powerful. It will help us think through are we benchmarking appropriately? It will help us get better line of sight into the underlying portfolios.

COMMITTEE MEMBER PACHECO: Excellent. Well, thank you very much for your comments. Appreciate it very, very much.

CHIEF INVESTMENT OFFICER MUSICCO: Thank you.

CHAIRPERSON MILLER: Okay. Next, we have Frank Ruffino.

ACTING COMMITTEE MEMBER RUFFINO: Thank you, Mr. Chair. I'm going to start off with a quick comment on -- obviously, the investment team, you highlighted those several key initiative under innovation and resiliency on page 18. Progress on several key initiative. I just wanted to draw the attention and repeat the second one, and not necessarily one or second, but it's the second bullet point, which the Treasurer in particular is enthusiastic and happy about this particular initiative, which you're committing 1 billion in support of sitting small emerging and diverse private equity firms. So for those of you who are listening or those of you in the audience women, women of color, this is a call for you. How are you going to reach out to see if we can maximize and recruit these diverse private equity firms?

CHIEF INVESTMENT OFFICER MUSICCO: Thank you for the question and for highlighting it, because it's an initiative that we're all extremely proud of and also ties into this idea of we're trying to create our own culture of innovation, our own culture of diversity, understanding or own unconscious biases, et cetera.

And so to answer your question how are we going to find these emerging managers, the first step that we took was to acknowledge that investing in emerging managers for return for the appropriate risk-adjusted return is not something we think you need to do off the side of your desk or not something we think you should do just off the side of your desk. These are often more complex diligence processes. These are often smaller, newer managers that don't have track records. Maybe they have untraditional track records. Maybe they don't even have track records. Maybe they've been spun out of larger groups, but have been real rising stars within their organization and are -- have come to market for their turn, their kick at the can of becoming managers.

And so for that reason, we said if this -- if we are out to create the best performing, emerging, diverse manager program that we can, we want to bring on the best partners we can to help get us -- get this done. And so in our case, the billion dollars today is basically split between two strategic partners, one being TPG, the other being Grosvenor.

And each of those partners while taking a slightly different approach, if you will, to seeding and finding those emerging managers, we said to them it's not enough for you to build us great performing portfolios. We need to do more for the industry. We need to do more to get this flywheel of opportunity going. And what do I mean by that?

It's everything from saying, well, we've seeded the capital. We also want to see mentoring programs. We want to see almost like best-in-class bootcamps, if you will, created specifically for these emerging managers. We want to see these emerging managers. If they're software investors, we want them teamed up with your best-in-case software deal teams, so that there's this knowledge transfer. And by the way, in doing so, we're also going to layer in our own CalPERS staff to be part of the pro -- be in their kitchen, if you will, learning and growing.

And so we have this whole initiative that's intended to be more than just -- and by the way, this is a baseline. They must be the best performing, best risk-adjusted investment opportunities. But addition to -- in addition to that, it's for knowledge transfer, it's for growing the industry, it's for mentoring. And so on that note, we've added one additional layer, which is really creating a separate conference. We have the one conference that we're doing in partnership with CalSTRS, where we will invite not only these potential emerging managers, but also large pools of capital that believe in what we're trying to do and support the mouse trap we're building.

We're also going to have a separate and distinct conference, which is more about identifying the up and -- up and coming talent that is diverse within our industry, because we recognize that the networking effect, the mentoring effect that many of us have been privileged to have as we grow up through the industry is not necessarily available in the same way to emerging diverse managers. And to some of the questions earlier, diversity in our mind is an extremely wide range. It's not just about gender diversity.

And so we're really -- we really wanted a holistic solution here. We wanted to be more than just capital. We wanted to put out the rally cry to other large pools of capital, which we have been doing very proactively to invite others, because we're acknowledging that this is not an easy investment strategy. It's often be very small. It often doesn't move the needle. It requires as much work to invest in small managers as it does, and sometimes more work, small managers versus managers.

And so we're trying to create the ecosystem, the convening tool, machine if you will, and hope that others will follow. And we've been really excited for -- you know, delighted frankly to see the traction.

ACTING COMMITTEE MEMBER RUFFINO: That's

terrific. That's great news. Thank you for outlining, you know, a very ambitious goal, but it's doable. The Treasurer definitely will support you and anything that our -- her office can do to help in this process, she will be there. So thanks again.

CHIEF INVESTMENT OFFICER MUSICCO: That's really appreciate. Thank you.

CHAIRPERSON MILLER: Yes. Thank you. I don't see any more requests to speak on this item and I don't have any requests from the public to speak on this item, so thank you. I, too, really enjoyed kind of the difference in the style and the presentation. It's much more accessible, but there's still all the data and information backing it up and supporting materials. So I'm -- I really think that it serves certainly me, and, you know, my colleagues and hopefully our stakeholders well. And I really appreciate the change and appreciate the team's thoughtfulness in coming forth with that kind of a, you know, innovation, because we need innovation on, you know, the large scale, and the small scale, and every little bit helps, so that I really appreciated that incremental move forward in terms of the quality and the usefulness of the presentation.

And with that, we'll move on to 6E, Portfolio Strategy Update.

CHIEF INVESTMENT OFFICER MUSICCO: Great. We'll call up Sterling Gunn to join me up here for this next portion.

Thanks, Sterling.

BOARD CLERK ANDERSON: Chair Miller, we do -- we do have a public comment on the phone for 6D.

CHAIRPERSON MILLER: For what?

BOARD CLERK ANDERSON: For 6D.

CHAIRPERSON MILLER: For C. Okay.

BOARD CLERK ANDERSON: For D.

CHAIRPERSON MILLER: For D. Okay. I didn't have it on my list. Okay. Okay. We'll have a -- we do have a public comment. It's a phone caller, so bring them on and they will have their 3 minutes.

Hello, caller.

MR. RING: Hello. Can you hear me?

CHAIRPERSON MILLER: Hello. Yes. Welcome. You'll have three minutes, so identify yourself and then the clock will start for your comments. Thank you.

MR. RING: Greetings to all the Committee members. My name is Michael Ring and I work for the Service Employees International Union. Thanks to the Board and the CalPERS staff team for all the work you do to ensure CalPERS participates including thousands of SEIU members receive a secure and dignified retirement.

As you go through this trust level review, I wanted to lift up how important it is that CalPERS sustains fiduciary work to integrate workforce risk and opportunity management into its investment projects to ensure benefits to be paid over the long term. CalPERS has a long history of leadership in this area, for example, through its robust real assets workforce risk management program, as expressed in its Responsible Contractor Policy and program, through its corporate governance program's integration of human capital management issues into its proxy voting and proxy engagement work, including to lift of -- especially lifting up the importance of diversity, equity, and inclusion from board rooms, to the work site, to the community.

As well as CalPERS leadership in facilitating invest in networking to manage these long-term risks through, for example, the human capital management coalition, where you own Investment Officer, Tamara Sells, services co-chair. And I'd like to recognize specifically the work of Tamara, James Andrus who have guided much of your team's work in this area recently with great skill and efficacy.

A recent review of the news cycle detailing the experience of workers makes clear that CalPERS long-term fiduciary interests, sustainable workforce practices can only be protected through these times of proactive intentional approaches. As noted earlier, major news outlets recently reported a prominent private equity firm that children worked -- do dangerous work at one of their portfolio companies. And we are well aware all of us of reports of high profile publicly traded companies completely ignore -- ignoring and violating their workers rights to freedom of speech.

