MEETING

STATE OF CALIFORNIA

PUBLIC EMPLOYEES' RETIREMENT SYSTEM

BOARD OF ADMINISTRATION

INVESTMENT COMMITTEE

OPEN SESSION

ROBERT F. CARLSON AUDITORIUM

LINCOLN PLAZA NORTH

400 P STREET

SACRAMENTO, CALIFORNIA

MONDAY, NOVEMBER 13, 2017

9:00 A.M.

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

COMMITTEE MEMBERS:

Mr. Henry Jones, Chairperson

Mr. Bill Slaton, Vice Chairperson

Mr. Michael Bilbrey

Mr. John Chiang, represented by Mr. Frank Moore

Mr. Richard Costigan

Mr. Rob Feckner

Mr. Richard Gillihan

Ms. Dana Hollinger

Mr. J.J. Jelincic

Mr. Ron Lind

Ms. Priya Mathur

Mr. Theresa Taylor

Ms. Betty Yee

STAFF:

Ms. Marcie Frost, Chief Executive Officer

Mr. Ted Eliopoulos, Chief Investment Officer

Mr. Matt Jacobs, General Counsel

Mr. Eric Baggesen, Managing Investment Director

Ms. Natalie Bickford, Committee Secretary

Ms. Sarah Corr, Interim Managing Investment Director

Ms. Kit Crocker, Investment Director

Ms. Jane Delfendahl, Investment Director

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

STAFF:

Mr. Mahboob Hossain, Investment Director

Mr. Mike Inglett, Investment Director

Mr. Paul Mouchakkaa, Managing Investment Director

Ms. Beth Richtman, Investment Manager

Mr. Wylie Tollette, Chief Operating Investment Officer

Mr. Ed Yrure, Investment Director

ALSO PRESENT:

Ms. Lisa Bacon, Meketa Investment Group

Dr. Sarah Bernstein, Pension Consulting Alliance

Mr. Allan Emkin, Pension Consulting Alliance

Mr. David Glickman, Pension Consulting Alliance

Mr. Steven Hartt, Meketa Investment Group

Mr. Andrew Junkin, Wilshire Associates Consulting

Mr. Dan Matusiewicz, City of Newport Beach

Mr. Stephen McCourt, Meketa Investment Group

Ms. Laura Rubaccaba

I N D E X

P R O C E E D I N G S

CHAIRPERSON JONES: I'd like to call the Investment Committee meeting to order. And the first order of business is roll call, please.

COMMITTEE SECRETARY BICKFORD: Henry Jones?

CHAIRPERSON JONES: Here.

COMMITTEE SECRETARY BICKFORD: Bill Slaton?

VICE CHAIRPERSON SLATON: Here.

COMMITTEE SECRETARY BICKFORD: Michael Bilbrey?

COMMITTEE MEMBER BILBREY: Good morning.

COMMITTEE SECRETARY BICKFORD: Good morning.

John Chiang represented by Frank Moore.

ACTING COMMITTEE MEMBER MOORE: Here.

COMMITTEE SECRETARY BICKFORD: Richard Costigan?

Rob Feckner?

COMMITTEE MEMBER FECKNER: Good morning.

COMMITTEE SECRETARY BICKFORD: Richard Gillihan.

COMMITTEE MEMBER GILLIHAN: Here.

COMMITTEE SECRETARY BICKFORD: Dana Hollinger?

COMMITTEE MEMBER HOLLINGER: Here.

COMMITTEE SECRETARY BICKFORD: J.J. Jelincic?

COMMITTEE MEMBER JELINCIC: Here.

COMMITTEE SECRETARY BICKFORD: Ron Lind?

COMMITTEE MEMBER LIND: Here.

COMMITTEE SECRETARY BICKFORD: Priya Mathur?

COMMITTEE MEMBER MATHUR: Good morning.

COMMITTEE SECRETARY BICKFORD: Good morning.

Theresa Taylor?

COMMITTEE MEMBER TAYLOR: Here.

COMMITTEE SECRETARY BICKFORD: And Betty Yee.

COMMITTEE MEMBER YEE: Here.

CHAIRPERSON JONES: Okay. Thank you.

The next item on the agenda is Executive Report, Chief Investment Officer's briefing. Mr. Eliopoulos.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Good morning, Mr. Chair and members of the Investment Committee. Well, today we have a very, very full agenda of meaty and very important topics in our open agenda, our closed agenda, as well as this afternoon's ALM workshop. And our CEO Marcie just told me that we're expecting a very full participation for the workshop of representatives from our employer and employee stakeholder communities.

Given that it's important to allocate sufficient time and attention to these agenda items and make sure that we have time to consider all of that input, I'm going to keep my remarks very brief, so we can get on to the items.

With respect to the ALM workshop this afternoon, I think it's important just to underscore I think what every member of the Committee understands that this is one of the most important exercises that we conduct and conduct this review every four years. We will be reviewing candidate portfolios across the risk and return spectrum. And importantly, this workshop format convening the entire Board also considers the impact of those portfolios on our liability structure.

I think it's important to underscore, and I haven't done this in a while, some of the Investment Beliefs that come into play for some of the major decisions that this Committee has to make. And certainly with the ALM exercise, it's important to consider the full array of the Beliefs, but importantly Investment Belief number 1 that liabilities must influence the asset structure. The sub-Beliefs of Belief number 1 include that we should ensure the ability to pay the promised benefits by maintaining an adequate funding status as the primary measure of success for CalPERS.

It also notes importantly for our review of the Real Asset Program that CalPERS has a large and growing cash requirement and inflation-sensitive liabilities. Assets that generate cash and hedge inflation should be an important part of CalPERS investment strategy.

Investment Belief number 6 I think is also worth reflecting on at all times, but on the occasion every four years that we conduct this workshop. Strategic asset allocation is the dominant determinant of portfolio risk and return. One of the sub-Beliefs there too, CalPERS strategic asset allocation process transforms the fund's required rate of return to the market exposures that your Investment staff will manage on your behalf.

Turning to our Investment Committee agenda today, we're focusing on our private asset classes today. We have our annual review of our Private Equity Program as well as our Real Asset Program.

Private equity and real assets make up approximately 20 percent of our overall portfolio. They each play very importantly roles within the portfolio that you'll hear about more in the annual reviews providing return and diversification to the fund.

These private asset classes operate in a marketplace, a private marketplace in the many trillions of dollars. We fundamentally believe that for CalPERS to be successful over time, we need to be material, and successful investors in the private marketplace.

Now there are a number of Investment Beliefs that come into play. I'll just stick to the main messages for each, because I do think it's an important framework for our discussions later today.

Investment Belief 2, when you're thinking about investing in these private asset classes, a long-term investment horizon is both a responsibility and an advantage. Investment Belief number 4, long-term value creation requires effective management of three forms of capital: The physical, the financial, and the human.

Also, we'll be discussing around the lens of Investment Belief number 8, costs matter, and need to be effectively managed. And the business models for our private asset classes are executed through an array of external managers, and that will be part of the discussions that we have today.

And lastly, I think it's always important, if I could just mention one belief for our meetings each month, it would be Investment Belief number 10, which is that strong processes and team work and deep resources are needed to achieve CalPERS' goals and objectives.

And I think the materials you see today, the stakeholders that are coming to discuss these strategies and decisions that the Board will make, and the efforts both of your staff and yourselves to really engage in this discussion thoughtfully, and with humility and thinking through the cross-currents and framework of our Investment Beliefs will guide us well.

So with that, Mr. Chair, I do think we have lots to cover today and I'll end my comments there.

CHAIRPERSON JONES: Okay. Thank you, Mr. Eliopoulos.

We move on to the consent items, the action consent items, the approval of the September 18 --

COMMITTEE MEMBER MATHUR: Move approval

COMMITTEE MEMBER TAYLOR: Second.

CHAIRPERSON JONES: Moved by Ms. Mathur, second by Ms. Taylor.

All those in favor say aye?

(Ayes.)

CHAIRPERSON JONES: Opposed?

Seeing none. The item passes.

The information consent items, I have not received any requests to remove anything from that area, so we will move on to --

Just a minute, Mr. Jelincic.

Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: This is a -- this is 4c, Attachment 1, page four of four. It also shows up in attachment 3, the footnote, number 2 --

CHAIRPERSON JONES: J.J. -- Mr. Jelincic, if you -- you want to pull -- address this, I'm going to pull it and we'll discuss it at the end.

COMMITTEE MEMBER JELINCIC: I just want to them to explain a footnote. But if you want to pull it, and we'll discuss it at the end, we can do that.

CHAIRPERSON JONES: Yeah. Let's do that, because we've got a lot to cover. Okay. We'll address that at the end of the meeting.

Are there any other questions on that item?

Seeing none.

We now go to the policy and delegation agenda items. Public Asset Class Investment Policy, second reading.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

Thank you, Mr. Chair. Wylie Tollette, Investment Office staff. And we -- this is the second reading. The Investment Policies are the Investment Committee's primary direction to staff on the implementation of our investment program, and so are a key document in how we manage the portfolio.

And with that, it gives me great pleasure to turn it over to Kit Crocker, our Director of Investment Compliance and Operational Risk who's responsible for maintaining these policies.

So, Kit, please take it away.

INVESTMENT DIRECTOR CROCKER: Thank you, and good morning. Kit Crocker, CalPERS staff.

Item 5A is the second reading of staff's proposed updates to the Total Fund Investment Policy. It addresses the concerns expressed by this Committee at the first reading. And we're seeking a determination from this Committee in terms of whether to approve.

CHAIRPERSON JONES: Okay. Seeing no requests to speak, do I have a motion?

COMMITTEE MEMBER LIND: Move approval.

COMMITTEE MEMBER YEE: Second.

CHAIRPERSON JONES: Move approval by Mr. Lind, seconded by Ms. Yee.

COMMITTEE MEMBER JELINCIC: Henry.

CHAIRPERSON JONES: Okay. Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: In this agenda item for the Liquidity Program, we're going to reduce the minimum standard from basically BBB+ to BBB. And I understand how that expands the investable universe. What I do not understand is how moving lower credit rated securities into the portfolio reduces the credit risk for the portfolio. And, you know, this is exactly the same argument that was used to go from A- to BBB+ and now it's being used for BBB+ to B, and the argument will be the same moving to C.

You know, it always expands the universe. It increases the return. But I -- I do not understand how adding lower-rated securities actually reduces the level of credit risk in the portfolio.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

I'll take an initial crack at that, Mr. Jelincic. I would also just quickly emphasize that there's no intention to move below investment grade into C's, for example.

COMMITTEE MEMBER JELINCIC: Well, there was no intention to move below single A either.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

The underlying logic behind this move is that one of the primary investments in our cash portfolio today is commercial paper, which is essentially a corporate instrument, dependent on the health of corporations to repay their short-term working capital credit lines. This change in the Liquidity Program is intended to expand the Investment universe around government guaranteed instruments.

And the fundamental logic is that a government guaranteed instrument has a fundamentally lower level of credit risk than a corporate instrument. Governments have historically been less likely to default than particularly investment grade governments have been less likely to default versus corporations. So that's the underlying logic.

I would also highlight that we are still one notch above the lowest level of investment grade, so we're solidly within the investment grade universe here. And I think if you'd like more information on that, I might call up some of our fixed income team who participates in these markets on a daily basis.

COMMITTEE MEMBER JELINCIC: The -- you've added that we're looking at government guaranteed debt in this lower rating. The proposal says sovereigns, which is government issued, rather than just government guaranteed, so which is it?

And the other question is, yes, governments have less likelihood of defaulting than a corporation, because typically they can print their own money, and so it's more a matter of will than ability. But doesn't the -- don't the rating agencies take that into impact -- into consideration when they do the ratings?

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

They do, but I think there's a belief that, in fact, the rating agencies may be more conservative than they necessarily need to be regarding the government issued debt. And there's certainly arguments that have been made around their degree of aggressiveness regarding ratings of corporate debt.

But government -- yes, this is sovereigns, so government issued instruments.

COMMITTEE MEMBER JELINCIC: I mean, some of us have been around long enough to remember when there was no risk to any sovereign debt because they just simply weren't going to default. That almost destroyed Bank of America at one point, but, you know. Anyhow, I am not comfortable reducing the risk. I understand that it will increase the investable universe. I understand it will -- because we're going lower rated, we will get higher returns, but this is a portfolio about liquidity not necessarily returns. And I absolutely reject that including lower rated debts improves the credit quality of the portfolio.

CHAIRPERSON JONES: Okay. We have a motion on the floor, and a second.

All those in favor say aye?

(Ayes.)

CHAIRPERSON JONES: Opposed?

Hearing none the item --

(No.)

CHAIRPERSON JONES: Record Mr. Jelincic as a no.

Thank you. The item passes.

We move on to item -- information agenda items, Program Reviews. The first one is the private equity annual program review.

(Thereupon an overhead presentation was presented as follows.).

CHIEF INVESTMENT OFFICER ELIOPOULOS: Thank you, Mr. Chair. I'll just fill-in some of the airtime here as our Interim Managing Investment Director Sarah Corr and our Investment Director Mahboob Hossain make their way up to the dais. They'll start first. And then after this presentation, Meketa will be presenting their consultant report.

So with that, I think I've adequately filled the time. We'll turn it over to Sarah and Mahboob.

(Thereupon an overhead presentation was presented as follows.)

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Good morning. Sarah Corr, CalPERS staff.

I am here with my colleague Mahboob Hossain. Together, we will cover the annual program review for the Private Equity Program. We will cover performance, program characteristics, the current private equity market, and recent, as well as up coming, activities.

Turning to performance.

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INTERIM MANAGING INVESTMENT DIRECTOR CORR: The one-year performance was good on an absolute basis, but underperformed the private equity and the global equity benchmarks. This is largely due to the strong one-year performance in public markets. Private equity will underperform in quickly rising markets.

However, it is more appropriate to look at long-term performance for a private equity portfolio. And looking at long-term performance is more consistent with CalPERS Investment Beliefs. As you can see in the 10- and 20-year returns, the private equity portfolio has produced returns in excess of 400 basis points above the global equity benchmark, thereby exceeding the expected return for the asset class.

The portfolio continues to be impacted by overdiversification. As the program moves to more concentrated commitments with fewer managers, there should be a positive impact on returns over time. I will now turn it over to Mahboob to talk about characteristics.

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INVESTMENT DIRECTOR HOSSAIN: Thank you, Sarah. Good morning, Mahboob Hossain.

(Microphone.)

INVESTMENT DIRECTOR HOSSAIN: Thank you.

Good morning. Mahboob Hossain, CalPERS staff. Let me provide you with a brief overview of the portfolio. The total net asset value of the program as of the end of the last fiscal year was approximately $26 billion, and unfunded capital commitment was a little over $14 billion Three-quarters of the program is in buy-out and growth strategies, and these two strategies have performed relatively well. Rest of the portfolio is distributed between credit, opportunistic, and venture strategies.

Before we go to the next slide, I'd like to provide you with an update on current market environment and our investment activities. Valuations for buy-out transactions are at record high, and fundraising environment for new funds is very robust. However, strong exit market has also contributed to substantial distributions and positive net cash flow for our portfolio.

During the last fiscal year, we committed approximately $3.3 billion, and during the first four months of the fiscal year, we have so far commented $1.4 billion out of a total targeted allocation of $4 billion in total.

I will now hand over to Sarah Corr for concluding remarks. Thank you.

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INTERIM MANAGING INVESTMENT DIRECTOR CORR: Thank you, Mahboob.

In 2016-17, staff continued to focus on the PEARS implementation. New functionality was introduced into production and is currently being used by staff.

I'm happy to report out that the final release of the project was successfully implemented earlier this month. While there are a few project items to close out, the implementation of PEARS is largely complete.

Following last year's efforts to improve transparency, we have made good progress on getting our partners to report using the ILPA fee template and continue to focus on helping the ILPA adopt industry-wide reporting standards.

During the fiscal year, CalPERS received $3.5 billion of realized gains from our partners. Our general partners received $450 million of profit sharing. This continues the pattern of strong utilizations CalPERS has experienced over the past five years. Since July 1st of 2012, CalPERS has received approximately $20 billion of realized gains.

As we look forward to 2017-18, the Private Equity Program will continue to focus on the new -- on the business model. We will collaborate with public equity. On reviewing distinct processes, in preparation for potential implementation of a growth segment in fiscal 18-19. In addition, private equity staff will work with senior management from the Investment Office to review potential new business models that willow focus on ways to scale the program.

Finally, staff is focused on creating a new report on portfolio fees, expenses, and profit sharing to comply with AB 8, 2833. We anticipate this report will be presented to the Committee in December.

Before moving on to questions, I would like to spend time on two additional slides in the presentation starting on slide 6. As we move to the Investment Beliefs, staff made some changes to the heatmap on Investment Beliefs.

We have upgraded Investment Belief number 5 from red to yellow. There is still work to be done on delivering the target returns for the program, but we believe progress has been made and accountability should be moved from red to yellow.

Additionally, we wanted to signal there are some areas staff will need to spend some time on in the coming months. This includes ESG integration, as well as the processes and resources needed to implement the growth segment and new business model. Because there is need to focus on these areas, we felt it was prudent to decrease the color from green to yellow.

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INTERIM MANAGING INVESTMENT DIRECTOR CORR: The last slide I would like to cover is slide 24. I would like to point out there is an error on one of the footnotes which has caused some confusion. Originally, profit sharing was only reflected at the bottom of the slide, and not presented as a subcomponent of external management costs in the table above.

As a result, footnote 1 was added. Footnote 1 should have been deleted when we decided to put the profit sharing in as a subcomponent of external management costs. As for the increase in the asset management fee, year over year, this is largely related to new commitments that were made over the past 12 months.

In summary, the program has met the long-term expected return. Staff continues to focus on transparency and refining the business model.

With that, Mahboob and I would be happy to answer any questions.

CHAIRPERSON JONES: Okay. Thank you.

Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: If I can go back to slide three, page 1 -- or 291 of the iPad, that's the assets we have in the program.

I'm having problems getting there on my iPad.

In the asset values, particularly for the growth, the opportunistic, and the venture, and I guess maybe even the buy-out, how much of that is public securities?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Approximately ten percent of the portfolio is in publicly-listed securities.

COMMITTEE MEMBER JELINCIC: Okay. So we're paying private equity fees for -- on $2 billion.

INTERIM MANAGING INVESTMENT DIRECTOR CORR: A large portion of that is the stock we hold in Apollo Global, and AAA, which we don't pay fees on.

COMMITTEE MEMBER JELINCIC: I'm sorry?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: A large portion of that is the public securities from Apollo Global Management and AAA, which we don't pay fees on.

COMMITTEE MEMBER JELINCIC: And where do we -- and where do those show up?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: They are both in the growth category.

COMMITTEE MEMBER JELINCIC: Okay. On the next slide, the PEARS, which, you know, fortunately you're only going to have to answer for a couple more months. The final release is expected October of '17. Did it happen?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: It did. The release was done in actually early November. So there are a few close-out items for the project, but the implementation is complete.

COMMITTEE MEMBER JELINCIC: And the line on the external management costs, were those fees -- the 91 basis points, is that net?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: That's purely on the management fees.

COMMITTEE MEMBER JELINCIC: Okay. So that -- is that net or gross or --

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Net.

COMMITTEE MEMBER JELINCIC: Net.

And we're finally getting the people who use the template. Which templates are we getting them to use?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: For about 95 percent of the capital calls and distributions, we get the ILPA capital call and distribution template. The other template that we use is the ILPA quarterly fee reporting template, and that's the 75 to 80 percent.

COMMITTEE MEMBER JELINCIC: Okay. On slide 17, which is the commitments and funded. It's Commitment by vintage year, is that calendar year or fiscal year?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Calendar year.

COMMITTEE MEMBER JELINCIC: Calendar year. Okay.

And just a couple more.

On slide 23, which is the staffing overview, one the things that is surprising is we didn't have any people leave?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: We did have some departures over the year.