As someone who has the opportunity to work with investors and workers every day, I can assure you that the testimony I hear from workers is often very different than the information you receive from companies. In that context, we encourage you to redouble your efforts in this area to, for example, continuing the practice of updating your company engagement and proxy voting approaches on workforce issues as was mentioned in the conversation earlier today, updating your Responsible Contractor Policy for real assets, incorporating workforce standards and practices into your Private Equity Program practices, as was mentioned also earlier today, and ensuring you have accurate data verification processes through which workers can safely verify companies and asset manager reporting of workforce practices.

Thank you very much for your time and

consideration and all your efforts on behalf CalPERS plan participants.

CHAIRPERSON MILLER: Great. Thank you for your comments, Mr. Ring. Appreciate it.

And I think that does wrap up 6D. There are no more commenters or callers. So we're on to 6E, Portfolio Strategy Update.

(Thereupon a slide presentation).

MANAGING INVESTMENT DIRECTOR GUNN: I guess that's me. Sterling Gunn.

CHAIRPERSON MILLER: I guess so.

MANAGING INVESTMENT DIRECTOR GUNN: And I lead the total fund portfolio management group here at CalPERS. So good afternoon. Thank you for having me here.

And I'll just start by observing that a number of the things that I wanted to discuss today as part of the portfolio strategy, you've already touched on, either through the presentations or through your questions. So that's good news. That means that we are aware about these things. And you'll see through the presentation actually in living through the last few days, it's just yet another example of the kind of uncertainty that we live with and try to manage through every day.

So I will touch on a couple of highlights, key features of our portfolio strategy. The first is the reliance on equities in order to get the kind of returns we need to achieve our 6.8 percent discount rate. And what comes with that, of course, and we saw some examples of it today, it's a very highly volatile strategy, but nonetheless it's necessary. And you'll see here I describe it as a harvesting strategy and I'll get into that in a few minutes.

The second piece I'd like to talk about, and it actually came up in the conversation around tracking error and so on is the true value of adding value to the portfolio. I don't remember if we really recognize the true value in the past. What we have here is some actuarial analysis that suggests if we could add 50 basis points a year on average over 30 years, that could reduce contribution costs by about 10 percent. So that actually is quite valuable, so highlighting that piece.

A third point that I'd like to make today will be revisiting a theme I like to touch on around uncertainty, that there is a lot of uncertainty and we'll see the implications of that for our portfolio.

What I'd like to do though is start with an analogy around harvesting. And so you probably noticed, I think it's on page 3 here --

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MANAGING INVESTMENT DIRECTOR GUNN: -- my farming analogy. And I actually think it's quite appropriate in terms of how we have to approach dealing with the equity risk premium. It's not something that shows up every day. It's not something that shows up even reliably every day. It's something that you believe you can over time collect and be rewarded for wearing equity risk if you persist and stay with it long enough. So just as farmer, every year, you go out there, you know, you sow the crops. At the end of the year, you harvest the crops. But in any given year, there are a lot of things beyond your control that will affect that actual quality of the outcome.

So you will do the same thing pretty much every year, not knowing how you will be rewarded in any given year. Nonetheless, you persist. And the reason you persist is over the long run, you believe this will work out. I just wanted to highlight that. That -- that's to me a very important analogy. It actually works very well for me. It's something I was sort of raised on in this industry, that that harvesting is an important recognition of trying to collect the equity risk premium.

So if I move on to the next page.

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MANAGING INVESTMENT DIRECTOR GUNN: Here I just wanted to talk a little bit about uncertainty. If we think about coming into 2022, what were we thinking about?

We were thinking about the fact that the economies are likely to get a little bit slower. Central bank policy would be tightening a little bit. That the pandemic, which we were in the midst of, would probably continue to affect changes in behavior. And that, as we had talked about during the ALM, there would be a transition in regimes. So some of you that were here over the last couple of years, we had talked about how in the near term returns would be quite different than they would be in the long term and they'd need maybe to change the portfolio over time. We didn't know when that change would happen. I don't think any of us expected it would have happened as quickly as it did, but it's been happening.

So if we think about the expectations at the beginning of the year and what actually happened through the year, a number of things happened that we did not expect. There's a war in the Ukraine, for example. And higher inflation, and as a result the central bank taking -- tightened much more quickly than anyone would have thought, and, in fact, as we heard at historic rates. So again, not what we expected, but it's what we got. The last week is another example, just almost out of the blue, where we have a bank failure. No one was really even talking about that say a week ago, and now it's throughout all the headlines.

So if we think about going into say the coming year, how -- what are we thinking about now? Well, we're still thinking about inflation and we're still thinking about rates. We're thinking about economic growth slowing. We're thinking about potential for a recession at some time - don't know when, but a recession is probably coming - the macroeconomic volatility, a lot of uncertainty, inflation, more volatile perhaps than we're used to.

So all of that sort of suggests that we're getting in -- still in a regime of higher uncertainty. And that leads me to the next page.

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MANAGING INVESTMENT DIRECTOR GUNN: So if we look at the next page, we survey external managers and ask them for their opinions on ten-year returns -- project returns. And I hesitate to call them expected returns for the very reason that they are uncertain. If you look at this page, you will see -- and I'll just draw your attention to the left-hand side. It happens to be private equity. I'm not picking on private equity, but just to illustrate here.

The yellow rectangle is the range of estimates of projected 10-year returns for private equity from external managers. You see that varies from 4 until about 10 percent. That's a wide range of outcomes. All these people are experts and this is what they're saying to us. The other interesting feature is when we asked the same people a year and a half go, we had the blue rectangle. And there, you see the range is from about 3 to about 13 percent.

So it's not that the uncertainty is just a unique particular feature at a particular point in time, there's almost always a lot of uncertainty and expert opinion. Expert opinion will be diverse on these matters. So I wanted to call out here that the way uncertainty plays out, you know, if you think about statistics, you'll hear, well, the average will be five plus or minus 3 percent.

The way the uncertainty is playing out here though is we aren't even certain of the average outcome. All right, so the average here for private equity is somewhere between 4 and 10 percent plus or minus whatever. So the uncertainty introduces a lot of additional variability in outcomes.

So I just wanted to highlight that uncertainty is something that we certainly think about. We do that through our modeling. We don't just anchor on a particular point. We don't just say, well, private equity returns are going to be 8 percent for the next 10 years. That's not how we operate. We ask ourselves what if it's not 8 percent? What if it's something different? Do we still have an allocation that makes sense? So we try to address uncertainty by considering a portfolio in different contexts and ask does the portfolio still work reasonably well?

That doesn't mean that we can anticipate everything that can happen, far from it, but it does give us a sense of what we might have to do in the future if we have to respond to changes that are material. So I wanted to speak to that.

So let's just speak a little bit then about equity returns, and that's on the next page.

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MANAGING INVESTMENT DIRECTOR GUNN: So there's two exhibits here. And this came up in -- earlier today as well. I'll draw your attention to the left-hand side, first. The left-hand side has about 120 years of equity risk premia returns. Now, the equity risk premium is the difference between equity returns and the bond return. If equities outperform bonds, it's positive. If it under -- equity has underperformed bonds, it's negative. What we have done here is looked at a 10-year rolling window and said okay, over any particular 10 years, did equities outperform or underperform bonds? So if you look here, wherever it's blue, that graph tells you that equities outperformed bonds over that 10-year period.