COMMITTEE MEMBER JELINCIC: Okay. So --

INTERIM MANAGING INVESTMENT DIRECTOR CORR: So some of the 8 private equity professionals appointed to new -- to more senior positions, would reflect staff that had been -- been put into a different position as a result of a departure?

COMMITTEE MEMBER JELINCIC: Okay. So that's the 8 Have been put in a different outside of private equity.

INTERIM MANAGING INVESTMENT DIRECTOR CORR: No, they had been -- they had received a different position within the Private Equity Group.

COMMITTEE MEMBER JELINCIC: Okay. So that's the 80. And then we had 10 that transferred to other parts that left private equity and went to other parts of INVO?

INTERIM MANAGING INVESTMENT DIRECTOR CORR:

Correct.

COMMITTEE MEMBER JELINCIC: And how many people did we have who -- from private equity who just left?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: I believe 4.

COMMITTEE MEMBER JELINCIC: Okay. Okay. The -- and then on slide 24, I had written a note about portfolio fees not being shown here. I think --

INTERIM MANAGING INVESTMENT DIRECTOR CORR:

Portfolio company fees?

COMMITTEE MEMBER JELINCIC: Yeah.

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Yes. Those will be in the 2833 report that comes out next month, and they're not reflected in this table.

COMMITTEE MEMBER JELINCIC: Okay. So the -- so if -- if we have a $100 million invested, and we're paying 1.9 percent, the management fee would ill a million nine. If there's 400,000 in portfolio fees -- portfolio company fees, what number is included here, the million nine or the million and a half that's still --

INTERIM MANAGING INVESTMENT DIRECTOR CORR:

Estimated the $400,000 was offset, it would be the 1.5 million.

COMMITTEE MEMBER JELINCIC: Okay. So we would only report -- and yet, somehow it got moved from our pocket to the GP's pocket, but it doesn't show up as a cost.

INTERIM MANAGING INVESTMENT DIRECTOR CORR: It just reflects the net fees that CalPERS paid.

COMMITTEE MEMBER JELINCIC: Okay. The same -- same scenario, 100 million, except this time it's a co-invest, what would show up as a cost there?

INTERIM MANAGING INVESTMENT DIRECTOR CORR:

Assuming that co-investment was no fees, no carry, there would be nothing to show up.

COMMITTEE MEMBER JELINCIC: Yeah. So it wouldn't show up. So the 400,000 that got taken out of the co-invest to the GP just doesn't show up as a cost anywhere?

INTERIM MANAGING INVESTMENT DIRECTOR CORR:

Correct.

COMMITTEE MEMBER JELINCIC: Okay. And I again will point out that if it moves from my pocket to the GP's pocket, it's either a cost or a theft, and I don't think it was a theft. So I think we need to capture that.

CHAIRPERSON JONES: Ms. Yee.

COMMITTEE MEMBER YEE: Thank you, Mr. Chairman. I was just curious to know how other institutional investors are doing with respect to adopting the ILPA templates? I get the feeling that CalPERS and CalSTRS are probably doing a lot of heavy lifting, but just how are the others doing.

INTERIM MANAGING INVESTMENT DIRECTOR CORR: So I would say that there has been an increase in the number of LPs that are -- have endorsed the template over the past year. As far as firms in our portfolio that have endorsed it, there are currently 15 firms out of the 92 in the portfolio that have endorsed. That's up from eight a year ago.

COMMITTEE MEMBER YEE: Okay. And do we know about other long-term institutional investors like UC or some of the other investors in terms of their --

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Many of the State pension funds have endorsed the template.

COMMITTEE MEMBER YEE: Okay. All right. And then -- so one of the risks that have been identified was how much of the portfolio is concentrated in the -- into fees, and are we starting to see the increased cost from some of the -- the higher fees from some of the older partnerships as they mature? Is that manifesting itself already?

INTERIM MANAGING INVESTMENT DIRECTOR CORR:

The -- I'm sorry, can you repeat that?

COMMITTEE MEMBER YEE: Are we beginning to see the higher fees currently? Has that begun in terms of the older partnership maturing?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: So the older partnerships, the fees are winding down on those. They are lower. We are -- but we -- there continues to be fees on incremental commitments, which is why there was an increase in the fiscal year.

COMMITTEE MEMBER YEE: I'm sorry. Say that last part. There was some noise.

INTERIM MANAGING INVESTMENT DIRECTOR CORR: There continues to be fees on incremental new commitments, and so that was the result why there was an increase in fees for the fiscal year.

COMMITTEE MEMBER YEE: Oh, I see. Okay. Okay.

And then on slide 25, which we didn't talk about, can you describe the ESG process. So slide 25 says that we follow up with 10 of the largest managers. And I was curious as to what percentage of the PE assets they manage.

INTERIM MANAGING INVESTMENT DIRECTOR CORR:

What -- of the assets, it's roughly 50 percent.

COMMITTEE MEMBER YEE: Fifty percent. Okay. And then is there -- is there a mechanism for monitoring the ESG risks for the rest of the portfolio or --

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Yeah. So we do track which firms have ESG policies. Currently, 38 of the 92 do have ESG policies. And staff does inquire during advisory Board meetings about policies and any issues.

COMMITTEE MEMBER YEE: Okay. Great. Thank you.

CHAIRPERSON JONES: Okay. Ms. Taylor.

COMMITTEE MEMBER TAYLOR: Yes. Thank you. Thank you, Sarah. It was a good report. Oops, I lost my page. There we go.

On page 23, I just wanted to go back to what J.J. was talking about. So we lost -- we've hired two

Investment staff, eight private equity professionals are appointed to more senior positions in private equity?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Correct.

COMMITTEE MEMBER TAYLOR: Correct?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: (Nods head.)

COMMITTEE MEMBER TAYLOR: Okay. And then 10 professionals transferred to other areas of the Investment Office

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Correct.

COMMITTEE MEMBER TAYLOR: So we lost these folks out of private equity.

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Yes.

COMMITTEE MEMBER TAYLOR: And did I hear you say that -- how many people are left in private equity total?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Four.

COMMITTEE MEMBER TAYLOR: That's --

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Oh, total. I thought you said total left.

There's 35 people currently in the program --

COMMITTEE MEMBER TAYLOR: Okay.

INTERIM MANAGING INVESTMENT DIRECTOR CORR: -- four people departed CalPERS over the year.

COMMITTEE MEMBER TAYLOR: Total. I got you. I got you. Okay. And we are also missing an MID, and IO and some administrative staff, right?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Correct.

COMMITTEE MEMBER TAYLOR: Are we recruiting for those folks right now?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Currently, we're recruiting for the administrative support staff --

COMMITTEE MEMBER TAYLOR: But not the --

INTERIM MANAGING INVESTMENT DIRECTOR CORR: -- but not the other two.

COMMITTEE MEMBER TAYLOR: Not the other two. And I assume that's partially because of what we're working towards?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: (Nods head.)

COMMITTEE MEMBER TAYLOR: Okay. As we -- the only other question I had is over what time frame did the 18 folks that it looks like that we moved around and/or got promoted and then four left, over what time frame was that?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: That's over a 15-month period. So --

COMMITTEE MEMBER TAYLOR: A 15-month period.

INTERIM MANAGING INVESTMENT DIRECTOR CORR:

-- the 10 that went -- transferred to other parts of INVO happened after July 1st of this year. The rest of them were in the previous fiscal year.

COMMITTEE MEMBER TAYLOR: After July 1st of this year, 2017?

INTERIM MANAGING INVESTMENT DIRECTOR CORR:

Correct.

COMMITTEE MEMBER TAYLOR: And then the eight and the -- oh, the eight left prior -- previous to that, and then four moved on to another agency?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Yeah.

COMMITTEE MEMBER TAYLOR: Okay. In that 15-month period when we started losing the eight, were we looking at recruiting at that point? Do we know?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Yes. So the eight -- the eight individuals that was over the 12-month fiscal year period that they were -- the recruited -- the recruitments happened in that period of time.

COMMITTEE MEMBER TAYLOR: There were recruitments in that period of time?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Yeah, those eights --

COMMITTEE MEMBER TAYLOR: Oh, okay.

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Those eights were recruited.

COMMITTEE MEMBER TAYLOR: I'm a little confused. So the either were recruited to a higher position. Did we replace them is what I'm asking?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Some of them were replaced, but not all of them. So in -- as of July 1st of 2016, there were 50 Investment -- or 50 staff remembers in private equity.

COMMITTEE MEMBER TAYLOR: So we lost a total of --

INTERIM MANAGING INVESTMENT DIRECTOR CORR: So there's a net reduction of 15.

COMMITTEE MEMBER TAYLOR: Fifteen, yeah.

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Ten of that was because individuals transferred to other areas within CalPERS, so they -- and their positions went with them, and the other ones were vacancies that were not filled.

COMMITTEE MEMBER TAYLOR: So you're saying the positions went with them, so you lost those positions?

INTERIM MANAGING INVESTMENT DIRECTOR CORR:

Correct.

COMMITTEE MEMBER TAYLOR: Wow. So we would actually have to approve 15 additional positions if we were to continue this size of the private equity office that we had?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Some of those 10 that transferred out are in positions that are still in support of the Private Equity Program.

COMMITTEE MEMBER TAYLOR: Okay.

INTERIM MANAGING INVESTMENT DIRECTOR CORR:

They're just not longer reporting into private equity.

COMMITTEE MEMBER TAYLOR: Okay. What -- go ahead, Wylie.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

Wylie Tollette, CalPERS staff. In this past summer, we transferred out a group of people in private equity associated with private equity operations who helped process capital calls and distributions, as well as private equity analytics, in other words, the group that is working on developing attribution analytics for private equity. They historically were embedded within the private equity team and we carved them off. And now they report up through me.

The idea is to create some degree of independence between the attribution professionals, sort of the score keepers, and the investment professionals. They're still very much in support of trying to ensure that the private equity team has the analytics they need to make good investment decisions. But we found that degree of independence is helpful in ensuring sort of the integrity and the credibility of the information that's produced for the entire office.

COMMITTEE MEMBER TAYLOR: Did you do it to our global equities as well?

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: That's right.

COMMITTEE MEMBER TAYLOR: So you put them all in a separate little enclave?

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: That's right.

COMMITTEE MEMBER TAYLOR: Okay.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: There are actually two separate enclaves.

(Laughter.)

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: And we tried not to enclave them too much.

(Laughter.)

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: We're trying to actually make sure that they're -- the language we like to use is integrated, yet independent. So the information we want well integrated into the decision making of the asset classes, but the production of the reporting we want to be independent and aligned with the group that produces the investment performance, which again is produced somewhat independently from the investment professionals.

Again, the idea is to create something of a scorekeeper over the investment decision making, so you can evaluate its effectiveness over time.

COMMITTEE MEMBER TAYLOR: Okay. That makes sense.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

That was, I think, 8 of the 10.

COMMITTEE MEMBER TAYLOR: Eight of those 10?

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

Um-hmm.

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

CHAIRPERSON JONES: Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: Yeah. On slide 27, the conclusions, 315 of the iPad, the private equity exceeded the global equity benchmark over the 5-, 10-, and 20-year time horizon. I assume it also beat the fixed income benchmark?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: I don't know what the fixed income benchmark was over those periods of time --

COMMITTEE MEMBER JELINCIC: Okay.

INTERIM MANAGING INVESTMENT DIRECTOR CORR: -- so I'm not sure I can answer that question.

COMMITTEE MEMBER JELINCIC: Did it exceed on a risk-adjusted basis? I mean, it ought to beat the global equity just because there's additional risks.

INTERIM MANAGING INVESTMENT DIRECTOR CORR: It exceeded the global equity benchmarks by over 400 -- I think 440 basis points in both the 10 and 20 year. And so to the extent that you would believe that's an appropriate premium for private markets then it did on a risk-adjusted basis.

COMMITTEE MEMBER JELINCIC: And so what is the appropriate premium? I mean, when you risk adjust the asset, what kind of returns are we getting on a risk-adjusted basis?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: I guess on a risk-adjusted basis, we're receiving a return that is in line with the expected return set up through the asset liability management process, and the capital market assumptions that are set by the Board.

COMMITTEE MEMBER JELINCIC: Can you run that by me one more time? I'm not sure I understood.

INTERIM MANAGING INVESTMENT DIRECTOR CORR: The returns are in line with the expected return for the asset class as set up by the capital market assumptions that are set by the Board.

COMMITTEE MEMBER JELINCIC: So the risk-adjusted return is the global equity plus 300 basis points?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: With a higher volatility.

COMMITTEE MEMBER JELINCIC: Okay. And have we ever actually tried to figure out what the risk-adjusted return on private equity is? And I guess embedded in that question is have we figured out what the risks are that we're adjusting for?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: The risks you would adjust for would be the increased leverage in the portfolio.

COMMITTEE MEMBER JELINCIC: Smaller size?

INTERIM MANAGING INVESTMENT DIRECTOR CORR:

Smaller company size, yes.

COMMITTEE MEMBER JELINCIC: The fact that the GPs have an option on when they pay and don't pay?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: When they pay and don't pay?

COMMITTEE MEMBER JELINCIC: When they call capital, when they give it back.

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Yes, the GP's are in control of the timing of the investments.

COMMITTEE MEMBER JELINCIC: And one of the other things. In the performance, you talked about 350 basis points in realized -- or 350 billion in realized returns or realized gain.

INTERIM MANAGING INVESTMENT DIRECTOR CORR:

There's $3.5 billion of gain, yes.

COMMITTEE MEMBER JELINCIC: We had $7.6 billion dollars in distributions. Where's the roughly $4 billion difference?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: It's the cost base of the investments.

COMMITTEE MEMBER JELINCIC: I'm sorry?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: It's the return of cost.

COMMITTEE MEMBER JELINCIC: It's return of capital?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: (Nods head.)

COMMITTEE MEMBER JELINCIC: Okay. Thank you.

CHAIRPERSON JONES: Mr. Lind.

COMMITTEE MEMBER LIND: Thank you. I just wanted to commend what's left of the investment team - we've had some departures and some change - for continuing to move forward in this kind of time of uncertainty in a complex asset class that has a lot of light shining on it all the time, particularly, Sarah, the job that you've stepped up to do. And, you know, J.J. always asked some good, technical, important questions, and I appreciate that, and you were spot on on most of the answers, some complex materials.

So thanks for the work that you're doing and the rest of the team. And I know we're going to have a lot of discussion about what the business model is going to be and all of that, but I just wanted to, you know, point out your good work.

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Thank you.

CHAIRPERSON JONES: Mr. Bilbrey.

COMMITTEE MEMBER BILBREY: Thank you, Mr. Chair.

Going back to Ms. Taylor's questioning. Are we going to be recruiting for the MID or IO position?

CHIEF INVESTMENT OFFICER ELIOPOULOS: I'll take that one, Mr. Bilbrey. Ted Eliopoulos, Chief Investment Officer. I've been holding off on recruiting for the MID until we conclude our business model discussion. So I think in an ideal world we'd have some -- we'd have some idea of the strategy we'll be pursuing before we open that recruitment me. So hopefully our discussions will progress this -- in closed session today, and into the end of the year, and we'll be in a position to open that recruitment.

COMMITTEE MEMBER BILBREY: Is that the same as also adding others back into some of the positions?

CHIEF INVESTMENT OFFICER ELIOPOULOS: No. No, I think within the -- I think within the group that really will depend on needs of the asset class and whether or not we think we need to fill that position now or into the future.

COMMITTEE MEMBER BILBREY: Okay. And then going back to Mr. Jelincic's talk, why haven't we recorded the $400,000 that was mentioned about fees? You said it was nowhere recorded, why is that?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: So when we present the report next month to comply with 2833, it will include that the fees that the portfolio companies paid to the firms. It was not presented in this slide, because the information is --

COMMITTEE MEMBER BILBREY: So it will be in that report?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Correct.

COMMITTEE MEMBER BILBREY: Thank you.

CHAIRPERSON JONES: Mr. Feckner.

COMMITTEE MEMBER FECKNER: Yes. Thank you.

Now, Wylie, I think you mentioned the fact that the -- you're -- the team that you have that you carved out to do the analysis, you also did the same thing with global equity, correct? Did you backfill global equity when you -- when those people came out of that branch to move into the new branch?

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

Not completely actually. They reallocated some of the roles. And so I think the math gets tricky, because at the same time we were taking on some of that work, the global equity team was staffing up as part of their re-adoption of the corporate governance activities. So you might recall last year, we moved some of the corporate governance work out of our global governance team into global equity.

But the short answer is is that global equity attribution, because of the robust level of data that's available is a much less data and personnel-intensive -- it's much less personnel intensive activity than trying to attribute performance in private equity where the data is sort of splotchy, and the -- even sort of the art and science of attribution is not yet well matured in the private equity space, so it's a much more labor intensive activity. And frankly, it's new for CalPERS.

Another element that's underlying a lot of these personnel transfers that are highlight in the agenda item, as well as in Meketa's letter is the fact that the PEARS project, which has really been a huge work effort for the private equity team for the last five years, is actually now, as you heard, drawing to a close.

And so with the drawing to a close of this substantial systems implementation effort, I think the entire team here, Sarah and Mahboob and private equity team have been reevaluating sort of where to devote time and attention and resources, and how best to organize those resources. Now that that project and the implementation of effort -- now that we're moving into production, we're hopeful that we would see some efficiency gains with the implementation of PEARS.

So that's kind of an underlying element underneath some of these -- some of the personnel changes and transfers that you're seeing.

COMMITTEE MEMBER FECKNER: So aside from the analysis, do you think we did the same amount of rigor in recruiting and backfilling in global equity as we do -- as we did or not -- did not do in private equity, and if not, why not?

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: I think I know the answer to your question. And I think the answer to your question is is we -- well, I think I understand your question, so -- your question is is did we -- is private equity -- is private equity suffering from a lack of adequate resources right now?

And I think we're in the middle of assessing that. And part of the question is, the global equity business model we don't anticipate dramatic changes in the near future in the global equity business model. And so as a result, we -- we haven't had to shift resources around or evaluate the use of those resources in the same way. So when we did the -- when we took on the attribution work, not only was it much less labor intensive for my team to take on that work, it was also less of an impact on global equity to lose it, because it's much ore efficient work, much more automated, where in private equity, we have too much more uncertain variables.

The first is that the work -- the actual attribution work is much less settled. It's much more of a research effort and initiative than it is an automation production workflow at this point. We're working towards creating that.

And then number two, we had these large questions in the near future on which direction we're going to take with our private equity business model that affect the staffing questions. So all of those are -- are sort of at -- in flux right now as a part of this staffing picture that we're trying to present to you.

COMMITTEE MEMBER FECKNER: Thank you.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

But I think your answer -- you're asking exactly the right question, and I would encourage those kinds of questions, because frankly we're in the middle of evaluating exactly that -- exactly that question.

We still have one of the largest private equity teams in this space. Many other -- many other public pension plans with portfolios that are not as large as ours, but have many of the same partners and many of the same partner relationships, have much, much smaller staffs and have a very different model.

CalPERS has a large and capable staff that's been influenced over the time by the degree of monitoring activity, the degree of automation, and the degree of reporting demand that our private equity team demands from our partners. All of that, as you know, is one of the questions that we're considering as part of our private equity review.

CHAIRPERSON JONES: Okay. Thank you.

Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: Three comments and a question. Having been in the real estate unit when they went through AREIS, I sympathize with what you went through with PEARS. And I think we should acknowledge that that involves a lot of extra work, and I do appreciate the effort.

The MI -- delaying the MID recruitment I think is appropriate, since it's kind of hard to recruit for a position if you can't say this is what the job is. So I'm actually supportive of that.

Moving the scoring -- scorekeepers and the compliance people out from reporting to the people that are running the portfolio is also something I support. In fact, I have advocated that we ought to not just do that. We ought to move them out of the investment office and have them report elsewhere and create even more independence.

But my question is to Sarah. Sarah, you said that when the report we get next month, portfolio fees will be included. Will we see both portfolio fees that are offset and any portfolio fees that are not credited back to us?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: So the requirement is to show CalPERS pro rata share of the offsettable fees.

COMMITTEE MEMBER JELINCIC: Okay. And if it's not offsettable, it continues to be a non-cost.

INTERIM MANAGING INVESTMENT DIRECTOR CORR: It would be in the report.

COMMITTEE MEMBER JELINCIC: Okay. Thank you.

CHAIRPERSON JONES: Okay. Well, I want to thank Ms. Corr for a very well prepared presentation. So we thank you for your efforts.

We do have a request to speak on this item. Margaret Brown, if you'll come forward to my left here. And you will have three minutes to speak, and there's a timer right in front of me here that will alert you to the time you have during your presentation.

MS. BROWN: Thank you.

My name is Margaret Brown and I'm a candidate for the CalPERS Board. Today, I'm here this morning to read from an op-ed accepted by the Sacramento Bee for publication. This author is Eileen Appelbaum an economist with the Center for Economic Policy and Research in Washington D.C.

"Meeting returns for private equity funds launched since the financial crisis have failed to beat the stock market by enough to compensation for the increased risk. Pension plans know that high prices to acquire companies today means lower future returns.

"So does CalPERS plan to reduce the 26.2

billion allocation to private equity? Is CalPERS going to outsource management of these investments, pay fees, and risk even lower returns?

"Instead, it looks like CalPERS staff is asking the Board to lower the bar. This may make private equity investments look better, but will do nothing to assure private equity investments earn adequate returns.

"The proposed benchmark gives less weight to better performing U.S. stocks and cuts the risk premium to just 1.5 percent. Does staff believe that private equity has become less his risky or is this an admission that returns will be lower?

"The new benchmark will be easier to beat and practically guarantees this staff an easy A. This Board is charged with overseeing the prudent investments of taxpayer dollars and protecting our retirement earnings. There needs to be an honest assessment for private equity performance, and this Board should ask the staff for serious recommendations for how to address lower returns in the future".

Thank you

CHAIRPERSON JONES: Thank you.

The next item on the agenda is the consultant's review of the Private Equity Program, Meketa Investment.

MR. HARTT: Good morning. Steve Hartt with Meketa Investment Group. A number of the items that I was going to cover have been covered in -- by Sarah's report as well as the questions. But a couple of items just to go through sort of four areas: The performance, the program, policy, and people.

As has been noted, the performance for the program has been below the benchmark on the one, three, five, and since inception periods. That hasn't changed very much in the last several years. The program itself at $25.9 billion, that size of AUM has actually shrunk since last career.

In large measure, that was due to the positive cash flows, meaning CalPERS has received more cash back than what has been deployed in, and that has more than offset the amount of gain that's taken place in the portfolio. So as mentioned, over $7 billion returned, $3 billion has come back, and there was a $3.3 billion overall gain. So overall, it's just not been enough, in terms of the gain, to offset the cash flow.

Another note that this is the 7th year in a row that you've received more cash back than what has been going into the Private Equity Program.

From the policy perspective, we talked a little bit in our report about the core 30, the strategy to focus the program on some of the largest and highest performing managers that were selected some years ago. The idea of trying to reduce the complexity concentrate the fees and the costs, and to make it overall an easier program to manage.

That being said, we see some -- certainly some positive aspects of that, that there has been some reduction in some of the flow that's taken place in terms of the reporting, but overall, it has not been going down. There's been a lot of monitoring concentration in the workflows that are done by the staff have continued to be very high.

We're not seeing the kind of partnership opportunities where there's co-investments and separate accounts that can be taken advantage of working with some of these partners. In some cases, it might be a little bit of how a number of these large managers tend to want to do their partnership activities. What I mean is there can be groups like Blackstone or Carlyle that look to do partnership activities across a number of asset classes, as opposed to just in private equity. And working with CalPERS to do those kind of activities across multiple asset classes could be a little bit complex and perhaps that's something that can be looked at into the future.

The other aspect, the amount of commitments and the dollars being commitment -- committed every year, for reasons we're not fully understanding, the number of commitments has come down over time. We're seeing that in most cases, the Private Equity Program is able to achieve its target allocation with each manager, but not in every case.

Some cases, it's a very -- we've observed that there be a very attractive high-end demand manager, and the amount of capital that CalPERS is looking to deploy is not being met, not getting everything that you wanted.

Quickly from a policy perspective, the program is within its policy ranges on the strategy and the geography. We did note here about the discussion last December about changing the benchmark from -- to the global equities benchmark. And we've talked quite a bit about the staffing, the 35 people as of September.

I did talk in our memo a little bit about, as you're familiar, about how that staff is organized into the three groups: the underwriting, the investment management, and the risk reporting; and the certain benefits around that, in terms of being able to have multiple eyes looking on the particular manager.

But we do note that there can be some

inefficiencies also in that structure, and particularly thinking about how the monitoring people, and their work, and their interactions with the general partner and the underwriting that there can be some possibility that some information is missed, or that there's just a little less coordination in terms of, for instance, the GP kind of knowing who to speak to about particular activities at times that they need to speak to CalPERS.

So I'm happy to answer any other questions or follow-ups.

CHAIRPERSON JONES: Yes, we have a few questions.

Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: In your memo, you talk about the fact that staff has proposed that the benchmark be changed to global equity benchmark, which we did, plus 150 basis points, which we have not yet done. Do you -- what's -- does that make sense to accept only 150 -- to set as a target only 150 basis points over the public market?

MR. HARTT: The --

COMMITTEE MEMBER JELINCIC: And just so you can think about it, I'm also going to ask, you know, what other benchmark you would consider, and how you would risk adjust this asset class?

MR. HARTT: So to do the second question first, let's say. So the other benchmarks -- what has been proposed here and what's being discussed is an alternative to the public equities. The other kinds of benchmark are peer-oriented benchmarks. What do other private equity programs do, what do other -- looking at the whole private equity universe, how are those funds performing? So those peer indexes.

And those -- you know, one of those providers is State Street that CalPERS does use. And the performance in there in various reports I've seen has gone back and forth. Overall, it's a second quartile. It's a middle-of-the-pack kind of performance compared to everything else that's out there. So that's a -- one performance benchmark that people have used. Another one is, you know, public market equivalent, whether or not you're getting extra return compared to the alternative of being invested in public markets.

And what we've talked about here right now is the time-weighted return comparing the private equity performance to public equities.

So the two components talked about the movement of the benchmark from the two-thirds/one-third to the global equities all markets, that was discussed, and then your last point about the spread.

So what we've observed is that over time, the spread between public equities and private equities has compressed. That is something that -- you can look at CalPERS returns, you can look at various other providers out there, that that is a spread differential that has compressed over time.

What is the right number, whether 300 or 150, probably depends on the make-up of the program. There's probably no one right answer for that.

Does it make sense for this program? I think it depends on what it is that you want to measure at the end of the day. And your questions about what is the risk profile of the -- of the portfolio, and exactly being able to measure and understand what that is, probably changes over time.

COMMITTEE MEMBER JELINCIC: I notice that CalSTRS, their short-term benchmark is we want to be better than our peers by beating the State Street Index, which basically says this is how the industry performed.

Longer term, they're saying Russell, which recognizes the smaller cap plus 300. Does that kind of split make sense?

MR. HARTT: So I think what CalSTRS is looking to try to do is by having the peer indices for short periods, and the public equities index benchmark for longer periods. I think what they're looking to try to do is that over a shorter time period, there can be differences in performance that can be reflected in one asset class or another, public equities and private equities in different ways, and different time periods. And we want to try to smooth that set of observations.

So in shorter time periods, it might not be as meaningful to compare the performance of a Private Equity Program with the public equities because there can be changes in the way that that -- that different asset classes are performing. Although, at the end of the day, they're linked.

But then at the end of the day, looking for the private equity asset class to perform in some meaningful way above the alternative investing in public markets. Otherwise, it can be difficult to accept the risks, the liquidity, the lack of transparency if you're not getting extra returns compared to public equities.

COMMITTEE MEMBER JELINCIC: Okay. And can you comment on the difference between our co-investment program and the CalSTRS co-investment program?

MR. HARTT: I think that there are similarities. What's going on right now in the CalPERS program is that there are no new co-investments taking place. So that's the biggest difference. CalSTRS is doing it, CalPERS is not.

I think that when CalPERS was doing the program, we were not involved at that time, but my recollection, my understanding of that program was that the sourcing and the execution were similar to what CalSTRS is doing now, the looking to utilize the relationships and partnerships they have with some of the leading general partners to source interesting and attractive investment opportunities, and choosing attractive investments among the pool of opportunities we're able to source.

COMMITTEE MEMBER JELINCIC: In the case of CalSTRS for infrastructure, they're actually going in early in the program helping to do the underwriting. Were they also doing that in private equity?

MR. HARTT: Early in the program -- can you explain that about early in the program?

COMMITTEE MEMBER JELINCIC: The -- when -- in there infrastructure program, one of the things they actually do was they do the underwriting. They figure out whether this investment makes sense, you know, many of the functions that we've normally contracted out to GP. Are they doing the same thing in private equity or were they doing the same thing in private equity?

MR. HARTT: So right now, my understanding of the CalSTRS program is their co-investment program is focused on identifying and executing investments with the partner -- general partners that they have in the program, that there's not a other separate program that they're looking to do different sorts of things too.

COMMITTEE MEMBER JELINCIC: Okay. And my last question.

CHAIRPERSON JONES: Before you -- Mr. Jelincic, before your last question, Mr. Eliopoulos wanted to make a comment.

CHIEF INVESTMENT OFFICER ELIOPOULOS: I just -- I asked Eric Baggesen to come up to talk about the benchmark, because I want to make sure it's very clear to the Committee this difference between 300 and 150 basis points. We covered it a couple months ago, the difference between the arithmetic and geometric returns. There is no reduction in the spread, but I thought Eric could just emphasize that now, just because I want to make sure I heard the public comment and I heard some of this discussion and I think it's worth underscoring for clarity purposes, but it's the Committee's discretion --

CHAIRPERSON JONES: Yeah, Mr. Baggesen.

MANAGING INVESTMENT DIRECTOR BAGGESEN: Good morning, Eric Baggesen, CalPERS staff.

Yes, Ted is exactly right. This change in the compound rate that's being applied to the margin on top of the public markets is actually something that really was actually approved by this Board in 2015. So in other words, our capital market assumptions in 2013 -- I can reference the actual agenda item.

It was Agenda Item 6A, attachment 1 on June 17th of 2013 specified an expected return for private equity of 9.33 percent. Our public equity return at the same time was 7.75 percent. That's a compound return difference of 158 basis points. Three hundred basis points is an artifact attached to the calculation of arithmetic returns.

So this is this constant statistical gyration that we do to try to understand the difference between an average return, which is simple arithmetic return and the effects of compounding which is when your money is basically staying invested in the marketplace.

This gets into the asymmetry that, if you recall John Cole's discussion probably almost a year ago, maybe a little bit more about the asymmetry of downside risk versus upside risk.

So, for example, if you have a return -- if your return falls, if you lose one-third of your portfolio, it takes a 50 percent gain to get back to where you were. So there's an asymmetry to the downside.

That asymmetry, the way that you adjust statistically from an arithmetic return to get to a geometric or compounding return is you typically take away from the arithmetic return one half of the variants, which is simply the square of the standard deviation. So this gets into a whole array of statistical measurements.

But basically, the 150 basis points that we're talking about compounding is almost identical to the 158 basis points that we had four years ago when we adopted the capital market assumptions. It's the actual application of what has been being compounded within the State Street performance system that has been incorrect.

They took the arithmetic number in contrast to the compound increment that was actually approved by this Board. That's what we're trying to correct is just make sure that the calculation is done appropriately and in -- consistently with what this Board has actually approved.

And that's, you know, been one of the things that I've tried to emphasize to the private equity team is that, you know, we need to be advocates of making sure that this calculation is done appropriate to the numbers that are actually adopted in our sets of assumptions.

But just to belabor this point a little bit more, just -- you know, there's been a bunch of comments about whether or not the 150 basis points is enough, or not enough, or anything else, or the expect -- expectation around returns. So one of the things that we did was to look at -- there's a survey that comes out from an actuarial firm called Horizon.

And Horizon surveys every year and sets up long-term market assumptions. And they do that by surveying 35 investment managers basically around the globe. When we look at the 2017 Horizon survey, if you look at private equity, the minimum expected return for private equity in the Horizon survey was 6.6 percent. The highest expected return was 12 percent.

Basically, our survey that we do across our managers and consultants, we saw a minimum of 7 percent and a maximum of 9.3 percent. Our assumption is an 8.3 percent rate of return on top of public equities which have a 6.8 expected return. So again, that's the 150 basis points.

Our assumption on private equity though comes in about the 25th percentile. So it's in the bottom portion of that distribution, but it is by no means the lowest number that is there. And, you know, it's just important to understand the context around these numbers, because there's been a lot of misinformation about what is happening here. But we're literally just trying to ensure that the calculations are done appropriately when we talk about long-term compounding of returns.

And I'm not sure, does that answer the question or does anyone --

CHAIRPERSON JONES: Yeah. That's okay for now.

Mr. Jelincic, your last question.

COMMITTEE MEMBER JELINCIC: Well, he created a new question.

On the last Board -- or last Committee action, when we amended the policy -- we changed the policy, the Total Fund Investment Policies and left the rest alone. I will quote from it. For private equity, what we just voted on was the 67 percent FTSE U.S. Total Market plus 30 percent FTSE All-World, plus 300 percent. You know, so that's -- it seems to me there is an inconsistency in what we are saying.

And -- oh, this goes back to the top 30 for the consultant. And it's -- you've raised the issue that it hasn't worked quite as well as we had thought. You know, when people like Blackstone say, well, there is a -- on their earnings conference call, they said there's a large public fund that is trying to get down to 30 private equity managers. They didn't identify who it is, but I can think of at least one, and -- or basically, you're saying to us how much money can you take? That certainly undercuts our ability to negotiate fees.

How much of the inability to get the reductions do you think is limited to the fact that we've said, hey, you know, this is our universe of players?

MR. HARTT: So if I'm to understand your question, does the fact that a list of 30 managers, does that impact CalPERS' ability to negotiate fees with groups like Blackstone?

COMMITTEE MEMBER JELINCIC: Yeah. I mean, you referenced, you know, our top 30 in your report. Do you think the fact that we've identified that has hurt or made it more difficult to cut fees?

MR. HARTT: I think it's made no difference.

COMMITTEE MEMBER JELINCIC: It's made no difference?

MR. HARTT: No difference.

COMMITTEE MEMBER JELINCIC: Okay. Thank you.

CHAIRPERSON JONES: Ms. Yee.

COMMITTEE MEMBER YEE: Thank you, Mr. Chairman.

We've kind of been exploring this question about staffing. And I understand what's happened relative to the reductions. But I guess for the consultant, in terms of reaching the $4 billion commitment target, is it going to require more staffing than what's currently in place?

MR. HARTT: Currently, CalPERS -- so there's -- there are two parts to the question. So one is what is the staff's ability to process the paperwork, and the -- you know, being able to make the manager selections?

And the other is, frankly, of that list of managers, what is their fundraising pace? How often are they in the marketplace, and it's attractive investment opportunity with those managers?

So I think on the first part with the staff of 35 and the underwriting team that's there, they are processing 3.3 last year. They have a target of four billion this year. That does not seem to be too much of a stretch for that team to be able to execute on that.

What I'd say is that there is some challenges in being able to deploy more than that, if you have a list of 30 managers, because right now, it's a pretty attractive fundraising market. Maybe next year or the year after, maybe those managers will not be in the market so much, so be relegated to look to other managers and other strategies, let's say, to be able to deploy capital that sort of size.

Or if you want to do even further, which I would -- I think that, you know, based upon the pacing models that I've seen from staff, that it's going to take more than $4 billion a year to be able to maintain the target, much less grow it.

COMMITTEE MEMBER YEE: Okay. All right. I guess also relative to staffing, I was -- and first of all, I appreciate really the thorough report that you've provided in terms of the program review.

On page six of your report, you do highlight some -- some thoughts about the structure of the private equity staff, in terms of the organization into underwriting and management and the risk research analysis. And I guess my question here is do you see the need for a change with respect to a restructuring that would allow continuity of the CalPERS relationship between underwriting and the investment management group? I mean, is there -- is there something that should be improved relative to the structural relationship.

MR. HARTT: Well, the structure was put in place for specific reasons. And the -- there's benefits to that in terms of having a different set of eyes looking at the potential investment opportunity versus looking to see whether that manager is doing a good job of executing on their investment strategy.

So there was a decision that was made on that. And in order to have separate eyes, you need to have some -- two different groups on it. That being said, one of the issues that comes from that is there can be some friction in terms of being able to share information between the groups. Does the underwriting group have as deep a understanding of the team not having been involved in monitoring, not necessarily going to all the annual meetings, not being on all the quarterly calls and listening to who's saying what and when?

You know, those sorts of nuances I know that the monitoring team does a very good job. I looked at the reports in terms of, you know, how they look to describe all that and put that into the reports, but there can be some nuances that are gained from sitting next to, you know, the general partner, manager and, you know, talking to them at a dinner or over a cup of coffee that may not be as easily transferred to sort of on paper.

That being said, I know that the portfolio management team does interact with -- with the underwriting team and also participates in the underwriting discussion, and is invited to share their thoughts and understanding.

COMMITTEE MEMBER YEE: So this is really more of a less of a need for revising the organizational structural and maybe more -- related to more robust communications across groups.

MR. HARTT: Keeping that -- and then the other side of the question has to do with the general partner. If the general partner has a question or an issue, you know, who is it at CalPERS I should speak to? You know, the monitoring team does have the staff to go do that. But, you know, if there's an amendment change or things like that, those are in the monitoring side when it comes to a new investment opportunity - you know, not doing co-investments now, but you know a new fund that's coming it will have to be directed towards the underwriting team.

So just in terms of having a point of contact that is the CalPERS point of contact, because it's a split, there's just going to be two different people.

COMMITTEE MEMBER YEE: Okay. You also mentioned a trend of fewer proposals and commitments over the past few years, but also not feeling comfortable in terms of putting the reasons forth as to why that is. Is that something that would require a further look or is it something that you can speculate as to why that's happening at this point?

MR. HARTT: I think it would take some further look. So I came across these statistics as doing the portfolio review, and thinking about that and asking staff about, you know, how things have been in the past and the flow. And I saw those statistics and asked the staff some questions. Didn't have really a complete answer for that.

So it's hard to really -- to fully speculate. It's -- I just, you know, observe from looking at the fundraising pace in the marketplace has been pretty consistent over the last several years about how many managers and the amount of capital being raised. And so it just seems a little odd that there would be, you know, fewer proposals coming in to CalPERS over those years, you know, given that the fundraising pace has been quite strong.

COMMITTEE MEMBER YEE: Okay. Mr. Chairman, I would ask that, if we could get a little deeper dive on that issue, just to get a better understanding, and really just working with the staff to try to get to that understanding would be appreciated.

Then my last question has to do with this Core 30 manager strategy. And, you know, one of the things that's always, you know, I think on our minds is are we missing opportunities? And so with respect to this Core 30 strategy, you've identified certainly some benefits that could be gained from such a strategy, but also the fact is that we haven't realized some of these benefits.

So do you have any thoughts with respect to whether we should drop that concept and instead look at diversifying our managers?

MR. HARTT: So there is -- I think, as you're aware, there is a separate list of a few managers that they -- that the staff can invest outside of the 30, and they are reviewing those -- one manager that's just come through from that list that is being approved, and I know there's some others that are being considered.

So staff also thinks through who is on that list of 30, and there may be some changes over time. It just makes sense that maybe performance changes for the particular manager or someone else shows up as something more attractive. So there is a process by which that list of 30 changes.

Lastly, I'll note that from what I've heard from staff more recently is that they would look to have some more than just 30 managers on their list. I don't think there's been a decision as to exactly how many, but I know that other plans do have a larger set.