Where it's orange -- I think that color is orange. My color isn't always great. You can see that -- those are periods where equities underperformed bonds for 10 years.

So I bring this to our attention, because we consider ourselves long-term investors. What this message tells us though is that even over a 10-year period, bonds may still outperform equities. So that's important to keep in mind. If you look at this chart, historically that was about 10 percent of the time. So it's important to be aware of. So 10 years feels like a long time, but if you're harvesting that equity risk premium, you might have to be in there for a lot longer than 10 years sometimes in order to make it work. So I just want people to be cognizant of that kind of relationship.

On the right-hand side, we have daily returns in the S&P going back to 1988. And here, the story I wanted to illustrate is a little bit different. I tried to color code two aspects. So if you have the daily returns there, 90 percent of the days are colored in gray. Those are just sort of kind of normal days. One percent are colored in blue. Those are the days where we had extremely positive returns, the top sort of percentile of returns. And then color coded in orange is the bottom percentile, those days where we had extreme losses in the markets on a daily basis.

The key point here though is if you look at this, you'll see they come in bunches. You can see that there's a day, you know, a really terrible return followed by a day with a really good return. So the message here really though is it's quite challenging then to try to avoid the losses because you risk losing the gains. So again going back to that harvesting strategy, it's really, really important to be steady and to stay with it, knowing that at any given moment, it can be a rough ride, but that it's important to be there, so you don't miss out on the upside just because we tried to dodge the downside.

So the overall thing here is just to try to reinforce that harvesting strategy. If you believe equities will give you a reward for the equity type risks over the long run, then it's important to kind of be there, be there in steady way. The left-hand side tells us it can be a bumpy road. The right-hand side tells us, it's really very difficult to time the market, so it's better maybe, unless you think you're exceptionally skillful to be in that market and just be consistent. So those are the key messages on this page.

Go to the next page, please.

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MANAGING INVESTMENT DIRECTOR GUNN: Now, you saw this earlier. Lauren showed this chart, so I won't belabor it too much, other than it highlights how unusual last year was, that both bonds and equities had a negative return. If you look at the rest of the chart, the top right-hand corner, bonds and equities have positive returns. That's a nice place to be. The other two quadrants, top left and bottom right, one is negative, one is positive. And that's the kind of think you would like from a diversified portfolio.

What this chart really shows us is that with the exception of four years, the world kind of works the way we would like it to work in a diversified kind of way. That doesn't guarantee that next year we'll have a diversified portfolio, but the odds are pretty much in our favor depending on the circumstances. And the world is getting to slightly more normal place than it was even a year and a half ago. So I won't belabor that anymore.

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MANAGING INVESTMENT DIRECTOR GUNN: So the next page is a little bit more about our specific portfolio in private assets. We've talked quite a bit about private assets today. There were some very good questions about them. And here we just wanted to talk about a bit of our history. Later on in closed, we'll talk a little bit about what we think we're doing for the future and how that's going to work.

I just wanted to call out, if we look at the top left exhibit, first of all, and that's just the undrawn commitments. And I think the -- many of the Board members here have already heard this story from other speaks in the past, but after the GFC, for whatever reason, we stopped committing to the private asset classes for the moment or at least slowed down. And so the undrawn commitments were quite low for almost a decade. And it's only in the last three or four years where we've started to increase our commitments again to private equity.

And the reason I mentioned that is some of the messaging in the past was, we missed out, right? After the GFC, there were opportunities and we missed out. We were being asking earlier today about opportunities, and yes, they were -- the world will present opportunities, and the important thing is to stay in the game and be aware, so that was the first point.

The NAV, the middle part of the second exhibit here, that's the net asset value. Again, all these I've mentioned in dollars by the way. And I'll get onto that in a second why I've chosen to do it that way, where because of the way we committed for that period of time, you didn't really see a significant increases in the NAV of the private assets over that decade, but you have now seen the more recent bump in that, again, as we started committing to these assets.

Then the last point down there is the dollar value-add. And again, you sort you see a lost decade, the consequence of the decisions that were made over an extended period of time. And from about 2010, you'll notice that blue line is basically horizontal. We're plotting the cumulative value-add, which basically says it didn't change a whole lot. It bumped up and down, but didn't change a whole lot. You'll see recently, there's a bit of an uptick. And if we talk about, you know, the new strategy, it's our belief that that uptick is hopefully the new trend that we're trying to set here.

Now, the one reason I mentioned dollars is everything that happens in this space is done in dollars. You make commitments to external managers in dollars. We don't give an external manager a percentage of our portfolio. That's an internal thing. Managers get dollars. And this is going to take us to the next page when we look at how the -- this in -- the allocations here interact with the rest of the portfolio, but it's important to keep that in mind. It's about the dollars. We don't rebalance. It's not like in public markets where we buy and sell assets to rebalance the portfolio. Once you're into private assets, you would like to stay there as a commitment, and let them play out.

So if we go to the next slide.

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MANAGING INVESTMENT DIRECTOR GUNN: Here, I just want to talk briefly about active strategies. We talk about tracking error. We talk about a lot of things here. I just want to take a moment to sort of explain similar to how I think about it and how I think we think about it in the Investment Office. So to explain this graph, if you look on the left-hand side it's a starting point. That's the point where we make a decision to engage in an active strategy.

So at the beginning, there was zero value-add. And then when we describe an active strategy, we have an expectation about the return, the excess return, or the dollar value-add. We might think, well, we expect it on average to add $100 a year for example. But we also know that it will vary one year to the next. Nicole mentioned that just even for the privates. So although we might expect $50 per year on average, it might be plus or minus 100. So we just have to be aware of that.

So this chart shows over time the accumu -- you know, the style as the accumulation on the one hand of what the expected outcome will be, which is that orange line. So you see a steady increase. That's what we expect in terms of the excess value-add, but also those two gray lines, which create sort of a cone. We refer to this actually as a cone chart. So this is sort of the range of outcome. It's not quite a confidence interval, because of uncertainty we can't tie specific probabilities to it. But in this example, you do see that because there's a slight tilt to the cone, over time the probability of a loss tends to decrease and that's just because of the accumulate -- the expected accumulation of value-add over time. So though the volatility if the plus or minus part stays the same, over time less and less likely that you're going to lose money under that strategy.

So with that, I'm going to have one more page, just to speak briefly about liquidity and staying on strategy and then I know in closed, we'll talk about some of the details.

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MANAGING INVESTMENT DIRECTOR GUNN: And the important thing about liquidity that came up earlier, that is the fundamental constraint for the portfolio. As much as we may like private assets, as much as we may like active strategies, we have to convince ourselves that we can -- we still have sufficient liquidity to make sure we can meet out obligations. So if you think about that as sort of the concept of staying on strategy. If we make commitments, make sure we manage the portfolio, so we can honor those commitments even in stressful environments. And earlier you heard a number of people say we are still confident that we have sufficient liquidity today to continue the strategy that we have started to execute with the strategic asset allocation and some of the active strategies that we'll be talking about later on.

So with, I'm just -- I'll stop here knowing that I'll be speaking again later on.

CHAIRPERSON MILLER: Okay. Thank you very much. I appreciate that report and all the detail and I have Director Pacheco.