One of the issues with the -- having the 30 is -- I mentioned in the letter about the concentration of strategy. In order to have the list, in order to deploy the size of capital, that kinds of ends up being relatively large check sizes, which tends to be a concentration into the buyouts and maybe some of the credits area where it can take that sort of capital.

And it tends to make the portfolio less concentrated in some of the other areas. So there can be -- there's some issues in not having as diversified a portfolio that may be looked to have that enhanced, if you have some more managers there. So it's a matter of thinking through what's the strategy and approach and how you're going to deploy against that.

And there's obviously a lot of discussion about the business model, and that I think should be wrapped up in that.

COMMITTEE MEMBER YEE: Okay. Okay. I appreciate that. Thank you.

CHAIRPERSON JONES: Thank you.

Mrs. Mathur.

COMMITTEE MEMBER MATHUR: Thank you, Mr. Chair.

First, a suggestion, I sense that there remains some confusion about the benchmark question. And I'm wondering if providing the actual formula that translates the arithmetic to the geometric might be helpful, so we can see it as opposed to visualize it, while it's being explained. And that might be something that members of the -- of our -- of the public would be interested in as well. So that's just a suggestion.

I want to come back to this 30 -- the Core 30 question. And I really appreciated the way you outlined the -- your observations about how it has played out so far. And I guess my question for you is obviously private equity by its very nature is a less diversified portfolio than global equities. I mean we have 10,000 plus companies that we hold in public equities, but in private equity it's a much smaller number.

But what do you think is the -- you touched on this a little bit maybe, but not quite getting -- getting all the way to the answer. But what do you think for an organization of our size is the right level of concentration versus diversification in the private equity portfolio mix of very large, obviously buy-out funds and medium-sized? Maybe we wouldn't do so much with the very tiny. Although, we do have our emerging markets program.

But do you have a sense of what sort of the sweet spot might be for an organization -- for an organization of our size with a desire to deploy -- you know, I know our target for this year is four, but I think we'd like to be even higher than that, six, eight.

So what -- yeah, I'll stop there and see if you have any comments.

MR. HARTT: You know, really I'd like to take back, and if -- I'd like to do more research to come up with that. Because what I'd like to do is to look, you know, over time, you know, commitment paces, take a look and see more specifically about benefits of diversification or not. I'd like to get a better answer for that.

COMMITTEE MEMBER MATHUR: Okay.

MR. HARTT: I think that it's just an observation seeing that having a focus on 30 managers does provide some opportunities, but also has some issues and considerations that are there that can make it challenging to deploy the rate of capital. So I think that, you know, the two parts of the issue have to do with the deployment of the capital and what sort of bullpen do you want to have to be able to effectively deploy that capital, being able to make the choices and still get the amount of capital out the door, but also the impact of the diversification?

You know, how much do you need to have in some of these other strategies in order to be meaningful in difference? If you just have a little bit, it's not going to really move the needle, right?

So at some point, it has to be enough to make it worthwhile. And to be, you know, truly thoughtful about, okay, let's just assume, for instance, if it's possible that the small buyouts does outperform large buyouts or mega buyouts. Well, you know, being realistic at CalPERS size, how much would they have to deploy in small buyouts in order to move the needle in any meaningful way in terms of the performance. In looking at that number, can that actually be done? Can you find enough or would you have to have a hundred different small buyout managers?

So I think -- I think to have a better answer, I'd like to work with staff and come up with a more concise reply to that.

COMMITTEE MEMBER MATHUR: Thank you. Mr. Chair, if I might, I think that would be really useful for this Committee --

CHAIRPERSON JONES: Yeah. Right.

COMMITTEE MEMBER MATHUR: -- as we're considering things right now.

CHAIRPERSON JONES: I agree.

COMMITTEE MEMBER MATHUR: Thank you.

CHAIRPERSON JONES: Okay. And we will do that as a direction.

COMMITTEE MEMBER MATHUR: So if I could just -- I just have one more question around this.

One of the things you mentioned is that there has been really no impact on our ability to negotiate fees with respect to this concentration. Is it your belief or impression that if we were -- you know, if we were negotiating with more moderate-sized funds or partners, GPs, with somewhat smaller funds, then we would have more negotiating power? We'd actually be able to be more effective in negotiating down fees?

MR. HARTT: So let me just go back. So my comment is what I'd heard from staff is that CalPERS has not been consistently effective in getting a reduction in fees that they paid compared to other similarly situated large investors. So what happens pretty commonly is that you get a volume discount from some managers, right? Not everybody, but some managers will give you a fee break for making commitments in size.

In general, my understanding from staff, that has been available to other large investors that are willing to make, you know, similar-sized commitments.

The question of, I think -- just expanding, I think, the question of could there be other ways to use size to be able to get fee discounts, and your direct question about in some smaller managers, that's possible.

One way that some folks have been able to do it, in terms of getting some fee discounts, is being involved in some earlier formation of a fund, to sponsor a new manager that's coming out and to be a -- you know, a strong partner at the beginning, one can get some discounts that way.

So on the small fund size, it's possible that -- to be that. I still think that a small manager that is attractive that's doing well will have a lot of capital resources to be able to choose from. So that may not be an effective path, but it can be higher risk to try to invest in with some spin-out managers. There's organizational risk there. There's other issues.

So in acceptance for that risk, can you potentially negotiate lower fees? It's possible.

COMMITTEE MEMBER MATHUR: Okay. Thank you.

CHAIRPERSON JONES: Ms. Taylor.

COMMITTEE MEMBER TAYLOR: Thank you, Mr. Chair.

I also want to commend you on your report. I thought it was an excellent report, and very detailed. I think I'm also going to jump on the bandwagon here, on page four of eight, where you state, "Overall we note a trend of fewer proposals and fewer commitments in recent years, which seems unexpected given the strong fundraising environment".

I would love to some -- a deeper dive into that.

MR. HARTT: Okay.

COMMITTEE MEMBER TAYLOR: Okay?

And, Mr. Chair, I think we -- the three of us have all --

CHAIRPERSON JONES: I think it's going to be -- it's going to be part of the same issue.

COMMITTEE MEMBER TAYLOR: I think we all underlined the same thing in our book.

Anyway, then I had a question -- as you were -- you actually brought this up as you were answering Priya's question, where given our size and our ability to negotiate fee reductions, there are other entities similarly situated that have been able to, and we have not. And my question is why discount -- why have we not been able to negotiate discount on fees when others have. What have -- what -- what's your observation?

MR. HARTT: So you're saying in terms of my oral comments or in the letter?

COMMITTEE MEMBER TAYLOR: Your answer to Priya just now.

MR. HARTT: Maybe I misunder -- maybe I misspoke or something, so --

COMMITTEE MEMBER TAYLOR: I may have misunderstood you.

MR. HARTT: Right, right. So my understanding is that, in general, that CalPERS has not been able to negotiate fee discounts differently than other largely-situated investors, not that others have been more successful than CalPERS. What I observe is that there are opportunities -- in terms of being with the Core 30 and being a strong investor with those, there are other opportunities that could be taken advantage of in terms of co-investments and those sorts of things that CalPERS is not pursuing now, and could that -- you know, one of those objectives could be, you know, with co-investments lower fees and carry on those -- on that deployment of capital.

So maybe in that perspective, that maybe some other -- other limited partners are taking advantage of, you know, those other partnership opportunities.

COMMITTEE MEMBER TAYLOR: Okay. And then -- thank you very much that clarified that. One of the things about the Core 30 was that we were supposed to be reducing complexity and you were stating here in your report, it looks like that most of that complexity has not really been done away with.

If you were to have a strategy going forward with our internal investment team, would you be looking at diversifying our management portfolio at this point, to fully deploy capital, because one of your big concerns here is that we are not deploying capital. We are not buying into co-investments or anything right now that we could have been doing. So what would your strategy be going forward, if we -- working within the team?

MR. HARTT: So is your question in terms of the staffing side or the execution side of, you know what to do?

COMMITTEE MEMBER TAYLOR: Well, the staffing side, and in relation does that impact the execution?

MR. HARTT: Um-hmm, right.

So I would encourage -- so the current pace of $4 billion a year in, you know, staff plans and what we would see is not going to be adequate to keep the target at eight percent. It's going to slowly decline over time at that pace. So in order to achieve eight percent or higher, in terms of the asset allocation, would require additional commitment pace.

So what is good -- what are good ways to do that, right? Choosing good managers. Is the Core 30 the right thing? Should it be expanded? That's one question. Another is being able to take advantage of the other partnership opportunities that are being -- being offered, for instance co-investments. So that's another path as well.

In terms of the staffing to be able to execute on that, what I have seen now is that there are just a few members of the team -- the underwriting team that are -- have experience in doing co-investments. I would think that in order to do -- to do more co-investments that more of the staff should be able to have experience in doing that, whether that is, you know, a training and mentorship program within CalPERS, whether it's going out to other groups. There's lots of different ways to do that, but I would think that having more experience and more capabilities to execute on co-investments would be a good idea, if that is a path to go down.

COMMITTEE MEMBER TAYLOR: Okay. Great.

And then my last question for you was that you had mentioned on a couple of occasions that our general partners are confused as to whom to speak to, because we have several points of contact. Is it your opinion that we should narrow that down to like having one Managing Director or Investment Manager for each of our -- you know, of our co-investors, or is that where the problem lies, or is it because we have different -- I don't -- I'm confused as to why.

MR. HARTT: Right. I think there's two things. So the decision to separate underwriting and monitoring was a decision made, you know, some years ago and with some ideas of some objectives to that, and some reasons why that had taken place.

So going into just having one point of contact does away with those things. And there's certain objectives that would no longer be met by going to that model.

Does it require just having one point of contact for the general partner? I think the answer to that is no, so long as it's clear as to who within CalPERS to speak on various topics, and that could be done.

The other aspect is that just having one person -- you know, practically, not everybody stays in the same job all the time.

COMMITTEE MEMBER TAYLOR: Right.

MR. HARTT: So people could move around and you might not actually achieve your objective by just having one person, because that person could change. They could have different assignments. They could leave CalPERS. They could go to other parts and things. They could -- you know, the staff made decide to reallocate people into different -- a different kind of manager lists. So it may not do away with entirely the issue of the communication just to make it to one.

COMMITTEE MEMBER TAYLOR: And I just want to ask, you named it as a concern. Is it a big concern that they -- that general partners are voicing that they don't know who to contact?

MR. HARTT: I have not gone and done like a survey of general partners to talk about that. I picked up this point mainly from discussion with staff that there's, you know, some possibility that the -- you know, the general partner has some confusion about, you know, who it is that they should speak to about particular items that they have within CalPERS.

COMMITTEE MEMBER TAYLOR: So staff gave you the information

MR. HARTT: That's correct.

COMMITTEE MEMBER TAYLOR: And you're new, and I'm relatively new here too, but -- so is there a previous reporting process? Did staff have accounts before that they kept to themselves? Like, I handle Blackstone, and that's the partner, you know, that individually as --

CHAIRPERSON JONES: Mrs. Taylor, I think we may be getting a little beyond in -- getting into strategy on that question, so --

COMMITTEE MEMBER TAYLOR: Okay.

CHAIRPERSON JONES: -- I think we need to pull back a little on that. And anything related to personnel would be relative to closed session, so -- and I think -- you can get your questions answered, but I think --

COMMITTEE MEMBER TAYLOR: Sure. Okay. Thank you.

CHAIRPERSON JONES: Yeah. Okay. Ms. Hollinger.

COMMITTEE MEMBER HOLLINGER: Yeah. Thank you.

Appreciate the report. Just a couple of things when you do your review that I'd like you to mention or at least look at. I have a concern that our negotiation for fees may be hurting us in the marketplace. So if you could speak to that as whether that's limiting our access to deals or not.

Also, coming from the private industry, to me, deals are always done relationship based. So if you could -- this idea of submitting something to a portal, it's like saying if you have a screenplay in Hollywood, give it to a website. I just -- I'm just curious as to that methodology, rather than maybe developing -- staff to cultivate relationships in the marketplace. And as -- in terms of culture. And also maybe the impact of not having filled Réal's position, you know, not having the leadership.

Thank you.

MR. HARTT: Sure. So the first question having to do with the negotiating of fees, does that hurt CalPERS?

COMMITTEE MEMBER HOLLINGER: You may not know that yet.

MR. HARTT: Yea, I don't -- I don't have -- what I -- my answer to that is I don't have an answer, but I do think that there's a number of aspects in terms of the information flows that CalPERS looks for. It's a broader set of issues. And the kind of information, and the intensity of that information, I think a movement to the ILPA template is helpful, in that from the general partner's perspective, they would like to just be able to satisfy one information request and go along with a lot of different investors.

And so if investors are willing to take, let's say, the ILPA template for, you know, fees information, that's helpful, rather than doing customized for each different individual investor. So I think it's -- it has more to do with -- you know, other considerations to think about is not just the fees, but also in terms of information flows and intensity of those sorts of activities, compared to, you know, other investors out there, where they may not have the same level of questions and looking to deploy the capital.

Whether that's the right thing or wrong, I'm not saying, saying that, you know, CalPERS should look to get the best deal that it can be when it's looking to make an investment with a particular manager. And if they are not willing to take CalPERS money for those sorts of reasons, then perhaps it's not the right relationship.

In terms of the relationship as you mentioned with regards to the portal, I believe that the portal does help in helping -- it's across -- it is my understanding it's across all the asset classes, that all of the investments come through the -- an investment portal here at CalPERS.

And one of the reasons for that is to try to make standards -- standardize the information flow, so that every manager can be looked at in -- initially in a -- the same sort of level of, you know, information and that people can be compared on a standardized way, so that does have some benefits in being able to review them relatively quickly.

I would ask Sarah and other people on the staff to comment about how they work with their investment managers to encourage them to -- through their relationships, to submit into the portal. So, you know, I've talked to them about that about -- and they do have those relationships. So when, you know, a particular manager is coming to market, I know that the staff says, you know, please, you know, take the time and go -- and put the information through the portal as well, so that they can research that. So I know that the relationship is there to encourage the general partner to have that happen.

The last one having -- about a Managing Investment Director, you know, the staff has been doing a good job. I've been monitoring their investments as part of the review process, and I've not noted any deterioration in the thoroughness of the reviews, or, you know, how the staff is reviewing the opportunities. So at the end of the day, it will be good to have, you know, a permanent person in charge, and to be able to have consistency that knowing where the program is going to go going forward.

Obviously, having the Managing Investment Director is part of that, and then the whole discussion about the business model is another part of that as well. So I think that the staff, as I've observed, there's no diminution in their -- the quality of their work.

COMMITTEE MEMBER HOLLINGER: Thank you.

CHAIRPERSON JONES: Mr. Slaton.

VICE CHAIRPERSON SLATON: Thank you, Mr. Chair. Although, I'm always more interested in net return after fees, I do want to come back to fees for just a moment to get a clarification from you.

On page five of eight, your sentence is a double negative, so I want to make sure I understand. "Staff reports that CalPERS has not received meaningful fee reductions that were not available to similarly situated limited partners". That means we didn't -- we weren't able to get something that others did not get, is that the way -- am I reading the sentence correctly?

MR. HARTT: Okay. So I apologize for the double negative. So the meaning is that CalPERS -- there were no other investors that got discounts that weren't available to CalPERS.

VICE CHAIRPERSON SLATON: Okay. So what I'd like you to comment on is, you know, the world of supply and demand. I mean, if I'm a GP, and I've got access to a lot of capital, and I can choose my partners, and there's more capital chasing me than I need, then my inclination for doing fee reduction is pretty limited. Would you agree with that statement?

MR. HARTT: You know, all things being equal, that's correct.

VICE CHAIRPERSON SLATON: Okay. And the market today, would you agree that there's probably more capital chasing than there is requirement for capital?

MR. HARTT: Well --

VICE CHAIRPERSON SLATON: If the deal is good?

MR. HARTT: Right, if the deal is good. So I would look to, you know, a statistic of what they call dry powder, which is the amount of additional capital that's available in the marketplace to deploy in the private market classes has continued to go.

I'd also say that looking back at private equity over the years, there are investments being done within and done by private equity managers that weren't done 10 years ago, 20 years ago. So the marketplace has expanded as well. There's a broader range of opportunities, not only in size, but different types that are done.

So the market has changed, so it's hard to gauge kind of, you know, how much is it just -- if you just looked at the dry powder and see as it peaks, does that mean that there's like that much more capital than deals being possible out there? It's a Little hard to tell. It's not quite as clear.

VICE CHAIRPERSON SLATON: All right. But would fee -- the lack of fee concessions give you an indicator that, in fact, there is enough capital out there going into private equity?

MR. HARTT: So what I've observed on the fee's side is that, in general, if you just looked at the whole private equity market in average, let's say, you would see that the average fees has come down. A reason for that is that managers are generally raising larger pools of capital, and that they recognize that the amount of fee income that they need in order to run their operation is a smaller percent of capital than they -- what they needed previously. So the larger funds have tended to have lower fees on average than say smaller funds, just all things being equal.

So as funds have gotten larger, some of that fee has come down. But that's at the top level, it's not, you know, necessarily at the -- you know, doing the deal with CalPERS versus, you know, other limited partners.

VICE CHAIRPERSON SLATON: So would that logic support the reduction in managers or concentration to the larger managers in order to capture that lower fee universe, in other words, the 30 that we're talking about?

MR. HARTT: So I believe I've seen statistics that that has -- that looking at the average fee that CalPERS has been paying over time has shrunk down. It's not in our report, but I've seen other statistics. So that wouldn't be surprising to me, if it's concentrating on larger managers, that the smaller, and presumably higher management fee, managers are becoming a smaller part of the portfolio, so that would just kind of make sense.

But as you point out, it's a net of fees business. So at the end of the day, should you be with a manager that maybe charges a higher management fee if they deliver higher net-of-fee returns, that may be something that -- worth considering.

VICE CHAIRPERSON SLATON: Right.

MR. HARTT: Should we be doing -- should CalPERS be doing more co-investments or other things that have lower fee, you know, on them? Maybe that would be -- make sense as well.

VICE CHAIRPERSON SLATON: Thank you very much.

CHAIRPERSON JONES: Mr. Costigan.

COMMITTEE MEMBER COSTIGAN: Thank you, Mr. Jones. Actually, Mr. Slaton asked some of the questions, because I do think in your oral statement you did speak over yourself, because you made it sound as though we weren't doing a good job compared to our peers. And, in fact, your letter says the opposite. So I actually turned to the Treasurer's office and said did you just say that? So

I'm glad you clarified this.

But sort of carrying along Mr. Slaton's line, the position that you're taking is that we have a lack of meaningful fee discounts. But what I've heard is while we wanted to call them meaningful fee discounts, no one is, in fact, getting a fee discount among our peers, is that correct?

MR. HARTT: So it -- I don't observe that other limited partners are able to negotiate, you know, on a stand-alone basis a different fee for Manager A, Carlyle Fund versus what CalPERS has been able to negotiate with that particular fund.

What I do think is that some LPs are engaging in their relationship with a Carlyle or others out there in different ways, for instance, having a -- more of a partnership or separate managed account or other sites of activities that can lead to, in aggregate, a lower amount of fees.

COMMITTEE MEMBER COSTIGAN: That's a different model going forward that we may talk about. So what I'm concerned about is the here and now. So in the here and now with our model, and when you say, "...has not received meaningful fee reductions that were not available to similarly situated limit partners". So let's just talk about the universe in your letter.

Our peers in that group are getting no discounts that we're not getting as well. We're all in the same field -- playing field.

MR. HARTT: That's my observation, yes.

COMMITTEE MEMBER COSTIGAN: Well, is that your observation or your position, because it's in your letter?

MR. HARTT: I don't -- I don't have the research on that. I don't -- I have not done a full review of other investors in the marketplace, but --

COMMITTEE MEMBER COSTIGAN: Well, I guess my concern is you're our consultant, and you wrote a letter to us that says "lack of meaningful fee discounts". So you have made an affirmative statement that we're not getting meaningful discounts.

And yet, you also State, "...CalPERS has not received meaningful fee reductions that were not available to similarly situated limited partners. So you've looked at some universe and you've come to a conclusion, is that accurate?

MR. HARTT: Yes.

COMMITTEE MEMBER COSTIGAN: Okay. And we are no worse off or no better off than our peers in this universe that you've opined on?

MR. HARTT: If you're doing exactly the same business model, yes.

COMMITTEE MEMBER COSTIGAN: Well, again, I'm not the one who wrote the letter.

MR. HARTT: Right.

COMMITTEE MEMBER COSTIGAN: So the business model we're looking at is -- you looked at the business model.

MR. HARTT: Right.

COMMITTEE MEMBER COSTIGAN: Are you saying this is the wrong business model to be looking at?

MR. HARTT: I'm saying that if you want to compare fees, there are other limited partners that are deploying some other aspects of the business model that allow them to get some different fee.

COMMITTEE MEMBER COSTIGAN: So are they similarly situated to us then?

MR. HARTT: They're similar large investors. They're doing some additional strategies to help them get some -- and one of those effects is to get lower fees.

COMMITTEE MEMBER COSTIGAN: I guess the concern I have with this a little bit is you paint it as a negative, when, in fact, if, as Ms. Slaton said, there's a universe out there with a large amount of capital. Are we, in fact, doing the best that we can, given the circumstances, because what you're trying to say is we're not doing the best, and we're getting lack of meaningful -- and what it may be is that what we're actually getting is what the marketplace permits and allows.

So you've made a finding that there's a lack of meaningful fee discounts as opposed to the fact that it is what we are, in fact, negotiating along with people who are similar -- or entities that are similarly situated to us are, in fact, what the market bears.

MR. HARTT: Okay. All right. So I think that's correct. So what this -- this point on the -- my letter has to do with looking back at some of the thought process around having the more concentrated manager portfolio. And my understanding from that, that one of the objectives is that by being more concentrated on a investment-by-investment basis, that CalPERS could be in the stronger position to negotiate fee discounts on that.

What I have understood from staff is that that particular strategy has not led to additional fee discounts compared to other investors that are out there.

COMMITTEE MEMBER COSTIGAN: Okay. Thank you.

Thank you, Mr. Jones.

CHAIRPERSON JONES: Okay. Thank you.

Okay. That -- I see no further questions on this. And so in terms of direction rather than waiting till the end, I think we'll just do it now, because three Committee members asked for a deeper dive into the pacing and the 30 manager concepts. So I think I saw you writing down, so I think you got that one.

And then the second one was the formula for the benchmark. So if you could provide that in writing to the Committee members. And so those are the only two directions I have at this time.

Then on this, we do have a request to speak. Mr. Dan Mat --

CHIEF INVESTMENT OFFICER ELIOPOULOS: Mr. Jones? Mr. Jones, just a clarification.

CHAIRPERSON JONES: Yeah.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Just the direction to do that follow-up, is that to your consultant Meketa?

CHAIRPERSON JONES: Both of you on -- are you talking about on the manager --

CHIEF INVESTMENT OFFICER ELIOPOULOS: Yeah.

CHAIRPERSON JONES: -- deeper dive? Yeah, I think you have to coordinate that.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Okay.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: Mr. Jones, just a clarification on the second one, the arithmetic versus geometric returns, also to Meketa or to staff?

CHAIRPERSON JONES: No, that was to staff.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

Okay. Thank you.

CHAIRPERSON JONES: Okay. Thank you.

The request to speak Mr. Dan -- okay. He's already here. Well, I'm going to let you introduce yourself, because you're going to pronounce your name correctly. And then you'll have three minutes. And there's a time clock here that will advise you of your time.

So go ahead.

MR. MATUSIEWICZ: Thank you, Mr. Chair, and members of the Board. You know, I'd simply like to voice my support --

CHAIRPERSON JONES: Your name, please.

MR. MATUSIEWICZ: Oh, I'm sorry. It's Dan Matusiewicz. I'm with the City of Newport Beach. I'm the Finance Director/Treasurer.

And I simply want to voice my support of the Private Equity Program. It's -- this isn't going to come as a surprise to you, but it's an important part of the asset class, and the portfolio. And, you know, while transparency and fees are important, I think there's been too much emphasis on fees, especially in the press. So I think we all recognize that if we bargain shop for private equity, sometimes you get what you pay for.

And so, you know, we all recognize these are professional fees, and we should valuate the managers. I'm echoing much what some of the Board has already said. We should evaluate the managers net of fees. And I commend the Board for its courage on, you know, taking on fees as an issue. I know in the press sometimes it's hard to stand up to that.

But private equity is important, and I think net return on investment is the appropriate approach.

So thank you.

CHAIRPERSON JONES: Thank you for your comments.

Okay. So before we go to the next item on the agenda, which is the real assets annual program review, we'll take a 10-minute break. And so we'll see you at -- in 10 minutes.

(Off record: 10:52 a.m.)

(Thereupon a recess was taken.)

(On record: 11:03 a.m.)

CHAIRPERSON JONES: Okay. We're at the item on the agenda, Real Assets Annual Program Review.

Who's starting?

INVESTMENT DIRECTOR MOUCHAKKAA: Good morning. Paul Mouchakkaa, Managing Investment Director for Real Assets.

It's a privilege to be presenting in front of the Committee this morning the annual program review for real assets.

I'm joined by four members of the team, Beth Richtman, Ed Yrure, Mike Inglett, and Jane Delfendahl. But I want to emphasize that this material presented to the Board was really a complete team effort. Everybody within real assets participated and played a key role in developing the material for the Board.

I think most of us have heard the famous adage of the three most important things in real estate, location, location, location.

That may be try when you talk about one single asset. But when talking about a large real assets portfolio, it's really about the strategic positioning that portfolio. It's about the choices we have to make about the types and qualities of asset that we want to own for the long term. It's about the pacing of our investment and it's about the level of leverage, just to name a few of the key elements.

These components really can determine our alignment of the Real Assets Program with the four important cornerstones of our -- of CalPERS relating to the role of real assets, Vision 2020, the Investment Beliefs, and ESG implementation.

In fact, having a solid strategic position can almost dictate how staff's time, energy, and resources get utilized. Today, I'm happy to report that our strategic position is stronger than it was even just a year ago, and even when you compare to five or six years ago, allowing for more productive use of our time, energy, and resources.

We'll always face challenges on the investment front however. And one such challenge is really the market today. The market is one that is fiercely competitive, particularly for high quality, cash flowing real assets. That has primarily been driven by the low yield environment. Adding another layer to that challenge has been a growing and robust stock market, making out -- which has resulted in one drawback, which is that the Real Assets Program is underallocated today towards its target allocation.

Prior to today, the market could have been characterized as one where really a rising tide lifts all boats. And what I mean by that is that really every segment and sector for the past seven or eight years has experienced increase in value.

That is really shifted in the last 12 months. There has been much greater differentiation between segments in terms of valuation adjustments, some going up, some actually beginning to go down. Thus, we believe it has shifted to being more of a stock pickers market within real assets today, which makes location and quality of even greater importance.

Location and quality will be key components in determining top-line revenue growth and bottom-line profitability, which will be the key parts to drive performance going forward.

Within real assets, we have maintained vintage year management, or discipline, if you will, and not chased deployment to go after a very hot equity market today. As a long-term investor, Belief number 2, we believe it is our responsibility and duty to do so, and the benefit will come through in the long run.

Further, we believe that chasing deployment will come at a cost of impairing alignment to the four things I itemized earlier, ESG implementation, role of real assets, Vision 2020, and our own Investment Beliefs.

We have made significant progress in the past fiscal year, which the team will take us through. Jane Delfendahl will go next, and she will discuss our performance over the past year and the longer term. As well, she will cover our report card, which was presented last year where we compare how we're doing with respect to our role of real assets.

Second, Mike Inglett will go, and he will discuss our strategic positioning of our portfolio. Third, Ed

Yrure will discuss our 2016 strategic plan implementation and some improvements around alignment and governance. And then Beth Richtman will take us home to discuss ESG implementation and our Emerging Manager Program.

So with that, I'll turn it over to Jane Delfendahl.

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INVESTMENT DIRECTOR DELFENDAHL: Good morning. I'm Jane Delfendahl, Investment Director, in the portfolio management area of the Real Assets Unit. I will talk about performance of the real assets portfolio, which can be found on page two of your program review.

For the fiscal year 2016-17, the real assets total performance exceeded the benchmark. We place more emphasis on longer term performance however, given the illiquid nature of private asset classes.

For the five-year period, real assets underperformed the benchmark by 20 basis points. The five-year real assets underperformance resulted primarily from forestland assets, and secondarily from non-core real estate assets.

What really powered our performance is our core holdings in real estate and infrastructure. As shown on page 21, core real estate exceed the benchmark by 380 basis points. It can be noted that the real assets shift in role since the strategic plan of 2011 entails a greater emphasis on core and income-producing holdings.

Further, the real assets performance for the one, three, and five years exceeded the 2013 ALM expected return of seven percent as referenced in the box in slide 2.

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INVESTMENT DIRECTOR DELFENDAHL: Moving to page three of the report, this is our report card with respect to our role. It shows how the real assets portfolio is increasingly meeting our role of real assets, which entails three pillars. These are stable cash yield, partial inflation protection, and diversification of equity risk.

The improvement of alignment with our role is evidenced by our shift to core exposure shown by the tripling of our core assets to approximately 27 billion today from nine billion five years ago.

We also have moved from having a negative income to throwing off more stable positive income in a falling yield environment. The hard work that has been put in place since the end of the GFC has had a cumulative effecting bringing us to the position we're in today.

Now, I'll pass it off to Mike Inglett who will discuss portfolio positioning of the real assets portfolio.

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INVESTMENT DIRECTOR INGLETT: Thank you, Jane, and good morning, members of the Board. My name is Mike Inglett. I'm an Investment Director in the Real Assets Unit.

I will discuss with you the real asset portfolio positions on slide 4 of the program review. As you are aware, private investments in real assets are illiquid in nature and are typically evaluated over long periods of time. This year, and over the past five years, we have made significant progress in repositioning the portfolio.

All the moves which we have made as a team, under the guidance of the 2011 and 2016 strategic plans are to move towards a higher quality, and lower complexity portfolio. The higher quality is evident in the increased core exposure and improved occupancy levels. The lower complexity is evident in the reduction of leverage and the fewer number of managers, which has resulted in reduced fees.

As shown in the table, the real assets portfolio increased by approximately $4.5 billion for the year to 36.3 billion. The primary drivers in the increase from -- were from net acquisition of assets, and appreciation in the portfolio. Real estate represented a $3.2 billion increase, and infrastructure represented a $1.2 billion increase.

As Paul mention, the growth was accomplished in a very competitive market, and a vast majority of the growth was in the core risk classification. It should be noted that over the past five years, the core portfolio has increased in terms of percentage from 39 percent to 75 percent. The significant shift has taken place through a combination of methodically purchasing primarily core assets, and selling non-strategic assets.

As a reminder, in fiscal year 15-16, real estate sold approximately $3 billion of non-core assets in a commingled fund secondary sale. In addition to the higher quality assets, stability of the assets has also increased, as evidence of the higher occupancy in our real estate portfolio. As of the end of the fiscal year, 85 percent of our real estate portfolio is in stabilized assets.

Shifting gears to lower complexity. First, we have reduced the loan-to-value to approximately 33 percent primarily through the paydown of approximately one billion of debt during the past fiscal career. Also, real assets has successfully made strides to lower the leverage over the past five years, as the LTV has reduced from approximately 40 percent in 2012 to 33 percent today. As we have learned from the past, higher leverage can lead to higher volatility.

Second, one of the goals of Vision 2020 is to reduce complexity by lowering the number of external investment managers. In the past two years, real assets has significantly reduced the number of managers from 58 in 2015 to 30 in 2017. This allows for improved oversight from staff and more strategic relationships with our partners.

In closing, the result is that all of these elements that were mentioned have contributed to building a stronger portfolio position for real assets.

I'm now going to pass it over to Ed Yrure and Beth Richtman who will discuss real assets fiscal year 16-17 accomplishments and fiscal year 17-18 initiatives.

Thanks.

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INVESTMENT DIRECTOR YRURE: Thank you, Mike. Good morning, members of the Board. Ed Yrure, Investment Director, Real Assets.

We came to you in 2016 and the Board approved our five-year strategic plan that focused on three primary objectives. One, integrating real estate, infrastructure, and forestland together under one role and one organization. Two, emphasize investing in core income-producing assets to align with our role. And three, reaffirm our preferred business model utilizing separate accounts.

In addition, our plan focused on reorganizing our portfolio into six segments and called for technology improvements to align with these goals. My discussion points today center around past year accomplishments and current year initiatives in the areas of strategic plan implementation, alignment and governance, and further how market dynamics have influenced new initiatives. These are covered on slides five and six in the presentation before you.

With regard to organization and governance accomplishments, I highlight two particular achievements: Technology improvements and segment plan development.

First, technology improvements to our AREIS database were completed, conforming to portfolio hierarchy structure around segments and expanded sector classifications. These modifications provide the team greater reporting capability further enhancing transparency and measuring performance across our portfolio.

Second, staff launches segment planning process, further harmonizing real assets integration. Our strategic plan called for designing our program into six segments: Residential, commercial, essential, consumer, specialized, and international.

To date, the team has completed two such goals -- two such plans. It's residential and it's international. Our goal this fiscal year is to complete at least two additional plans.

Shifting gears to alignment and cost. Our preferred business model is to partner with external managers. And given the illiquid nature of our asset class, governance, alignment, and costs are critically important. We highlighted in our annual program review last year that we had initiated the restructure of our incentive fee model in real estate.

The team is pleased to report that staff successfully implemented this new fee model with its core key real estate strategic managers. It's benefits include reduced complexity, cost efficiency with greater fee transparency. This points to -- points directly to Investment belief number 8, costs matter.

Moving to key initiatives, Paul touched earlier on our ongoing effort to assess market risk, and the potential impact external factors may cause on our portfolio. The retail sector has received much press lately of potential headwinds caused, for example, by eCommerce, and shifts in consumer behavior.

We are very -- we are extremely mindful of these dynamics, and accordingly have embarked on a study of our retailed portfolio. The team engaged an industry expert to assist staff in evaluating the strategy and the relative position of our retail holdings.

Back to organization and governance. Real assets form an Investment Management Subcommittee that serves as a deliberative body to the Real Assets Investment Committee. This added layer of investment review enhances our governance process by enriching communication across the real assets team and increasing the diversity of views by including all subject matter experts. This speaks to Investment Belief number 10, deep resources strong processes.

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INVESTMENT DIRECTOR YRURE: These initiatives remain a work-in-progress. And like other current year initiatives, we will bring forward in next year's annual program review our accomplishments over the balance of this fiscal year.

At this time, I will turn it over to Beth Richtman to summarize accomplishments and initiatives around the Emerging Manager Program and ESG integration.

Thank you.

INVESTMENT MANAGER RICHTMAN: Thank you, Ed.

Beth Richtman real assets Investment Manager.

Good morning. I will be reporting to you on the Emerging Manager Program, and also a few of the highlights of our ESG integration efforts for this past year. First, I'd like to give you an update on the Emerging Manager Program.

We are in the fifth year of this program. It's been performing well. As of June 30th, the program's net asset value is $300 million, with five managers across four property types and all in California.

The Emerging Manager Program is about creating an ecosystem of managers, with the possibility of transitioning them to establish managers with CalPERS or more broadly.

Now, turning to ESG integration. We made some significant strides in weaving ESG considerations further into our investment processes across real assets this career. It's been a team effort. The three highlights I will cover are, first, our newest ESG underwriting tool; second, the expanded use of a sustainability measurement and benchmarking tool across our portfolio; and third, how we're working to pursue economically attractive opportunities to improve the energy use within our real estate portfolio.

First, let's talk about underwriting new investments. Consistent with the real assets strategic plan, this past fiscal year, staff developed an ESG consideration matrix for underwriting real estate assets. We launched the real estate version of the matrix effective July 1st, 2017.

Now, every asset that joins the real assets portfolio, through a separate account or through a direct purchase, will have gone through a formal and systematic ESG consideration review covering such ESG factors as climate risk, safety, labor and community relations among others.

Second, I'd like to give you an update on our progress in rolling out a benchmarking tool across our portfolio. In the prior fiscal year, we started using this tool for infrastructure. This past year, we expanded to include all our core real estate managers as well.

The GRESB survey, as it's known, was utilized by $3.7 trillion worth of real estate companies and assets this past year, including our own.

We recently got the results covering the year 2016. And staff is in the process of reviewing the findings. We intend to use these results to understand what our managers are doing and not doing, relative to their peers and to each other, and to get ideas for opportunities about what we should be engaging our managers about.

Lastly, I'd like to update you on our energy optimization initiative. As part of the first phase of this initiative, we met with our managers and several industry experts. Then staff developed a new energy-related component of our annual investment process.

Starting this past year, when our managers came to CalPERS, with CapEx requests related to renovations they wanted to do on their existing portfolios. We asked them to tell us how they considered opportunities to reduce or better serve the building's energy load as part of their renovation plans.

Managers were also encouraged to submit ideas for pilot energy optimization projects for their portfolios.

I'm pleased to say that 20 economically attractive projects were submitted by our managers for energy optimization, pilots, and renovations. Combined, those projects are projected to save 9.8 million kilowatts hours of energy per year, and generate approximately $15 million of net present value.

These new energy optimization components will continue to be included in our annual investment process. But this is just the beginning. For the next phase of the energy optimization initiative, we recently hired a consultant to help us assess strategic options for how to effectively expand this initiative across the real estate portfolio.

In summary, this year, we made strides on identifying ESG issues and opportunities before and after assets join our portfolio, and also on taking action on opportunities that present positive economic and environmental outcomes.

Now, back to Paul Mouchakkaa for closing thoughts.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: Thank you, Beth.

We hope that this presentation has helped illuminate for the Investment Committee the strategic positioning of the real assets portfolio. Further, we hope that it has provided an ability for all of you to gauge the success or failure of this program with respect to the important components around Beliefs, ESG implementation, role of real assets.

As I touched upon earlier, the market has shifted to one where certain segments are experiencing price adjustments -- downward price adjustments. We cannot predict the exact timing of the next downturn. All we can do is prepare ourselves for it.

In a private asset class such as real estate or real assets, that preparation does not take months, but takes years, especially for one of our size and scale. The three things that we focus on to really determine how prepared we are, are first having greater control or governance, second, less volatility and complexity, and third, higher quality more income -- income -- durable income holdings.

Regarding greater control on governance, in 2008, we had 60 percent of our portfolio in separate accounts. Today, we have 90 percent of our holdings either in separate accounts or operating company.

Regarding lower volatility and complexity, in 2008, we had over 70 manager relationships with an LTV of nearly 60 percent. Today, we have 30 managers relationships with an LTV of 33 percent.

Last, regarding quality. In 2008, we had approximately 47 percent of our portfolio in durable income high quality holdings. Today, we have nearly 75 percent of our holdings.

Strengthening our position to better withstand the turbulence of the market continues to be a focus for us. With that, we're happy to take questions and have a discussion with the Investment Committee.

CHAIRPERSON JONES: Okay. Yes. Thank you for the presentation. And we do have several questions.

Ms. Mathur.

COMMITTEE MEMBER MATHUR: Thank you, Mr. Chair. Thank you for this review. I -- my question goes to the integration of the three subcomponents of the real assets, forestland, the infrastructure, and the real estate. And if you have any -- first of all, do you have any preliminary reflections on how that's working, where you see it being effective in accomplishing the goals that you had in the -- at the outset, and moving that direction, and where you think there might be lessons learned? I know it's early, but things that you're learning that you might want to refine that.