COMMITTEE MEMBER PACHECO: Thank you, Mr. Gunn, for the presentation. Again, I really appreciate your presentation and the visuals that you utilized in it.

So my question is is back on page number 2, the presentation you highlight the 50 basis point sustained excess return. Is this level achievable for CalPERS and what level and types of risk would you need to be taken to achieve it?

Thank you.

MANAGING INVESTMENT DIRECTOR GUNN: Thank you for that question and that's a very hard question frankly.

COMMITTEE MEMBER PACHECO: Yeah.

MANAGING INVESTMENT DIRECTOR GUNN: I mean, if you at our history, it's not really something that's been in our history.

COMMITTEE MEMBER PACHECO: Yeah.

MANAGING INVESTMENT DIRECTOR GUNN: And I think that's part of the exercise that we will have over the next year during the business planning and so on is to make a more detailed answer to your question about what it would take to aspire to doing something like this. So I'd hesitate to give an answer right now without, you know, being able to get into those details and we need to develop those for you.

COMMITTEE MEMBER PACHECO: Absolutely. No, I just -- I just wanted to have your understanding of that. Thank you very much.

CHAIRPERSON MILLER: Okay. I'm not seeing any other questions from board members. I do believe we have a public comment for 6E. Mr. Al Darby.

MR. DARBY: No, final public comment.

CHAIRPERSON MILLER: Oh, okay, at the end. Okay. The same thing with F, you just want to do them all at the end, Al?

You just want to make all your comments at the end?

MR. DARBY: Yeah.

CHAIRPERSON MILLER: Okay. Thanks.

Okay. Well, with that, I thank you and the team and really appreciate all the information. And we'll move on to our private debt investment update.

(Thereupon a slide presentation).

CHIEF INVESTMENT OFFICER MUSICCO: Great. Thank yo. So we'll invite Jean up. And again, just to give the presentation context, the Board has had the opportunity to get frequent updates on what we're doing in private equity. And so in the spirit of trying to keep up with similar sharing, we will rotate through each of our investment strategies in the way that we have been presenting private equity. And so we're going to kick -- we kicked off with portfolio strategy and now private debt. And so next Board meeting, you'll get two more, and two more, and two more. And we'll just keep this as an ongoing approach to keeping you up to speed with what we're doing.

CHAIRPERSON MILLER: Very good.

CHIEF INVESTMENT OFFICER MUSICCO: So over to Jean

MANAGING INVESTMENT DIRECTOR HSU: Okay. Hi. My name is Jean Hsu of Private Equity. Staff here in CalPERS -- Private Debt, Private Debt, sorry.

(Laughter).

MANAGING INVESTMENT DIRECTOR HSU: Sorry, Anton.

(Laughter).

MANAGING INVESTMENT DIRECTOR HSU: Okay. Private debt is the newest asset allocation segment in the asset allocation. I'm very honored that, you know, Nicole picked us to become the guinea pig for everybody to have some fun here.

(Laughter).

MANAGING INVESTMENT DIRECTOR HSU: So let's -- so this is a program review. So at the end of the program review, I'm going to bring Wilshire here who is our consultant and then you will hear the view from them.

So today, I'm going to talk about, you know, some overview and then we talk about the benefits of the private debt, the risk of the private debt, and then we will then talk about is the current status in market. And then at the end, we talk about very important topic is it how do we -- you know, not being the asset owner, but still able to incorporate ESG into our implementation of the strategy.

Okay. So let's start with page 3.

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MANAGING INVESTMENT DIRECTOR HSU: Still talking about overview. So private debt is basically harvesting illiquid -- illiquidity premium as well as the premium from, you know, some structure complexity when the situation allows and when the risk reward allows. Okay. And in the activity so far, you know, I think it is very -- we were very lucky that in the past two and a half years, we were able to deploy roughly like 24 billion in commitment and an NAV at 8.9 billion. So we are a little bit ahead of our target in terms of the asset allocation. And I will detail that in the closed session later today.

Okay. So let's move to page 5.

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MANAGING INVESTMENT DIRECTOR HSU: So we're talking about a couple benefits of private debt. The very first one is, you know, attractive risk-adjusted returns. So here, you can see in the upper left corner of this chart, you know, private debt is having a higher expected return and then reasonable volatility relative to the rest of the asset classes.

Next page, please.

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MANAGING INVESTMENT DIRECTOR HSU: Another benefit is like, okay, we have cash flow profile, which can complement our private equity. So as like most of the debt, you will have coupon incomes, so we will income generating. Your coupons can come back to us as a cash flow injection. So that will provide some liquidity.

Okay. Next page, please.

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MANAGING INVESTMENT DIRECTOR HSU: Accounting diversification. This is the benefit of the private asset class. It's the same across private debt, private equity, and in real estate. So because of the like valuation is done like three -- every three months, so you will not see the public market volatility in the private asset class.

Okay. Next page.

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MANAGING INVESTMENT DIRECTOR HSU: Another benefit is like we are higher in the capital structure, so if there are problems, the very first one who has to worry about that will be the equities, not me.

(Laughter).

MANAGING INVESTMENT DIRECTOR HSU: Okay. So that is a very, very good benefit here. Okay. You will see, you know, in -- you know, the very hot topic in -- over the weekend in the prive -- in the -- in the closed session, we can talk more about it. Equities really has to be worried. Debt, you have to think about how much recovery can I get. And then, you know, in what circumstances am I positioned myself? Where in the capital structure that you will get a better recovery?

Okay. We'll talk that more in the -- in the closed session.

Okay. The next page.

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MANAGING INVESTMENT DIRECTOR HSU: Shorter tenor, so you can be able to make adjustment of your strategy on more of a timely basis. The assets that we hold in a private debt fund -- a private debt fund is more like two to three years. Okay. And you're expected to get your money back into two to three years. The private equity will take much, much longer. So once you invest in the private equity, then you pretty much have to, you know, go and instill in that direction for a while versus private debt is like relatively shorter, so that you can make adjustment a little bit more easily. I'm not saying like it's very easy. No, because, you know, private debt, they can also get extended when the circumstances, you know, requires them to do so, but relatively to private equity a little bit better.

Next page.

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MANAGING INVESTMENT DIRECTOR HSU: Strong performance throughout the economic cycle. So if you look at it there's two charts, so we're looking at, you know, in the rising interest rate environment. And then, you know, an event happened to the market bottom. So, on the left-hand side, you know, global financial crisis, we can see in that three years roughly, that three four years, private debt has accumulated 29 percent versus other like, you know, broadly syndicated loans, high yield, and investment grade, the performance is not as great.

And at this around in the COVID pandemic again, in this four years -- three, four years 35 percent accumulated return, but the rest of the asset classes in the public market are also return pretty good. But this is because that the Fed is aggressively sprinkling money to the system. So this -- I will say that this is a little bit -- again, that this goes to -- we can talk in the closed session about like how we think like and why we think that the Silicon Valley Bank will have this -- the current dynamic right now.

Okay. The next one, please go to page 12.

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MANAGING INVESTMENT DIRECTOR HSU: Okay. Private debt is not all that great. Okay. There a lot of risk associated with this one. Okay. If you think about private date, we are doing things which are not investment grade. Okay. So they are supposed to have risk. They are supposed to have default. It is how you do investment to mitigate the default and how can you do to increase your recovery. So even investment grade bonds that can go to, you know, default, like, you know, this -- again, sorry, the Silicon Valley Bank, they were like a single A triple B rated investment grade. And then they go directly to default, right?