And then secondly, maybe a little bit more -- if you can go a little bit more specifically into how it is impacting the strategy and infrastructure and how infrastructure is being deploy -- or how our assets are being deployed in infrastructure.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: No problem. I would say overall, it took a lot of thought. And really the methodology in which we went down to integrate these three groups was really through the development of these segments. And the segments didn't just, you know, come out of the ground or out of someone's head one day, it took -- it really was through our strategic plan work, where we had several roundtables, met with experts across the globe, and really thought through what would it take to bring this together.

I think some of the big reflections on the positive side have been more staff communication as to what the right hand is doing versus the left hand, if that makes any sense.

Additionally, it has improved our decision making. We ask ourselves the question, well, could we accomplish or could we acquire this asset perhaps in infrastructure or through real estate, and maybe get the same return with greater governance, or with less risk, or volatility? So it has improved that compare and contrast element.

Undoubtedly, you know, being only about a year and a half into this full integration, there will be a need to refine things. Infrastructure is not the same as real estate and nor is forestland. There are certain specifications and elements that are quite different. We have -- we try to manage those very carefully. And both in the new investments team and in the portfolio management team, they are organized by the segments themselves. And certain segments tend to have a little more emphasis on perhaps one of the programs than the other.

So take, for example, the essential segment has forestland and power and energy in it and renewables.

That is really clearly in the forestland and infrastructure component. Our consumer segment is really primarily retail and hotels. We don't own a lot of hotels in our portfolio.

But retail and hotels are obviously much more geared to real estate. The staff is organized and provides sector- or segment-level expertise. So we try to find that balance where it isn't just, you know, spreading the peanut butter across the entire piece of bread, but trying to understand that there are some areas where we will need to really dig in and think about.

COMMITTEE MEMBER MATHUR: Okay. Thank you.

CHAIRPERSON JONES: Okay. Mr. Lind.

COMMITTEE MEMBER LIND: Thank you.

I have two questions. One sort of big picture, one more specific. So your opening remarks you talked about our discipline and not chasing capital deployment in a hot market. And then your closing remarks talked more about, you know, there's some signs that certain sectors are starting to see a downward trend. And more importantly, you discussed what we have done in our asset class to help us weather the inevitable storm that will come, hopefully nothing near what happened during the Great Recession.

But my question goes to so how are we positioned to take advantage of the inevitable storm that comes, you know, when there are good values out there that we can maybe deploy capital? That's my first question.

The second question unrelated, but in the report, there were some sort of optimistic descriptors about our perennial loser forestland. Are any of our -- are any of us on the Board likely to see a positive number there before we -- our tenure ends here?

(Laughter.)

COMMITTEE MEMBER LIND: You're not for sure.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: Thank you. Well, let's say this, it really boils down to what - on your first question, excuse me - how to take advantage. That really, as I said, comes down to that strategic positioning. If you are in a position of weakness, then you will be impaired to take any advantage of what might be dislocation in the market.

The one difference, however, is this is a private asset class, which means you have to have a willing seller. It's no different than your car or your home, you have to sell your house, or the house, or property has to be repossessed, in essence.

It isn't the same as a publicly traded market, where values adjust and they're liquid, and you can go in and out of the market. So you first have to do the preparation so that you're healthy enough to take advantage when it does come. But even if you are, it does require the ability to act.

And I would say if there are willing buyers in that -- or, excuse me, willing sellers in that downturn, then we are very cognizant that we want to position ourselves to take advantage of it should the storm come in.

With respect to forestland, it is still -- it has been a challenged asset from a performance perspective. A lot of it has to do with the concentration of the portfolio in one type of timber, and in one -- primarily one location. And the team continues to review that and work to restructure and have a positive path forward for forestland.

CHAIRPERSON JONES: Okay. Ms. Taylor.

COMMITTEE MEMBER TAYLOR: Yes. Thank you.

I want to congratulate you, Paul, on a really good report, and very detailed. It sounds like your team is working really well together. I -- just one question, and I think you kind of answered it. You had started off with talking about the market challenge, and that we -- you know, we're maintaining restraint, and that we aren't chasing deployment -- you know, chasing deployment for high -- you know, high cost or anything like that.

But then you talked about at the end the downward price adjustment that you're seeing. Is that going to give us a better opportunity for deployment of capital?

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: First, thank you. And, yes, I do believe our team is working very well together.

The downward adjustments that you're starting to see are really in, as I said, in really specific segments or sectors. We haven't seen it really cause any mass exits or people wanting to get out. I'll use one obvious example, which is lower quality malls - Class B, Class C malls - have clearly experienced some valuation adjustments, and have not only experienced that, they've experienced some operational challenges as well.

Where we have not seen as much downward price adjustment is really in the areas that we are primarily focused on.

COMMITTEE MEMBER TAYLOR: Okay.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: In those areas it hasn't really cracked yet. But what was happening prior to, let's say, 18 months ago, was really almost everything. I don't want to say everything. But almost everything in the real assets bucket was really experiencing increases in value. And now, you're seeing luxury residential as an example, and lower quality retail experiencing some real challenges.

COMMITTEE MEMBER TAYLOR: Okay. So --

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: But it is not in the area that we're --

COMMITTEE MEMBER TAYLOR: Right, because we're --

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: -- those are -- we're not as focused on.

COMMITTEE MEMBER TAYLOR: We're in -- we're making sure that we're much more strategic about the investments and --

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: Correct.

COMMITTEE MEMBER TAYLOR: -- high quality. I got you.

So my question then is the crack in the lower end malls and the higher end residential, is it -- and the reason I'm asking this is because it sounds familiar to me during the crash wasn't that sort of where it hit first, when we were talking real estate?

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: I think, you know, as I remember it -- I think everyone has a different memory of it.

COMMITTEE MEMBER TAYLOR: I know.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: For me, it really started with the -- in late 2007, when credit spreads really started to gap out. Curtis will probably correct my English. And then after that, really what happened within real estate was it almost was just about everything.

COMMITTEE MEMBER TAYLOR: All at once. Okay.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: But maybe not all at once, but pretty -- pretty close to all at once. But just about everything experienced such a significant hit.

Now, housing was clearly the one -- was really the eye -- I don't know the eye of the storm or really the center of the issue for real estate. If you were to take, you know, the whole real assets bucket. And that would probably be the one that experienced the most and the earliest signs of problems.

COMMITTEE MEMBER TAYLOR: So again, thank you. I just want to thank you again. It looks like you've really worked to make our investments in real assets very sustainable for any kind of possible downturn that we're looking at, if there were. And again, congratulations on how well your team is working.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: Thank you.

CHAIRPERSON JONES: Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: Looking at slide 2, your returns, I'm going to make a prediction. And that is that after I get off the Board the 10-year return will go up.

(Laughter.)

COMMITTEE MEMBER JELINCIC: But I think that has --

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: How the calendar works.

COMMITTEE MEMBER JELINCIC: I think that has more to do with the roll-off of '07 and '08, than it will with my tenure on the Board.

One of the issues that I've raised numerous times is take out of funds, you know, that are reaching their life, have infrastructure that they want to get rid of. Have we -- if we have taken advantage of that, I have not noticed it. So my question is have we taken advantage of it, and if not, why not?

COMMITTEE MEMBER JELINCIC: Well, we have. You know, the Indiana toll road was an example of one where a fund brought us in actually into the deal as a partial owner. Further, we have had several of our renewable assets in our pipeline, and now we didn't win -- there were two of them. We didn't win the bids, but we were very -- we were at the table, but there were two, one solar one wind, portfolio that was a private equity fund manager that developed them, and was exiting the deal. And we were -- we were at the table. We didn't win them.

But it is an area where we focus, but we really focus on those opportunities that fit, you know, what we're trying to do, which is primarily in those more cash or income-generating assets.

So the real suite spot is less of the ones that have maybe owned the assets or operated them, but really ones where they're doing some development, and then they want to get out of the asset.

COMMITTEE MEMBER JELINCIC: And have we looked at international exits?

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: Yes, we have. On the transportation side, and on the energy side, we have looked at those.

COMMITTEE MEMBER JELINCIC: Okay. And Beth, you made a reference to direct purchases. Can -- and I have only advocating bringing more real estate in-house since '86, so I'm kind of a newcomer at it, but what do you mean by direct purchases?

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: So as a an example, we have participated in certain assets where a manager is maybe halving offer or selling a portion, one -- the example I just gave on the toll road is one, where that was truly a direct purchase. CalPERS staff underwrote it, and we own a portion of that asset. It is, in essence, still managed by that manager, but we are riding alongside.

And in that particular instance, you know, a lot of things had to come together. First, the asset needed to be available. And second the manager had a desire to not own as much of that asset. They wanted to manage their exposure.

So a few things have to happen, but that would be an example of a direct purchase in our infrastructure portfolio.

COMMITTEE MEMBER JELINCIC: Okay. And then on slide 17, you talk about 11 percent of the portfolio being an operating company. I assume that's CenterPoint.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: Correct.

COMMITTEE MEMBER JELINCIC: And one of the issues that came up, oh, about a year ago, was some questions about CenterPoint and its political contributions. Do we have any influence over their political contributions? And being a developer, quite frankly, it's not shocking that they make political contributions.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Yeah, I don't -- I don't remember the reference, but certainly individuals we don't have any influence over their political contributions.

COMMITTEE MEMBER JELINCIC: And the company itself is not making any?

CHIEF INVESTMENT OFFICER ELIOPOULOS: I don't believe, but that's a follow-up questions.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: We can follow up on that.

COMMITTEE MEMBER JELINCIC: Okay. On slide 20, 351 of the iPad, you talk about apartments experiencing oversupply in select MSAs, but on the bottom you talk about below historical average vacancies in apartments. Can you help me understand where the MSAs that are trouble?

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: I can answer that. So I'll give you the a more fulsome picture. You know, really after the global financial crisis home ownership was almost 70 percent, and has declined to the 63, 64 type percent, which is -- every percent is roughly a little more than one and a quarter million people.

That resulted in a really very robust and strong apartment market. And whenever a market like that or a segment is so strong developers get the joke pretty fast, and they start building.

And what was taking place was a rapid amount of building of apartment stock really from 2012 all the way till today. And actually this year is the highest supply on record that's still being delivered to the market.

However, the vacancies have been driven down over that period of time as, you know, there's been this shift in the homeownership rate. And the population is still growing, but slower rate, but it's still growing.

And because of that, the vacancies have fallen below their historical average, even though supply is way above its own historical average. So although vacancies have ticked up, they're still below where if you look over a long period of time.

Now, some MSAs have experienced some overbuilding. Washington D.C. is one, and Houston is another. But a lot of that overbuilding was kind of what I mentioned before. Developers trying to feed the pipeline but the macro-environment in those two particular cities is not as it strong as it was, you know, five or six -- probably six years ago now when D.C. was actually doing quite strong and so was Houston. The tide has more or less shifted in those two areas, government and energy.

COMMITTEE MEMBER JELINCIC: And on slide 24, you talk about the unfunded commitment, $7 billion, 6.8 of which is revocable. Can you just described that, because that's obviously a little different than private equity?

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: Yes.

So in our separate account model for real assets, infrastructure, and real estate, we make annual commitments to our partners. Those commitments expire in those separate accounts in one year.

Further, we have the right to revoke the commitments. So if we commit $400 million to manager X for this fiscal year, if the market has changed or our view on that particular segment has changed, we can revoke that commitment and it no longer is a contingent liability of the System.

COMMITTEE MEMBER JELINCIC: Okay. And then on slide 44, the real estate investment process, you talk about the real estate asset -- Real Estate Assets Investment Committee.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: Pardon me, I didn't hear you? I'm sorry.

COMMITTEE MEMBER JELINCIC: On slide 44, the investment process, you talk about the real estate asset Investment Committee. But one of the notes there is that the Board consultants attend all meetings. What is their role in that meeting?

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: So their role is first and foremost to collaborate with us and have open communication, so they know what it is we're either reviewing for a decision or it's just purely information.

We may be talking about a certain segment, just research or what's going on within our portfolio, so that they have the ability to hear that, and hear the discussion that our staff is having.

Further, they're allowed to comment on the process and provide their own point of view on if it's an action item, whether or not it conforms with our policy, whether it conforms with delegated authority, or it's really in line with our strategic plan.

COMMITTEE MEMBER JELINCIC: And do they comment on whether the investment itself makes sense?

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: For the most part they will. If they -- I mean, I'll say it this way, if they believe the -- and they can speak -- you can ask them. But from my experience of listening to them if they believe the asset or investment or commitment does not make sense. I don't think they'll be shy to say, I don't think this makes sense.

But can you ask them. But you can ask them.

COMMITTEE MEMBER JELINCIC: Okay. On 46 staffing, I did notice that nobody left CalPERS from the real asset.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: People did.

COMMITTEE MEMBER JELINCIC: How many, because they're not showing up here?

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: I'm going from my memory here, but three individuals retired. So we -- you know, that's a great -- great news for them. And one portfolio manager departed CalPERS --

COMMITTEE MEMBER JELINCIC: Okay

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: -- for another opportunity.

COMMITTEE MEMBER JELINCIC: Well, I won't be around when you do this again, but you may want to point out that, you know, there were departures. We had the same issue over in private equity.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: It's a good comment. Thank you.

COMMITTEE MEMBER JELINCIC: On 49, which is the transition -- Emerging and Transition Manager Program, this is largely Canyon as I understand it.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA:

Correct.

COMMITTEE MEMBER JELINCIC: And that really was very California centric. The -- based on the press release, apparently we have moved away from that California centricity.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: (Shake head.)

COMMITTEE MEMBER JELINCIC: And you're shaking your head, so we haven't.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: No. We've expanded. We've taken -- we haven't moved away. We've just allowed them to enter three new markets and put a cap. So it still will be very heavily focused to California, but we felt expanding in a very methodical and, I'll say it, slow way, having -- going five years into the program, it made sense to sort of, you know, draw the lines a little bit further out, but not much further out. But it is still primarily focused in California.

COMMITTEE MEMBER JELINCIC: Okay. And I'm not disputing the wisdom of that, but since it was created as a California-centric program, I think there probably was a role for the Board in making the decision to expand.

And you said that you're discussing expanding and broadening. I assume that's just temporal. You had to write it at some point, and --

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: That's correct.

COMMITTEE MEMBER JELINCIC: Okay. And I had one other one. On slide 52, 383, the internal management fees and profit sharing, I assume that's just staff costs?

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA:

Internal management?

COMMITTEE MEMBER JELINCIC: Yeah.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: Yes, that's the staff cost.

COMMITTEE MEMBER JELINCIC: And how do we get a negative staff cost?

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: I believe that was the retirement of one individual who used to fall into -- from an accounting perspective, or reporting, was in the infrastructure forestland P&L, or -- and that person's retirement, there was money that was budgeted for that, and I believe that was the reason.

I just say this as well, when we -- when we integrated the three groups, there was a little bit of this accounting machinations that had to happen. But I believe it's just a reverse -- reversal of an accrual.

COMMITTEE MEMBER JELINCIC: But as I look at the report as it's presented, the entire real assets staff made nothing.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: Made nothing? This is infrastructure and forestland. If you go to --

COMMITTEE MEMBER JELINCIC: Oh, okay. That --

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA:

-- page -- I don't know the page. Fifty -- fifty it has that.

COMMITTEE MEMBER JELINCIC: That explains it. I misread it.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: No problem.

COMMITTEE MEMBER JELINCIC: Thank you.

CHAIRPERSON JONES: Mr. Slaton.

VICE CHAIRPERSON SLATON: Thank you, Mr. Chair.

First of all, I want to thank you for the report, and thank you for the organization of the report, and the various categories. It made a very logical sense in how you progress. So it's efficient and valuable for us to hear it in that manner.

I have one just small technical question, and then a comment and suggestion. So on page five, I understand, and I'm very pleased to see the reduction in LTV through the portfolio, and that's good, particularly as we -- we're coming into this phase of the market.

You mentioned in portfolio repositioning "improved fixed floating debt ratio". So where were you and where are you now in that ratio?

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: We were roughly -- and I'll talk to real estate. We were approximately, I want to say -- I'm looking at Mike, but approximately 90/10 before. And today, we're probably 99/1 or 98/2 today.

VICE CHAIRPERSON SLATON: Okay. So more --

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: More fixed versus --

VICE CHAIRPERSON SLATON: We've eliminated the interest rate risk.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: Yes, correct.

VICE CHAIRPERSON SLATON: Okay. All right.

And secondly, I've mentioned this to you before, so I hate to sound like a broken record. I mentioned to you infrastructure. I'm very pleased with your energy optimization program on the real estate, particularly in the office building area. And I just encourage you to contact the CalPERS members who are about five miles away from here called SMUD, and they do have the Savings By Design program. And have you -- have you worked with them or what's the status?

INVESTMENT MANAGER RICHTMAN: Thank you, Mr. Slaton for your recommendation last year as well on that. And we actually did follow up and we had a meeting.

VICE CHAIRPERSON SLATON: Okay.

INVESTMENT MANAGER RICHTMAN: And it was very helpful. And we did meet with several industry experts for the first phase. And as we're going forward, we definitely think SMUD is doing some very interesting work. And it's exciting to have them so close by, and it might be useful to continue our relationship with them in subsequent phases.

VICE CHAIRPERSON SLATON: I think it's important because the technologies continue to develop, the science continues to develop. And in terms of energy use, you know, building energy is a huge part of our energy sector. And this is right -- goes right to the bottom line on these numbers. So thank you for doing that and encourage you to continue.

INVESTMENT MANAGER RICHTMAN: Thank you.

CHAIRPERSON JONES: Okay. Thank you.

Yeah, I have a couple of questions. The first one is about the forestland. We've been advised for some time now as you responded to Mr. Lind about looking at a plan going forward. I think we need to give some priority to that, because we have an asset class that we say that it's not scalable to get the returns we need. And so I would suggest that we have some kind of target date, in terms of coming back, in terms of what your plans are regarding forestland.

And obviously, it's one of the lowest performing asset classes we have. And related to that, I would suggest that on the expenses for infrastructure and forestland be disaggregated, because I can see the performance for infrastructure separate from our forestland, but when I looked at the expenses, they're commingled and I can't identify. So that's one point.

The other is on page 50, or 381 of the iPad, and we had over a $200 million reduction in expenses for real assets. And I looked and I saw the big -- the major change is profit sharing accrued. Could you explain what happened there to be the significant part of this reduction?

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: Yes. You know, the accrual was reduced primarily because we paid out. Many of the incentive fees were due to some of our partners. And so paying them out at their time essentially reduced that -- the amount that is on -- is our liability.

Each year when they accrue, they add -- you know, they add to the liability if they go up, or they go down, if valuations decline. In our case, the year-over-year accrual was actually negative. But in addition, there was a paydown that reduced the majority of the liability that was outstanding from, I think, roughly 1.1 to almost 600 million today.

CHAIRPERSON JONES: Okay. Okay. That makes sense.

And then I think I'll hold there and go to Ms. Yee.

COMMITTEE MEMBER YEE: Thank you, Mr. Chairman.

I, too, want to just compliment the great report, and just the significant progress. And I had a couple of questions. And first as it relates to ESG on page six you speak about a roll-out of the real estate ESG consideration matrix. And while we've talked about energy optimization, can you give us a little bit more of flavor of the types of things that you'll be focusing on as you're underwriting assets.

INVESTMENT MANAGER RICHTMAN: Thank you for the question, Ms. Yee.

So as we're underwriting assets, a couple things I mentioned were climate risk. And when we developed the real estate version of this matrix, we really looked at best practices in the industry. You know, we looked at PRI. We looked to the task force on, you know, climate risk disclosure. We look to SASB. We look to GRESB. And we also sort of reviewed and built upon what we had done for infrastructure.

So one thing our managers will be looking at is indirect risk from climate change as well as direct, looking at resilience of surrounding infrastructure, for instance, water scarcity issues amongst others. And, you know, a couple I'd mentioned before were safety, labor and community relations as well as, and things like wellness in buildings is becoming a very important feature for tenants for the type of quality tenants we would like to have.