So please like remember that when we take risk in order to get to a higher return, you will see that defaults will happen. And then how we will do is that we will do all the things to mitigate the probability of the default as well as the recovery. So right here in this page and on the left-hand side, you will see the private debt -- well, you know, lack of liquidity.

Okay. So you cannot sell it. You have to work it through. It's not like the public debt that, okay, if you see something different, you don't like that company that you can sell it. It is not the case in the private. Okay.

Less data transparency. Okay. Private debt, a lot of times that you do not like the public market that they will have to, you know, have like very valuable data on statistically based that you can do some simulations on that. Private debt, less so. Okay.

Shorter performance history. Majority of the private debt, they are created -- the funds are created after the financial crisis. So they are in very, very benign credit cycle and credit environment. So we try to do our due diligence, like we're trying to look into people, the managers who has like longer history and then preferably before the financial crisis.

Okay. The next one is if there is a lot of money chasing this area, which, you know, happened before and then get better, and then we think it may happen again, in that situation, you will see spread compression and then you will see loosening of the underwriting standards. Okay.

The next one is about interest rate. Right now, we are in a very, very gray spot that interest rate rising, so that's why you see the private debt performance is so good, because the majority of assets is floating rate bases. So we go as long as the interest rate goes up. Our yield actually goes much, much better. Okay.

However, if you remember, like not long ago, couple years ago, everybody was thinking about, you know, if there's going to be negative Fed funds rate, like in Europe, then, in that situation, how do we mitigate that, right, because you don't -- you want -- you rise -- you want the right -- rising of the interest rate, you will write it down to. So what we try to do is that we try to put a floor on our -- on our base rate. For example, you know, if you can, you will put like, you know, 50 basis points on the floor or in the public market we're trying to see if we can put in the semi-public market like the long space that we will put -- like can we put the floor at zero percent. So at least, I'm not getting the negative rate, just some of the European countries that is experiencing.

The very last one is manager performance in a downturn will vary significantly. Okay. So the ability to choose a manager that how you underwrite a manager, how you look at then what is their culture, what is their performance, and then what is their strategy? Is it overcrowded or is it there's some space to -- you know, to grow. Those are extremely important.

Yeah, so these are the risk. And then, you know, you can see the mitigation on our side. I try to go faster, because I know today is a long day, and then I want to save more time for the closed session that we can have a thorough discussion. Okay.

The next page will be page 14.

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MANAGING INVESTMENT DIRECTOR HSU: The asset under management has increased significantly.

Next page.

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MANAGING INVESTMENT DIRECTOR HSU: But if you put in a context of where the blue bar is the private equity asset management. So if you can -- you can see like the orange bar is private debt. We maintain a smaller although growing proportion of the private equities financing source. There's still a lot of room to grow. So that's why I think Nicole say that, you know, there is opportunity to grow in here. Okay.

The next one I want to go to, let's go to the ESG page, so that would be page 20.

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MANAGING INVESTMENT DIRECTOR HSU: Okay. So we are not the asset owners. It's very hard for us to influence the company or direct the company to do things. And then we try our best not to be the asset owner. So I think that everybody gets this, right? Because when I get -- when I become the asset owner, it means that company goes default. So we really don't want that to happen.

But still given that, we're trying to incorporate ESG into our due diligence and into our annual review process. And then, although this is in the very early stages, I think some of the Board members has heard me talk in the off-site that, you know, we have managers they're embedded that ratcheting mechanism to lower interest rate as borrowers meet certain criteria to ensure ongoing ESG engagement.

For example, okay, if you get, you know, one, two, three, four, five, then I give you like 5 basis points to 10 basis point lower on your interest rates. So this is encouragement. This is a real monetary reward. This is very similar to that, you know, when we have, you know, CalPERS reward our staff, okay, give them like a cafeteria certificate. Okay. So ours is a little bit bigger. Five basis points in couple hundred million. It's quite a lot in terms of the interest. So we hope that through this that we can help and then engage the company to try to achieve the ESG parameters.

Okay. So with that, I'm going to bring up Wilshire as our consultant to talk about the program review.

Sorry, do you have questions or do we want to wait?

CHAIRPERSON MILLER: Do you want to ask now or do you want to hear from Wilshire?

COMMITTEE MEMBER PACHECO: I'll hear from wilshire first.

CHAIRPERSON MILLER: Yea, let's hear from Wilshire first then.

MS. DEAN: Okay. This is Rose Dean from Wilshire. If you would recall in the previous years, we did the annual review of the Investment Office programs in

September meeting as a whole. In light of the changes that Nicole mentioned in terms of bringing updates about the investment program on a regular basis, we are coordinating our annual review of the private debt program at the same time as the update for the private debt that program that Jean gave.

So in September, you'll hear our -- the rest of the annual review for the rest of the investment programs as the staff presents their update on those programs. So with respect to the Private Debt Program, just for the benefit of some of the new Board members, this allocation, the five percent allocation was officially made into the private debt allocation six months ago or six months into last year.

You'll see that our review melds together. Before that private debt program was officially put in place in the asset allocation, the investments into those private debt positions that are currently in there were already started in the Opportunistic Strategies Program. So the history that we have includes the investments that were committed to within that Opportunistic Strategies Program into these private debt deals.

So as Jean mentioned, there's currently 33 underlying investments to which over 24 billion has been committed. And then there's investments that have already been made with that commitment. Among that commitment there's about 8.9 billion that's the market value as of the end of 2022.

So we'll go through our review of this program highlighting some of our evaluation criteria, which includes the team, in terms of their ability to manage this program, the portfolio construction of the Private Debt Program, how they're implementing according to the policy, and then the performance, of course.

So if we can move on to page 5.

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MS. DEAN: So we'll start with the private debt team assessment. This team has been relatively stable even through that opportunistic strategies days, during which Jean was running that program. So the assessment is similar to what we mentioned in our annual review of the Opportunistic Strategies Program last year in the sense that you have a very talented team who has really deep experience in this space. It's really a -- just the numbers speak for themselves. It's a testament to how much they were able to accomplish within that short period of time in terms of that, you know, finding opportunities to commit 24 billion in capital and putting almost 9 billion to work.

You also see that -- and Bill will talk more about this, how the diversification of the portfolio, the different types of strategies and different managers that we were able to invest in through this program. We mentioned that -- a bit of this during our last review as well, but right now, we're in a different situation than the year before. What do I mean by that is not only we're in a different interest rate environment, up until now, the team has really been focused on committing capital, doing due diligence on managers, and finding these strategies that are appropriate for this portfolio.

Now, that we have a significant amount of capital that's been invested in the portfolio and will be invested in the portfolio, there is the additional significant task of doing portfolio management, not just growth of the portfolio and finding new opportunities.

From that perspective, and we mentioned this last year too, this team is running on relatively thin resources. If you look at anyone that's looking at the size, and the scale, and the number of strategies, and managers that are in the portfolio, the resources are very thin. So we would note that as a potential improvement to be made in terms of the aspect of the team for this program.

Moving on to performance on page 7.

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MS. DEAN: So again a reminder that any thing -- any track record we're showing that's longer than six months period as of end of 2022 includes the Opportunistic Strategies Program track record. I don't need to repeat this, but just as a reminder still this September 2021 track record is still relatively short for this asset class of private -- any private asset class performance should be evaluated over a longer period of time.

The punch line here is that the program has, in this short period of time, exceeded the policy benchmark performance expectation. Just to clarify, the policy benchmark that we're showing here for a period longer than 6 months is a blend of the benchmark when it was Opportunistic Strategies, which was 7 percent flat target versus the Private Debt Program current program benchmark, which is your leverage loan index plus 125 basis point target.

So melding all that together over all time periods, this program has exceeded the target policy benchmark performance. It is still in ramp-up mode. And this is just a snapshot of what we've seen so far. And we will do ongoing evaluation of the performance, but this is not just something we do on an annual basis. We're in close contact with the team and we sit in their discussions of investment opportunities and we look --

have discussions about the potential risks and return potentials of the -- of the portfolio with the team on an ongoing basis.

With that, I'll hand it over to my colleague Bill to go through the details of the portfolio construction and implementation.

MR. BRACAMONTES: Yeah. Thanks, Rose.

And good afternoon, everyone. Before jumping back into the private debt portfolio, I wanted to just quickly introduce myself. But my name is Bill Bracamontes. I'm a Managing Director at Wilshire and I work closely with Rose, Tom, and Ali, and others, but specifically I sit within the alternatives team. So I spend my day-to-day really on the private market side of things. I've been with Wilshire for coming up on 16 years in July.

So going back to the implementation side and picking up where Rose left off, the staff has really done a --

MS. DEAN: Page 9.

MR. BRACAMONTES: Sorry, we're on -- we're on page 9 too.

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MR. BRACAMONTES: Staff has done a nice job of ramping up the portfolio. You'll remember the long-term target for private debt is five percent at 12/31/2022. That sit at -- that sits at 2 percent. And as Rose said, 8.9 billion of market value across 24 billion of commitments. The way they've done that from a pacing standpoint has been pretty consistent, which is a good sign and you see that in the top left chart. If you average the deployment over the last few years, it's been about 8 billion per year, which is good sign, right? We talked a couple times today about the importance of vintage year diversification, and not timing markets, and not being out of the market, right, not trying to overthink the timing out, which is -- which is impossible to do. And so that's a good sign and hopefully that continues going forward.

From a geographical standpoint, the portfolio is quite different diversified, heavy on the U.S. side. Technically, 45 percent global, but when you double chick on that, it is primarily U.S. and Europe, which is -- which is fairly consistent with kind of the broader market and fund raising statistics out there. So that's another good sign.

And in terms of the strategy diversification, which we really drill into on slide 10, we looked at this quite closely and you remember there's policy ranges in place for the different substrategies within the portfolio. And happy to say everything is in line with the policy ranges at this point, both from a commitment standpoint and market value standpoint. You'll notice direct lending is a big portion of the portfolio to date at 85 percent. That's again within the policy range and kind of part of the plan here. So I thought I'd -- but nonetheless thought I'd point that out.

The last thing I'll say is this -- this is, you know, again ramping up the portfolio. So I know some of these policy ranges are quite broad, but that was intentional, given the early kind of ramp-up period and we'll continue to monitor that as things mature and going forward.

On the next page --

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MR. BRACAMONTES: -- slide 11, we took a close look at manager diversification. And I characterize the diversification as reasonable right now and actually pretty good, especially when you consider it's still -- it's still ramping, right, the portfolio. The small caveat is that when you start looking at manager con -- diversification within each strategy, which you can look at the details on the next slide, it starts to get a little thin candidly, but that's not a major concern right now. I think that's just a function of the early build out of the portfolio and I expect that to kind of over time be more diversified.

Last point I'll make is the second bullet here that we will continue to monitor this broadly, but definitely within the context of the CalPERS policy related procedures as those become a bit more formalized.

So if you jump to slide 16 --

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MR. BRACAMONTES: -- you know, that was a -- that was a quick rundown of just our annual private debt review, but I wanted to leave you with just kind of the highlights, because I know it's a lot of information thrown at once. So one is, as Rose said, the performance, while it's still limited track record, it has been positive, both on an absolute and relative basis. The portfolio has outperformed the benchmark since September 2021.

As we talked about just right now, all the exposures are -- kind of have the -- have a green light, right, especially strategy, which has those policy ranges, but geographically and from a manager concentration standpoint, you know, things look good. And then importantly the -- really the private debt team, Jean and her team, have done an excellent job of building that foundation of the portfolio. Right now, they're at 2 percent going to 5 percent. That's no easy task, right? And so a lot of credit to the team here. But just as we look forward, right, and as they continue to deploy the capital, just being mindful about what Rose mentioned and continuing to invest in the team and resources, so that they can -- they can continue the progress on the private debt side.

CHAIRPERSON MILLER: Great. Okay. Thank you. Very good. I do have some questions and so I'll start with Director Pacheco.

COMMITTEE MEMBER PACHECO: Thank you.

CHAIRPERSON MILLER: There we go.

COMMITTEE MEMBER PACHECO: Thank you. Thank you, Jean and thank you team from Wilshire from doing this. This is -- this is pretty exciting. Pretty exciting material in terms of how we've been -- how we're wrapping this up. And so my question is, and it's actually more for Jean or Wilshire, if you guys want to chime in as well is how does a higher interest environment that we currently are in impact the opportunity set in private debt?

Thank you.

MANAGING INVESTMENT DIRECTOR HSU: In general, because if you think about most of our assets is a base rate of SOFR. Okay, in the past it's LIBOR and then right now it's SOFR, and then plus a spread, right?

So SOFR and LIBOR they are closely related to where the Fed fund rate is, short-term interest rate. So we are doing it like three months SOFR. So as the interest rate goes up, up, up, our yield striked -- our coupon restriked every three months.

COMMITTEE MEMBER PACHECO: Wow.

MANAGING INVESTMENT DIRECTOR HSU: Okay. So in the past, you know -- you know, if you're thinking our asset yield is probably like 5 to 6 percent. In today's, our asset yield is like 8 to 9 percent.

COMMITTEE MEMBER PACHECO: Wow.

MANAGING INVESTMENT DIRECTOR HSU: Okay. So this is the reasons why the private debt can perform so well versus treasuries, you know, which is -- was a fixed coupon. And when the short-term interest rate goes up, it means that your discount rate, your cash flow discount rate, you know, is going higher and then the dollar discounted from very, very long cash flow comes back to today, it becomes very small. So that's why a rebound with such a great credit will have like, you know, down 15 percent in dollar price, right, and in total rate of return. So that is the major difference.

So, as we told you like 2 years ago, floating rate to the private debt with the floating rate instrument underneath it is a great investment as the interest rate goes higher, okay, in the rising interest rate environment. However, I do want to caution that when the interest rate goes higher, somebody has to pay for that. Who is paying for that? It's the borrowers, the corporates. Are they able to pay it in that high of interest rate? Is there operation able to generate enough revenue to offset the cash that they need to pay for the interest. That is a question. And then that is something we are monitoring very carefully.

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE: And, Mr. Pacheco, I would just add that, and it -- and it speaks to what Nicole had said earlier, I mean, this speaks to our need for diversification, right?

COMMITTEE MEMBER PACHECO: Right.

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE:

There's some assets that zig in certain environments and some that zag. And with us, we want to build a portfolio that's resilient that can weather through the long-term lens --

COMMITTEE MEMBER PACHECO: Right.