So that's on the risk matrix. And, you know, one important piece of that I will also mention is that we -- we do actually look to our managers to incorporate sensitivities or economic values into the financial model as part of looking at this ESG consideration review

COMMITTEE MEMBER YEE: That's great. Good. Thank you.

And then I don't recall, but we're undergoing a carbon footprinting analysis of this -- okay -- of the portfolio. Yeah. Can you talk about the timing of when that might be completed?

INVESTMENT MANAGER RICHTMAN: Sure. As part of the total fund, ESG strategic plan, Real Assets has a deadline of 2019. And using the GRESB reporting tool, it will actually be facilitating us meeting that goal. So our real estate core managers, for instance, started reporting into GRESB, and, you know, reporting their carbon footprint as part of this past reporting cycle.

COMMITTEE MEMBER YEE: Okay. Good.

And then I don't know the answer to this, but it just got me thinking about with the increase separate accounts, will that have any impact with respect to the application of the Responsible Contractor Policy provisions?

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: It will, and in the right direction is how I would put it. In a commingled fund, it's very hard --

COMMITTEE MEMBER YEE: It's hard, right.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: -- to effectuate the RCP policy where as in a separate account, it is really weaved right into the -- into the operating agreement as part of the deal.

COMMITTEE MEMBER YEE: Okay. But nothing on -- of the policies will change, but it will just be easier to apply those provisions to a separate account.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: To apply it, correct.

COMMITTEE MEMBER YEE: Okay. Got it.

And then lastly, you know, I'm reading about all this great progress, and I'm also thinking about some ideas that our friends in Washington have relative to potentially some tax changes that could influence particularly financing and investments in this particular area. Are we taking some of those changes and potential impacts that some aspects of the federal tax proposals may have on activities here?

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: Are you -- which are you talking about?

COMMITTEE MEMBER YEE: Some of the tax benefits with respect to financing and -- it's a moving target, so it's -- I just want to be sure that we've got our eyes on whatever changes may be happening from a tax benefit perspective that could affect the asset class.

CHIEF INVESTMENT OFFICER ELIOPOULOS: The short answer yes. And we're working with our federal lobbyist --

COMMITTEE MEMBER YEE: Okay.

CHIEF INVESTMENT OFFICER ELIOPOULOS: -- to identify those and as well our tax counsel --

COMMITTEE MEMBER YEE: Great.

CHIEF INVESTMENT OFFICER ELIOPOULOS: -- to helps us sort through that.

There are some provisions that could have an impact on us directly and others more indirect.

COMMITTEE MEMBER YEE: Right. Okay. Good. Thank you.

CHAIRPERSON JONES: Okay. Ms. Taylor.

COMMITTEE MEMBER TAYLOR: Thank you. Sorry about that. I had a question that J.J. Reminded me of. On page

46, your staffing overview. And I was -- I kind of was wondering if, as we're working for implementing our ESG throughout our real asset class, as we are hiring folks for our current vacancies or who we have hired, what -- are you looking at the value-add of diversity in those hires?

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: Well, I think we take the approach of diversity is an important -- an important part of, you know, CalPERS' strategy today. It can't -- you cannot pick a person, I believe, by law based on, you know, a diversity criteria.

COMMITTEE MEMBER TAYLOR: Right.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA:

However, you know, if -- I will say that I would put the real assets unit against just about any infrastructure forestland or real estate outfit, and I believe we have a very diverse group of people in terms of backgrounds, and skills, and knowledge.

And one of the things that Ed Yrure touched upon in his comments is, you know, we introduced another layer in our investment decision making, which was the Investment Management Subcommittee -- Investment Manager -- excuse me -- Subcommittee, which all of our investment managers participate and get to, you know, opine and provide their view on a particular deal. And that really helps not only for communication and collaboration, and just good team work, it really allows for a much more diverse set of views beyond just what might be seen by the Board consultants or the Real Asset Investment Committee.

COMMITTEE MEMBER TAYLOR: Okay.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: So we've really put that in for bringing that -- your point on diversity to really weave it into again the decision making that we have.

COMMITTEE MEMBER TAYLOR: Good. Thank you. And then I had one other question. On page 49, the current status update. At the bottom of the page, "Canyon and CalPERS discussing broadening and expand Emerging Manager Program". And I just wanted to know if you wanted to kind of expand on that a little bit, and just give us a little bit of detail. I don't need a lot, but...

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: So this is really just -- I believe that we had a press release about two or three weeks ago. It really was a timing issue. We had to write this information before we weren't sure if we were going to close. So it really is related to the expansion of what we did with Canyon committing a new amount of money to them to continue the work that they've put in for the last five years.

COMMITTEE MEMBER TAYLOR: Okay. Great. Thank you.

CHAIRPERSON JONES: Okay. Ms. Mathur.

COMMITTEE MEMBER MATHUR: Thank you.

I just want to understand a little bit more about infrastructure and perhaps how the strategy might be evolving in the infrastructure space. I recognize -- we've heard many times the constraints that face us there in terms of supply and demand and availability of -- and our own criteria about -- around risk and leverage et cetera. But could you talk a little bit about whether we're still employing sort of the direct investment approach versus fund investments, how that -- how our thinking -- how your thinking is evolving around that, and how many infra -- you know, and then given sort of the new structure, how many infrastructure experts do you need to have on your team, and do you feel like you have the right resources?

And, you know, sort of how are we supporting, even though infrastructure is now embedded in the whole real assets, how are we supporting that element to grow -- that segment to grow?

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: What we -- I would say we had a very good year in terms of our deployment. You know, one and a quarter billion of increase in our infrastructure program is, you know, moving in the right direction.

When I started, it was just under two billion in our infrastructure program. So we've really moved it in a, I don't want to say, material way, but at least a notable way.

In terms of the model going forward, we will still explore direct investments that -- however, what we're looking to implement is really a similar strategy that we have had a lot of success with in real estate, which is to partner with an Investment Manager that may cover a region or a sector as their primary area of expertise, and create a separate account, and then allocate capital then on an annual basis, and have the same types of rights that I answered before around the commitment of that money, but also allow them the discretion to act within the market as they see fit within a set of guidelines that we set.

And so, that model is where we're going. We've now successfully done two of those, and one on the U.S. power and renewable side. And we've had two transactions on the renewable side. And we've had one transaction in the other one in Australia through this new model.

The hope is to add a few more. And it may entail doing a commingled fund allocation alongside of those in order to bring in potentially more direct deals through that, but that's where it's going.

And to your last question, infrastructure is a relatively nascent sector or asset class. It's -- there's a dearth of talent out there. And -- however, you know, we do have some strong internal resources within real assets. But I wouldn't shy away from, if, you know, we had the opportunity to bring in more. As the portfolio grows, there will be -- there will be greater need for that.

COMMITTEE MEMBER MATHUR: Okay. Thank you.

CHAIRPERSON JONES: Okay. That concludes the questions on that.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: Can I respond to one of your questions --

CHAIRPERSON JONES: Sure.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: -- Mr. Jones?

CHAIRPERSON JONES: Go ahead.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: And we follow up later, but I wanted to -- you asked to break out infrastructure and forestland, and the asset management fees for infrastructure were 17 million. The incentive or profit sharing were 30 million for 47 million total.

And then for forestland, it was 10 million of asset management fees, and zero for profit sharing payments or incentive fees.

CHAIRPERSON JONES: Okay.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: But we can follow up more. I just wanted to get that to you.

CHAIRPERSON JONES: Okay. Thank you.

Okay. Now, it's time to have the real asset annual program review by our consultants. We will go -- start with Pension Consulting Alliance, and then followed by Meketa, and then by Wilshire.

(Thereupon an overhead presentation was presented as follows.)

MR. GLICKMAN: Good afternoon, Mr. Jones and members of the Committee. I'm David Glickman from Pension Consulting Alliance. I'm joined by my colleague Sarah Bernstein who's been with Pension Consulting Alliance for the past 15 years and who heads our practice group for ESG.

We're going to use the next several minutes to comment on the real estate portfolio, and then, of course, be available for questions.

As one of your resources, there's several key points that we would like to make in reviewing the real estate. First, the portfolio is reliably performing in line with its intended role, and is being managed according to the Board's Investment Beliefs for the long term. It's providing diversification from publicly traded securities. It's providing current and reliable income, and to a lesser degree, it offers inflation protection.

Just to stop for a moment, this is a big change from how the portfolio was 10 years ago, when it was much more speculative, when it was a shorter term investment horizon with much more risk, and a much more appreciation-oriented return, as opposed to a current income return.

The second point is that the Investment Committee must consider that the commercial real estate markets are going to continue to return positive returns. However, PCA believes that lower rates of return than what you've enjoyed during the past five to six years. The drivers of the lower returns, Paul and his team alluded to and mentioned, they are the increase of supply of new properties, and the changing patterns of use of the existing properties, and the likelihood that interest rates are going to be higher over the next several years than what we've enjoyed till now.

What might be an offset to the slowing of increases in value or the decline in value overall is there still is a huge and unprecedented amount of capital that's available to purchase real estate.

And if you think about the denominator effect, when the equities' markets have had such a terrific run as they've had, that lowers the percentage that you have in real estate just by standing still. So that will -- there's an impetus to rebalance. And so that's going to create demand for real estate, in spite of the fact that the fundamentals aren't likely to be quite as strong as what they have been.

You still have all the usual suspects, insofar as retirement plans, private family investors, high net worths, sovereign investors, and REITs, all of whom are flush with capital and are competing, in many cases, for the same properties that you seek.

So CalPERS will need to maintain the discipline that they've demonstrated, and that the managers have demonstrated, and not chase deals. We still think that you have patience and some differentiating characteristics, primarily size, that will be your advantage for the long term.

Insofar as the compliance with the policies and procedures that the Board has implemented over the past several years, from PCA's point of view, there are no material concerns at this time.

You've had a chance to look at the PCA report. Sarah and I are going to focus on slides number 8 and number 9, if I can figure out how to get there. And I'm going to let Sarah talk about the ESG issues.

DR. BERNSTEIN: Okay. Thank you. As Beth described --

CHAIRPERSON JONES: Microphone.

DR. BERNSTEIN: Is it on?

MR. GLICKMAN: Pus that.

DR. BERNSTEIN: Can you hear me now?

Thank you.

--o0o--

DR. BERNSTEIN: As Beth described, your staff and managers continue to develop and implement new tools to help protect the value of your real estate assets, as well as make them more efficient, and more attractive to tenants.

These efforts, in our opinion, can enhance the long-term performance of your portfolio as well as reduce risks. In particular, over time, PCA believes that these efforts can result in actual hire occupancies and net -- higher net rental income.

In our opinion, CalPERS is extremely fortunate to be in a situation to have the sufficient resources, and analysis ability -- ability to analyze the potential return on your -- on new capital improvements, which can overtime result in lower turnover, increased rents, and lower expenses across all your property types that you're holding.

This year, we believe CalPERS made fairly meaningful progress on the ESG elements of your strategic plan for real estate, as Beth mentioned, with 15 of your 21 real estate managers participating in the GRESB survey. You're July roll-out in real estate -- excuse me -- of the ESG consideration matrix, and finally the participation in the climate data -- risk mapping program.

You're gathering material information in your real estate portfolio on ESG data that really you didn't have before in a systematic way. These efforts resulted in progress from your strategic plan on ESG manager expectation targets.

Because ESG indicators and analysis are relatively new, not just in real estate, but across all capital markets, we expect these questions and metrics that you use to identify risks and opportunities will continue to evolve and change. One mention even of a category that wasn't here a few years ago with health -- was health issues in buildings.

In PCA's opinion, wider disclosure by market participants of standardized material data on ESG issues can help both CalPERS more efficiently, price and identify ESG risks and opportunities, and the capital markets as a whole.

Those are on the research elements. You've added significant progress on the energy optimization program to the point where staff has begun to process and -- the process of identifying specific options and assessing which options will -- can offer the greatest material opportunities to your portfolio for the -- over the long term.

In our opinion, energy optimization can be a critical -- a crucial component of any real estate portfolio, but particularly central to a core real estate portfolio where you now have meaning -- most of your assets.

I'm looking forward to continuing helping PCA consult to and serve the CalSTRS -- CalPERS Board, excuse me, on -- particularly on the ESG elements of your program.

Thank you.

MR. GLICKMAN: I'm going to try and turn to page nine. There -- too fast.

This is the strengths, weaknesses, opportunities and threats analysis that we have used as talking points. As Mr. Costigan would say, tell us the good news and the bad news and let's look forward.

In terms of strength, when we began working -- when this team began working with the CalPERS real estate portfolio at the beginning of 2009, it was very different than what it is now. And we believe that you have a program and a team of which you can be proud in your real estate portfolio. It's doing the job that it's intended to do.

You have good diversity on the team. You are enjoying an increasingly positive profile within the market, your process for recognizing risk and mitigating it is significantly improved, and the cross-pollination between the real estate, the other real asset classes, and the rest of the investment team has never been better. And that's going to help you get performance and reduce risk

In terms of opportunities, in addition to cross-pollination, the idea that you are getting your arms around your data, and you're going to be able to manage your portfolio more efficiently because you will be able to see things among the data that you haven't previously had the tools to see, that will help reduce the risk as well.

In terms of weaknesses that we would point out to you, most of the weaknesses are outside of your control directly, because they're market conditions. And as big as you are, you still can't influence them very effectively all by yourself.

One of the suggestions that you're making progress on, but still have some place to go, is from the seller's side, which is to say should we call CalPERS and see if they want to buy our buildings or not. It's a little more complicated to deal with you than it is with some other sellers. And your standards for return are pretty well known, and there isn't anything that's cheap yet.

When the time comes you, are better positioned, as Paul described, to take advantage of market opportunities. But the truth of the matter is, you don't want to be buying the Class C malls or the Class B malls at almost any price, just because they're not consistent with what your strategic long-term real estate plan is.

Another area that you still have some miles to go is in the investing in real estate outside the United States. The strategic plan and the sector plan are in place. They call for a limited amount of investment overseas. And the idea of being able to recreate the structure -- that management structure, the business model that's been successful for you in U.S. properties is a little bit more difficult to execute outside the United States.

And so there's still more work to be done to bring the portion of the international portfolio up to a level that would be consistent with some of the other assets in which you invest.

As to threats, there is likely to be a downturn in valuations selectively at first, and then perhaps more broadly, depending on other capital market events. Clearly, we're seeing more new construction. Clearly, we're seeing changes in the way people utilize the existing spaces.

Five years ago, we-work was not something about which we spoke very often, but now it's part of a lot of major cities, office building considerations. The disparity between online sales and brick-and-mortar sales continues to get an incredible amount of publicity, disproportionate to the amount of sales, but still important to keep in line.

And because this is a long-term portfolio with long-term assets, and long-term business plans, those shifts are going to need to be factored and incorporated into portfolio construction and the selection of which properties to sell and which ones to buy.

We agree with what staff offered, that the higher quality assets in the more desirable sought-after locations, sought after by the space users, the tenants, the occupants are likely to provide you with some downside protection compared to real estate in general, where you don't have that quality.

Another threat is you have an interesting group of managers. And they are, in many cases, privately held, and they are, in many cases, going through actuarial changes as their managements age out and need transition.

So something that needs to be monitored, which you are doing, but just to be out there, is the identity and the personnel at your managers. Unlike some other asset classes, most of the separate account managers you have are, what I would consider to be, captive to you, because you are their only account, and they are privately held. So the idea of succession may be a little bit different than it would be if they were large institutions.

At this point, we wish to confirm that in PCA's, there will -- opinion, there will be a correction. We're not sure when it's going to be, or how far, or where. We can say, however, that you are much better positioned to withstand it, and to be in a position to take advantage of it, should there be opportunities, than you were the last time there was a correction.

We meet at PCA regularly with staff. In addition to the Real Asset Investment Committee meetings, we have a standing weekly meeting. And it's not uncommon for Paul and senior staff to talk to Christy and me and the rest of our team in between those meetings just on particular issues.

You have given them guidelines that make the chances of them veering off advertently or inadvertently much less than they have been previously. And by reducing those risks, by having these policies and procedures in place, the times -- to your earlier question, J.J., about us disagreeing with them, or not liking an investment, or saying it doesn't fit, they're a lot fewer, because we're looking with the same direction much more closely than has historically been the case.

We still disagree. We still have opinions about why something belongs in one bucket or another. And we've been able to successfully work those out between us respectfully, patiently, but with pretty good back and forth.

At this point, Sarah and I would be glad to take any questions that the Investment Committee members had for the real estate portfolio.

CHAIRPERSON JONES: Yeah, we have some -- a few questions. But on this chart here, why isn't climate change a threat?

MR. GLICKMAN: It should be.

CHAIRPERSON JONES: So it would be added.

And that threat is long term, and -- well, I'll come back to that in a minute.

Okay. Mr. Lind.

COMMITTEE MEMBER LIND: Thank you. First, I wanted to thank PCA for increasing Sarah's travel budget and allowing her to join us here in Sacramento. And I understand that will be on a regular basis going forward. So I think we all look toward to tapping into your expertise in the ESG area. So, welcome.

David, in your opening remarks, you -- one of the assertions that you made is that CalPERS has the advantage of size. And we often hear that we're constrained by our size. So can you talk a little bit more about what you think some of -- what advantage size gives us going forward?

MR. GLICKMAN: Yes, the quality of assets that you seek for your long-term core portfolio continue to grow and grow and grow. And so it's not uncommon that staff will be looking at proposals to buy an office building that's a billion ticket.

And so in those larger transactions, as well as portfolio sales that are becoming a little bit more frequent, there your size will be an advantage, because there aren't very many people who, on their own, can commit to doing the entire transaction.

COMMITTEE MEMBER LIND: Great. Thanks.

CHAIRPERSON JONES: Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: Dave, can you -- can you describe a little bit your role at the real estate -- or the Real Asset Investment Committee?

MR. GLICKMAN: Well, similar to what Paul said, we review the materials. We listen to the presentations. And before the vote, we have a chance to make comments. Sometimes the comments are whether we think the assumptions are appropriate. Sometimes we ask whether the risk-adjusted return has considered certain elements that may or may not have been fully described in the presentation. Sometimes, we ask about things that are beyond the asset. Like, let's talk about the headline risk that might come with this particular asset or not.

So I think we try to, as best we can, be the eyes and the ears and represent what the Board's point of view would be, if the Board had enough time to sit in on individual transaction decisions.

COMMITTEE MEMBER JELINCIC: Okay. And then on your SWOT, maybe I have overlearned the lesson of the last war, which I often accuse people of doing, but in opportunities, residential development, can you expand what you see there, and why you think we ought to be taking advantage of that?

MR. GLICKMAN: So in certain markets, the idea of building to core, as opposed to waiting for the construction and development to be done and the leasing to occur and then buying the property on a retail cost basis, maybe advantageous. Your managers, and particularly the Boston-based GID firm, have the capacity. And from time to time, they will approach staff and say here's an opportunity to build a residential property, and lease it. And the return on investment seems to be a positive when it comes to a risk adjusted compared to buying the same property later.

So on a selective basis, that's a strategy or a tactic -- actually, a tactic, that from time to time is considered, and is vetted by staff ahead of time to make sure that the combination of all of the different managers attempts to build to core, don't rise to an inappropriate level of risk.

COMMITTEE MEMBER JELINCIC: So it's a focus on apartments not single-family?

MR. GLICKMAN: Yeah, at this, point, it is.

COMMITTEE MEMBER JELINCIC: And your weaknesses, you've identified the business model and resources. Can you expand on those?

MR. GLICKMAN: You have a certain amount of capacity for relationships and you've been managing that relationship budget down over time to the extent that you have relationships with non-strategic property types. They're much fewer, but there still are some, and they need to be monitored.

The other point was about succession that I mentioned before, where you have privately held firms whose founders and key professionals are going to be retiring over the life of your investments, and to make sure that those firms continue to be re-underwritten so that the people who are succeeding them in the roles that they've held are just as strong as the ones who are departing.

COMMITTEE MEMBER JELINCIC: So in terms of resources, do you think we have enough staffing for that unit?