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE:

-- you know, weather various environments.

COMMITTEE MEMBER PACHECO: But from what I -- from what I can tell, I mean, what I -- what Jean was telling us right now in this current environment of this increasing interest rate that we're in right now, especially where I believe, you know, Tom mentioned earlier that we had -- they had predicted -- they were predicting that interest would go down, would taper a cool down, but it seems like we're going to have interest rates keep on going up, because of the -- because they're trying to combat -- we're trying to combat inflation. In this particular environment, at this particular time, we're still going to have this elevated interest rate environment, is that correct? I mean, is that -- I mean -- or am I being -- am I off a little bit?

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE:

That's the million dollar question, right? I mean, it is -- it is the case that up until Wednesday of last week, I think everybody was calling for higher and higher interest rates and even calling for like maybe a 50 basis point right hike.

COMMITTEE MEMBER PACHECO: Right.

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE: The events of Silicon Valley Bank and the like --

COMMITTEE MEMBER PACHECO: Um-hmm.

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE:

-- seems to have backed that off and you've seen the yield curve come back significantly in the short end.

COMMITTEE MEMBER PACHECO: Exactly.

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE: So -- but it speaks to -- you know, to Jean's point, by having these different exposures in here --

COMMITTEE MEMBER PACHECO: Exactly.

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE: -- it allows us to, you know, sort of try to weather all those storms.

COMMITTEE MEMBER PACHECO: Yeah, in the long run. That's -- and that's what I'm going back to -- alluding -- everything is back to the long run.

Thank you so much.

MS. DEAN: I do have one more thing to add to that, as we mentioned, this program is still in ramp-up mode.

COMMITTEE MEMBER PACHECO: Exactly.

MS. DEAN: So as interest rate environments change very quickly, the landscape changes quickly, there is dry powder, there is capital to take advantage of, you know, potentially good opportunities that are coming out of these volatile environments.

COMMITTEE MEMBER PACHECO: Exactly.

MANAGING INVESTMENT DIRECTOR HSU: Yeah. And then remember that we have buckets for rescue financing and liquidity financing. And I will talk more about this in the closed session about a strategy. I mean, how do I want to position ourself at taking advantage of that?

COMMITTEE MEMBER PACHECO: Absolutely. Thank you very much for this comment. This has been very, very educational. Thank you.

CHAIRPERSON MILLER: Okay. Next, we have Director Middleton.

COMMITTEE MEMBER MIDDLETON: All right. Thank you. Thank you all. Very good report and a nice way to start this process.

My first question is for the Wilshire team. We -- I can't recall the last time I saw us outperforming the benchmark by quite this amount. So to what do you describe that performance and how sustainable is it?

MS. DEAN: It sort of melds -- thanks for the question. It melds multiple things that were already mentioned in previous sessions as well as this session. One is that obviously private markets, there aren't as frequent a valuation versus public markets. And if you recall, this private debt program benchmark is a public market's benchmark plus 125 basis points. So bank loans benchmark versus -- plus some illiquidity premium that you would expect to get compensated for locking up your money. So there is that lag in valuation.

The other portion is obviously we are benefiting, as Jean mentioned, as interest rates go higher, floating rate investments do have the benefit of getting that. But you're underlying benchmark for the Opportunistic Strategy Program was a 7 percent flat absolute return target. So relative to that, obviously you have some benefits.

And then obviously, because in this past year in 2022, all fixed income sectors had a very challenging time. Bank loans was no exception as credit quality was under concerns as equity markets sold off, et cetera. So the benchmark for private debt it -- just like private equity is not perfect. We're trying to proxy the opportunity set, so there is lot of deviant -- deviation from the S&P leverage loan benchmark versus the private debt program implementation.

COMMITTEE MEMBER MIDDLETON: All right. Thank you.

MS. DEAN: And, Jean, you might have something to add.

MANAGING INVESTMENT DIRECTOR HSU: I will say that everything will come back to a very simple concept, which is supply and demand. Okay. So remember that in my -- one of the risk slide, I say if there's too much money chasing it, then the spread will compress. And in the premium in between the public market versus the private market will shrink. And the public market benchmark is my benchmark. So being prudent, I will say if the premium shrinked so much that it is not risk-reward adjusted correctly, we should pause, and then we can wait a little bit and -- or see some other things whether -- you know, if there's any other place. If it's not in corporate, can that in structure product. If it's not in structure product, can I be in real estate?

So that's why, you know, having a flexible range on the different buckets that will give us a lot of flexibility to deploy into the best risk-reward, and then having some sort of relative value concept, yeah.

MS. DEAN: Apologies. But one more comment is the dispersion between good manager's performance and poor manager's performance in the private market sector is much wider than the public market sector. So that's also sort of telling about this team's ability to select good managers.

COMMITTEE MEMBER MIDDLETON: So you're both doing a remarkable job of setting up what was going to be my next question --

(Laughter).

COMMITTEE MEMBER MIDDLETON: -- which is what is your confidence that we're going to be able to attract and retain the kind of talent that we need for this kind of program?

MS. DEAN: I'll let you talk about that.

(Laughter).

MANAGING INVESTMENT DIRECTOR HSU: Let Rose talk about it.

Before that, can I deviate a little bit, because I think there's one thing which is also very important. It is CalPERS platform.

COMMITTEE MEMBER MIDDLETON: Um-hmm.

MANAGING INVESTMENT DIRECTOR HSU: The size of CalPERS, that -- we are able to find like high conviction, good managers that I, you know, can use my size to negotiate the fees. I think this is very important, because the performance can be the same, but if you pay less fees, then alpha is much higher, right? So my strategy right from the beginning, three years ago is very, very clear, I only have very limited resources, right? So what we can do is, okay, find very good manager with good platforms that we know that they are going to stay. You know, remember that we are building these -- our portfolio through COVID. We do all our due diligence in Zoom. Okay. So I need to make sure that my manager is a real manager, like Goldman Sachs or, you know, Oak Hill, or like BlackRock. It's not like two person with a Bloomberg terminal, right, because I cannot visit them.

Okay. So this is very important about the strategy right before we implement this high conviction manager. So will see my manager concentration a little bit more concentrated. I don't want to do like a hundred of them that I will not be able to manage at all. I will have a handful of them high conviction good performance manager. I mitigated that by having a diversified portfolio. So even though that we are only two percent of what we are supposed to deploy 5 years from now -- 3 years from now, we have already had 6 -- more than 600 underlying assets in it, so it is very, very diversified.

So although at manager level not as diversified, but the underlying assets is very diversified, so that will give -- will mitigate our risk.

COMMITTEE MEMBER MIDDLETON: All right. Thank you all.

CHIEF INVESTMENT OFFICER MUSICCO: Maybe I can speak to the resourcing question, if you'd like.

COMMITTEE MEMBER MIDDLETON: Yes.

CHIEF INVESTMENT OFFICER MUSICCO: I think -- I mean, I don't think the team will say it, but it's a highly skilled and it's a differentiated skill at the end of the day what Jean and her team are doing and it's very difficult to attract and retain talent. Full stop. And no different than some of the recruitment challenges that we've discussed prior where you're thinking about all of the things we talked about earlier, you know, the pull for folks to want to work from home versus not, the pull to get folks to move to Sacramento, the pull to get folks who have not only a private market background, but a private debt background. It's no easy feat. So it's a real challenge.

The team has been working like one -- three people per one person at any moment in time. And so as a CIO, you know, that's not sustainable. It's not a sustainable ask. It's not a healthy ask of the team, and so we will need to make choices which is unfortunate, because the opportunity set in front of us right now it's extremely interesting. So we can get into a little bit in closed session how we're thinking through weaving and bobbing during this difficult time to recruit phase that we're in. But otherwise, the team has done an exceptional job as you can see.

COMMITTEE MEMBER MIDDLETON: All right. Thank you very much.

CHAIRPERSON MILLER: Okay. I'm not seeing anymore questions and don't see -- let's see no requests from the public to speak, so I will say thank you for the very comprehensive presentations. Really appreciate your time and all the thought that went into it. And I appreciate the work of you and your teams. And we will move on to our summary of committee Direction.

DEPUTY CHIEF INVESTMENT OFFICER BIENVENUE: Yes, Mr. Chair. We certainly got lots of bits of feedback as we went today, but I took down two specific bits of Chair direction. The first is responsive to Mr. Ruffino's request to have an education session on executive pay and sort of how that calculus works and how we can possibly simplify, so that's the first one.

And then the second one is to really think through how we integrate ESG and specifically human capital management topics into our PE work and then get it documented. And we need to figure out where, and how, and think through that engagement lens and sort of what CalPERS is doing, but we will come back with something that is sort of responsive to that direction on how we document that.

CHAIRPERSON MILLER: Great. That sounds about right.

Okay. At this point, we've got public comment. And I've got several commenters here, so we'll start with Al Darby.

Okay. Welcome. Your mic is live, so you can start whenever you like.

MR. DARBY: Thank you. Good afternoon, Mr. Chair and Board. Al Darby, Vice President, Retired Public

Employees Association.

I'll be expressing the opinions of RPEA investment professionals. In my remarks, I want to reflect their observations about the stated direction the Investment Committee will take regarding PERF portfolio strategy and private -- also, the private debt arena.

Regarding portfolio strategy, RPEA agrees with academics who have concluded that passive portfolio management beats active management over time. And with active management, risk is materially greater. Inflation is predicted to decline towards 2 percent, but core inflation will remain above policy targets keeping the Federal Reserve Bank policy tight. Economic growth will likely continue to slow and potentially decline making the risk of recession fairly high. Macroeconomic volatility will remain elevated and the dispersion of growth expectations to converge throughout the year.

Heightened volatility in asset returns suggest this is not the time to take on more risk. Equity and bond returns in 2022 were exceptional. It's doubtful that that will repeat any time soon. Now, that other investment instruments provide a return on investment, hire interest rates and so forth, it's doubtful that money will rush back to the stock market what appears to be on its way back up.

In 2008, private equity assets were a negative $7 billion. Why take on more risk by doubling down in that category at this point?

In the area of private debt, RPEA is glad to hear that CalPERS has decided to allow transparency in the Private Debt Program. And without the laws protecting it from member scrutiny. While we still have concerns about the risk associated with subprime loans of this type, RPEA is hopeful that CalPERS will apply adequate due diligence to make this loan program a safe and viable investment instrument.

Constant quarterly interest cash flow depends on current loans. If too many loans fall into non-performing condition, it begs the question does CalPERS have a stomach for vulture investment administration? In the long run, debt is debt, and the lack of objective pricing doesn't change that.

Now, in all areas of private equity, there are opportunities that we see that -- particularly in the area of artificial intelligence, robot technology, there's huge opportunities there. It may mean private equity in a tradition a sense or venture capital otherwise.

Director Pacheco made reference to a need in the area of investment analyst -- analysis. And certainly AI and other technologies in the, you know, information technology area are important in that regard. Battery and hydrogen technology are great opportunities for either traditional private equity investment or venture capital investment, which CalPERS has committed to in the past and recently recommitted to that -- to venture capital actually and other private equity opportunities.

Many, many other opportunities are there. Renewable energy, there's been an effort to dispel investment in fossil fuels, but most fossil fuel companies are also energy companies, who will be converting to renewable energy. So investments -- divesting from those types of investments don't make sense.

CHAIRPERSON MILLER: Yeah. Thank you.

MR. DARBY: We see many, many opportunities where private equity and venture capital can be of value to CalPERS. And it's going to take some thinking out of the box to recognize some of the cutting edge technologies that are emerging and need to be explored for investment.

Thank you.

CHAIRPERSON MILLER: Okay. Thank you, Al.

Okay. Next I have Randall Cheek.

MR. CHEEK: First, I want to say congratulations to my former boss, Yvonne Walker, who represents the retirees on the Board. Congratulations, Yvonne.

My name is Randy Cheek. I am the Legislative

Director for Retired Public Employees Association. And I came today to talk about some red flags that are out there that your very intelligent people and your very watching the news and so on and so forth. But you must know this is weighing on a lot of Americans today. And that's the fact that you talk about your program for CSG, and you have a country like China, which is out there now, which has created one of the largest polluters in the world. They have treated the Uyghurs by making them slaves and trying to eliminate them. They have suppressed freedom of speech in Hong Kong and freedom of the press in Hong Kong. They have suppressed the World Health Organization finding out what's going on with COVID at Hunan. And we know that they've put out balloons, not only in the United States to spy, but around the world.

Now, this has created a problem that the United States Congress has created a special committee, a bipartisan committee, to look at Communist China. We've had the speaker just the other day say that Chine is one of the top three problems for this country. We know that they have forced American aircraft and ships out of international waters. They have said that they are planning to give weapons to a war criminal like Putin, which would create problems for the American government and the freedom of democracy.

They have said that they plan to take over Taiwan in a few years. In fact, they've moved it up to 2025. And the President has said he will do everything he can to stop this. What does that mean for us? If we have investments indirectly or directly, we will lose.

But one of the most important things that you must be aware of is that China is one of the largest producers of generic drugs for Americans. And people like me who depend on generic drugs will be scrambling to find someone to provide the medication that I need. So what I'm saying to you, look at your investments in China, but look forward to making investments in the United States with not only the health care industry and health care supplies, but in generic drugs. I believe that this is a possibility for investment, because if anything happens in China, we're going to be scrambling like we did with the beginning of COVID, when we couldn't get N-19 masks and we couldn't get health care supplies.

So please look at your investments in China and look forward to making investments in the United States.

CHAIRPERSON MILLER: Thank you for your comments.

Okay. I'm not seeing any other public commenters. Do we have anyone on the phone?

BOARD CLERK ANDERSON: (Shakes head).

CHAIRPERSON MILLER: No. Okay. I think that pretty much wraps up this session. We'll now recess into closed session for Items 1 to 7 from the closed session agenda. Then we'll immediately reconvene in open session after the closed session.

Thank you.

(Off record: 3:34 p.m.)

(Thereupon the meeting recessed into closed session.)

(Thereupon the meeting reconvened open session.)

(On record: 5:42 p.m.)

CHAIRPERSON MILLER: And so we are back in open session and hearing no objections, we will be adjourned until tomorrow. What have we got PHBC at 9. 8:30.

(Thereupon, the California Public Employees' Retirement System, Investment Committee meeting open session adjourned at 5:42 p.m.)

CERTIFICATE OF REPORTER

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 18th day of March, 2023.

JAMES F. PETERS, CSR
Certified Shorthand Reporter
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