MR. GLICKMAN: I think you do, and one of the reasons why I come to that conclusion is because the attention that the existing staff has had to spend historically, or up till a year or two ago, on putting out fires can now be transferred and turned towards new initiatives. And the hours in the day can be devoted to thinking about disruption of retail, whereas three or four or five years ago in the aftermath of the GFC, that wasn't available in terms of units of office. There were fires to be put out and there were things that had to be fixed right then.

So the headcount I think is a reasonable amount. I think there's going to be a shift in how they spend their time to be more involved than they have been in portfolio management and ongoing portfolio construction.

COMMITTEE MEMBER JELINCIC: Yeah, I remember a few of those fire drills.

But the business model, what -- I'm not sure what you mean there?

MR. GLICKMAN: I think your business model is not perfect of using separate account manager. But let's not let perfect be the enemy of extremely good and getting the job done.

And the number of relationships may go up or may go down slightly over time as different types of real estate may be considered. But the idea of being here in Sacramento, having an expert staff overseeing specific property types or specific geographic locations, I think it's a reasonable business model for the real estate component of the portfolio.

COMMITTEE MEMBER JELINCIC: Okay. Let me try to -- you've identified the business model as a weakness. What is the weakness you see in the business model? I mean, you've told me all these good things about it, but...

MR. GLICKMAN: The weakness is that the managers you employ are going to change over time.

COMMITTEE MEMBER JELINCIC: Okay. So it's the succession issues?

MR. GLICKMAN: Continuity and succession, yes.

COMMITTEE MEMBER JELINCIC: Which really doesn't go to our business model, it goes to -- more towards our manager selection, if I'm understanding you correctly?

MR. GLICKMAN: Well, I'm not sure that I could tease those two apart from one another.

COMMITTEE MEMBER JELINCIC: Okay And then on threats, retention of professionals. Yeah, we've got a report that says we're not losing anybody unless they retire. What do you -- where is the threat that you see there?

MR. GLICKMAN: As has been discussed in previous reports, Sacramento may not be where everybody wants to live for their entire career. Working in this kind of a business model as opposed to being an entrepreneur, or a developer, or a direct owner of real estate, may not be for everybody. And some of the skills that are acquired as a professional in the real estate group here can be transferred to other firms and other activities.

And so I think we need to be aware that there will be other opportunities for the most talented people, and to try to retain them whenever possible and recognize that not everybody is going to say.

COMMITTEE MEMBER JELINCIC: Okay. And I will throw this to you or Paul whoever is appropriate. Early on we got some reports on the flooding in Houston and its impact on our properties. Has there been any further developments? I mean, it looked like we pretty much escaped most of it.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: It appears so. It doesn't look like anything major. There's one property I think I mentioned in Florida that has experienced some challenges. However, all the rest are fine.

COMMITTEE MEMBER JELINCIC: And the big mall that we have there?

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: There was minor --

COMMITTEE MEMBER JELINCIC: Minore. Okay. Thank you.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: Thank you.

CHAIRPERSON JONES: Mrs. Mathur.

COMMITTEE MEMBER MATHUR: Thank you, Mr. Chair.

A couple of questions. One is that in -- as you were sort of talking about sort of the market dynamics at the moment, one of the things you mentioned is the changing pattern of use of existing property types. Could you expand on that a little bit what the implications are for our own portfolio? I mean, are you talking about things like urban agriculture or -- I guess I'm not really sure what you're talking about.

MR. GLICKMAN: I'm talking about office building usage, which over the last 15, 20 years has gone from -- to become much less traditional in terms of what types of spaces people want, what hours people work, what commuting powers might or might not be. That would be one example of disruption.

Another example would be retail, insofar as trying to anticipate how to capture consumer's presence in what used to be just a mall and is now a combination mall/entertainment center, adjacent to a health care facility, adjacent to an educational facility, all kinds of different uses for spaces then had previously been contemplated, all with the idea of capturing the traffic, which in turn captures the attention of the occupants and are willing to pay higher rents to be in the middle of all of that.

COMMITTEE MEMBER MATHUR: I see. And so what are the implications of that for our --for the portfolio that we hold?

MR. GLICKMAN: Well, I think you're in a good position relatively, because you are well capitalized, you are not burdened with an overwhelming amount of debt, and you have really sharp property people who are operating your high quality assets, and who, not being constrained by few capital resources, if they see a chance to change the use of a portion of the property, which would enhance the overall property, they're going to come back and make those suggestions, whether they're in change of occupant or, as was described before, the energy conservation programs, any one of which is going to improve the profile of the property, hopefully increase the return on investment, and perhaps reduce the risk somewhat.

COMMITTEE MEMBER MATHUR: Okay. Thank you.

Just a follow up on the threat that you've identified about -- or sorry, rather the weakness you identified about manager concentration and some of the changing -- the changing leadership teams at some of these managers. Do you think that the current approach of having 30 strategic partnerships, or we're calling separate accounts, is going to continue to be an effective strategy or that we need to revisit that number, or how often we turnover those types of relationships, or what's your thinking around that?

MR. GLICKMAN: I'm thinking 30 isn't a perfect number particularly. I think compared to historically the number of relationships that you've had to manage, it's a much more manageable number.

Your portfolio is currently concentrated in a much smaller number than 30 of managers. And if you look at those roughly eight to ten separate accounts that occupy the bulk of your core real estate, that's a pretty small number. There will be other opportunities over time to add to that number, and there may be one or two of those managers who, over time, decide for whatever reasons they're not as interested in doing what they've been doing, and so there will be a switch or a reallocation.

I think that the real question is are you seeing the deals, whether they're priced according to what you need or not. And I think the answer right now is you are seeing most of the deals relatively early in the offering process.

So that gives the managers and staff the chance to decide whether to use their dry powder or not. We look at the pipeline reports that come from staff every week to see what's being considered, and how much that aggregates, and there's still a lot of deal flow. Just whether or not it's priced to reward you for the risk, that's a different discussion.

COMMITTEE MEMBER MATHUR: So just finally just to press on this, you mentioned -- you said 30 is not the perfect number. What do you mean by that? Is it too high, is it too low? I mean -- or maybe you're really --

MR. GLICKMAN: Oh, I think it's a reasonable number.

COMMITTEE MEMBER MATHUR: Okay.

MR. GLICKMAN: And if it was 31 or 29 --

COMMITTEE MEMBER MATHUR: Okay.

MR. GLICKMAN: -- like I wouldn't have a big fight about it one way or the other. I don't think it should be 3, but I don't think it should be a hundred either.

COMMITTEE MEMBER MATHUR: Okay. And 8 to 10 high -- I guess it might be useful in future reports to understand what the concentration is. I'm not sure I fully understand or appreciate what the concentration is among the -- among the partners or among the managers.

MR. GLICKMAN: So very briefly, if you look at the four major property types of apartment, shopping center, office building, and warehouse industrial, you are guided towards between two and three for each one of those.

COMMITTEE MEMBER MATHUR: Okay.

MR. GLICKMAN: So that gets you to 8 to 12. And then you have more specialized situations and international situations. So now you're building on to that core number, so that gets you there.

COMMITTEE MEMBER MATHUR: Okay. Thank you.

CHAIRPERSON JONES: Okay. Thank you. That completes the questions on this item, we now move to Meketa.

MR. McCOURT: Good afternoon. Steve McCourt with Meketa Investment Group. To my right Lisa Bacon, who leads our infrastructure research. We've provided the Board our letter detailing our review of the infrastructure program.

Just a couple of overriding comments before I hand it over to Lisa for her to review in a summary fashion. The -- Meketa's contract was completed obviously within a handful of days of having to put together this year's annual review. So I think -- I think you'll find it sufficiently deep and broad, but as you would expect, we'll continue over the coming weeks and months to collect information, meet with staff, and continue to onboard fully into our new role as the Board's infrastructure consultant.

On that note, I just want to highlight, as we did with private equity as well, the Board has been -- the staff has been very helpful in providing us all the information that we need, providing access to them a timely fashion. We want to thank staff for that.

This particular review relies on our review of the real asset annual program review, including supplemental reports material provided by staff. It calls with a variety of staff members involved in the infrastructure area, as well as all of the Board policies and strategic plans.

So with that, I'll hand it over to Lisa for a quick overview.

MS. BACON: Thank you. Lisa Bacon, Meketa Investment Group. So I will -- thanks, Steve. Lisa Bacon Meketa Investment Group. So I'll run through the topics that we covered in the letter and be happy to take questions.

With respect to performance, Paul and his group have already gone over the exact numbers. The performance is certainly above the benchmark and consistent with prior periods, and a good combination both of appreciation and cash yield as is part of the goal.

With respect to the return, the returns that you're receiving, they're consistent with what we would expect with the portfolio that you have now. With respect to implementation, we see the separately managed accounts, the direct investments, and the commingled funds in the kinds of proportions that you're looking for as you migrate towards preferring more separately managed accounts, and as well direct investments. And so those movements over the last year are in the direction that you're looking for.

New contributions as -- and new value as Paul mentioned, over a billion is a very healthy and impressive number in a year.

Two of the investments that were funded during the period of the review, but not necessarily executed are consistent with the kinds of investments that you're looking for, with the partners that you're looking for, and the return profile. These are very meaningful and impressive accomplishments in the market environment that Paul and his team have discussed and are also are essentially very similar to the real estate environment that your other consultant just covered.

It's extremely competitive. There's an awful lot of capital out there seeking high quality investments. Every day another pension plan either has a new infrastructure allocation or has an increase in one. And certainly as plans have had healthy returns in other asset classes, as well as in infrastructure, there's been more -- the allocation number that you're shooting for essentially has grown.

With respect to investment policy, we went through the policies that are applicable for the program, and found essentially everything generally in compliance or very specifically in compliance. We reviewed the compliance against the CalPERS investment policy for real assets, the Total Fund Investment Policy, and the Investment Policy Procedures and Guidelines for the Real Asset Program. We looked at the strategic objectives which speak to stable income and cash yield. The yield numbers are in the range that you would expect and that you're looking for.

There is good -- there are metrics that show there's diversification of for this program with respect to equity risk. And those metrics are supportive of those diversification benefits. I already mentioned the performance objectives and the benchmarks. That is very much in compliance and exceeding.

With respect to portfolio diversification, risk classifications, core value-add, opportunistic are all within the ranges. Geography, classifications are all within the ranges. With respect to segments and sectors that Paul spoke some of, these particular targets are applicable as we understand it at the Real Asset Program level, not at the infrastructure program -- sub-program level, but we included those sectors and those targets in our report, and noted that essentially in infrastructure you are generally consistent. And to the extent that you're a little high or a little lower, infrastructure is not going to throw the how Real Asset Program out of whack for you.

With respect to external managers, you don't have any managers that break that target. With respect to leverage and as well with public securities, all those metrics a compliant with your policies.

With respect to staffing and resources, we were able to review the materials from last year and from this year, and you all have already had some conversation and questions around those. The observations that I can make are that, in general, the numbers or the -- on a percentage basis are consistent with the financial industry as a whole, probably a little lower, in general, both at the administrative staff and investment professional level. Those numbers tend to fluctuate over time certainly around the financial crisis. And near that time, those numbers were a lot higher. They've been stable over the last couple of years. And so these numbers are generally on sort of low side of those things that we see.

With respect to Investment Believes, the infrastructure program supports a number of those with respect to the cash yield, and stability, and inflation protection. And so the program is well aligned with those.

MR. McCOURT: And that concludes our report.

CHAIRPERSON JONES: Okay. Thank you.

We have a couple questions. Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: Well, when you looked at compliance, I hope that it is specifically compliant and not just generally compliant.

But --

MS. BACON: As specific as the numbers are, they're compliant.

COMMITTEE MEMBER JELINCIC: Okay. Can you compare and contrast our infrastructure program to the CalSTRS infrastructure program? You know, there's been some kind of spectacular numbers over there, but can you compare and contrast the two?

MR. McCOURT: My general observation is the program here is larger, got started earlier, has deployed more assets and is -- performance I'd have to -- I'd have to kind of check. I don't know how the performance compares between the two.

COMMITTEE MEMBER JELINCIC: And the underwriting program they have over there?

MR. McCOURT: Similar, in terms of the types of assets and strategies. CalPERS has a larger staff than CalSTRS has in executing across a variety of moves, whether it be separate accounts, or direct investments, co-investments, et cetera.

COMMITTEE MEMBER JELINCIC: Thank you.

CHAIRPERSON JONES: Ms. Mathur.

COMMITTEE MEMBER MATHUR: Thank you.

I recognize that you all have just taken over this assignment, and so you didn't have as much time as you might have otherwise had to sort of prepare for this item. But my -- I guess my question is if you've had a chance to really fully review the business model of -- in real assets and the integration of the three assets -- the three sub-asset classes into one asset class, and whether you have any concerns or observations to make about what the implications are specifically for infrastructure, and our ability to effectively, you know, deploy capital in the way we want to, even accelerate the deployment of capital, understanding that the market dynamics are challenging, and have the expertise, and we'll be able to retain the expertise to do that?

MR. McCOURT: I think that's an important question. I think we'd prefer to have a bit more time to integrate with staff and learn more about the reasons that the staffing was modified before having any conclusions on that. But we're happy to come back to the Board with that.

COMMITTEE MEMBER MATHUR: So maybe, Mr. Chair, if I might, just given sort of the timing of this -- of the selection of Meketa and their -- the timing that they had in terms of this review, if we could perhaps ask them to come back in other two, three months or something to give us a little bit more deeper dive into sort of their views around the model, and how it's working out for infrastructure and the implications for infrastructure.

CHAIRPERSON JONES: Sure. That's fine, because they're here every month, so they could plan ahead to make that kind of -- prepare that kind of response going forward.

COMMITTEE MEMBER MATHUR: Thank you.

CHAIRPERSON JONES: Okay. Okay. Thank you. That concludes that part.

Next is Wilshire.

MR. JUNKIN: Good afternoon, Andrew Junkin with Wilshire. Recognizing I'm last on the agenda before lunch and there's a busy day, I'll probably go quickly, somewhat sped along by the fact that there haven't really been any changes in forestland over the last several years. So the opinion letter probably looks strikingly familiar. We have made some updates along the way.

I did want to point out one of the pages, we've graphed a rolling three-year correlation. And this really is more fore real assets instead of forestland. We wanted kind of a second set of eyes on is it doing what we intend for it to do in terms of not sort of echoing the equity risk, as we saw in 2007. And this is page 420 of 423.

I think you can see the pretty clear spike in correlations during the kind of 2007/2008 time period. There's a pretty natural leg down I think as the markets kind of cool off, but then there's been more recently another leg down. And I think that's really where the change in philosophy is taking hold, and you're seeing that in the numbers. So I think that's -- that's a good news statement.

Performance, you've seen it has not been good in this asset class. As Paul mentioned, it's been driven by a focus on southeastern timber, a very lumpy portfolio. And southeastern timber has been one of the worst performing spots in the timber market.

We've talked some about the size of the portfolio and the ability of CalPERS. CalPERS size is often an advantage and often a disadvantage. And I would say in timber it's a disadvantage. You'd have to be the biggest buyer in the timber markets for a number of years for this portfolio to get to even probably a five percent allocation.

And then just, because I suspect there may be a question about the integration of the three business models coming out, I thought I might jump the gun on this. From a forestland perspective, I've seen the benefits. As Paul has really been engaged on some of the forestland things, he's been able to shift resources internally to address those. So I think the integration from that perspective has gone well.

Happy to take any questions.

CHAIRPERSON JONES: No, we have no questions. Thank you.

Like you say, it's the same report for several years.

(Laughter.)

CHAIRPERSON JONES: Okay. Now, we move to item that was under the consent information item that Mr. Jelincic wanted to pull 4c was it, J.J.?

COMMITTEE MEMBER JELINCIC: Yeah.

CHAIRPERSON JONES: Okay.

VICE CHAIRPERSON SLATON: Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: On 4c, attachment 1, page four of four, 21 of the iPad, the footnote 2 at the bottom, "Gross returns include the offsetting impact of management fees incurred in the private equity fund investments". I'm not sure what that footnote is telling me.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: It means that these are essentially net returns for private equity. For the other asset classes, where we're able to fully have transparency into all the fees, we are showing you the gross return for private equity, where the returns listed here are actually the net returns.

COMMITTEE MEMBER JELINCIC: Okay. The -- you may want to change where you put your footnote, so that it's by private equity rather than at the top of the column.

4d has the issue of all the contracts under the -- that we're letting under a million dollars. I will point out to the unions, if you don't want to protect your work, that's your problem, but the Board needs to actually think about a lot of those being ongoing continuing process and whether it couldn't be done more cost effectively in-house.

And then on 4e, there were two bills referenced on page 78, 1645 and 3857. And I'm just wondering have we weighed in and expressed an opinion on it? There's nothing in the article that -- or the report that says that.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

I'll have to consult with our Legislative Affairs staff, Mr. Jelincic, and we'll have to come back with an answer on that.

COMMITTEE MEMBER JELINCIC: Fair enough. Thank you.

VICE CHAIRPERSON SLATON: Okay. I guess we move to summary of Committee direction.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

Certainly, Mr. Vice Chairman. Wylie Tollette, CalPERS staff.

So first, I think the Investment Committee directed staff and Meketa to collaborate and do a quote deeper dive into two topics related to the private equity program, the first is why we have not been receiving the full requested allocations, and then second, an evaluation of the focus on the Core 30 managers strategy. That was item 1. So I'll pause for a second, and see if we captured that correctly.

There was quite a bit of discussion around that one.

CHAIRPERSON JONES: I heard half of it, I think, so --

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: Any other comments from the folks that heard the whole thing?

(Laughter.)

CHAIRPERSON JONES: Okay.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: The second was to provide the memo. It's actually already crafted with -- by staff related to the difference between the arithmetic and the geometric returns and the implications for the private equity benchmark.

Four -- I'll pause there to see if there's questions or comments on that.

CHAIRPERSON JONES: Just go ahead and then we'll see if we have -- any we'll come back at the end.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

Okay. Four -- and I think staff actually volunteered this one, but I saw a nod, so we'll make sure to do this, which is to investigate if there -- the nature of any CenterPoint political contributions by the Centerpoint CalEast project.

And then last, but not least, I understand -- I heard the Board direct Meketa to provide a follow up on the infrastructure opinion letter in three months. So those are the four that we had captured. So again, I'll pause to see if there's any nuance that we want to add to those.

CHAIRPERSON JONES: Okay. And I think the other -- I don't know maybe it's routine, but the disaggregation of the expenses on the forestland in terms of the next report?

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: Oh, yes. In fact, Paul and Sarah captured a number of suggestions for the following year's reviews --

CHAIRPERSON JONES: Okay.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

-- that I noted them captured. So all those -- all your specific suggestions were noted by the presenters.

CHAIRPERSON JONES: Okay. Okay. Ms. Mathur.

COMMITTEE MEMBER MATHUR: Just quickly on the Core 30, it was, yes, about that, but also sort of generally what might -- what factors ought we consider in terms of what the right number is and what the sweet spot might be. There might be some more evaluation around that, I guess. And I imagine the team is doing that work anyway, but...

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

Great. Thank you.

CHAIRPERSON JONES: Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: On the geometric versus arithmetic, does that impact only the private assets, or does it impact all of our benchmarks?

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

No, it impacts all benchmarks. And, in fact, it impacts the calculation of any time-weighted return. Just, in fact, I recall, I want to say it was May or June earlier this year, we actually provided a memo on a separate benchmark to the Board related to the same topic, but we're happy to provide one specifically for private equity.

As long as I'm talking about it, I'll spend 20 more seconds on it. If we could go back in time -- so to your comment, Mr. Jelincic, on the Board's direction back in 2013 -- and actually, it was also the Board's direction in prior investment policies to include that 300 basis point hurdle.

That hurdle was expresses as an arithmetic hurdle. If we could go back in time and back to those previous Investment Committees and change the motion that was made, what we would say is direct staff to use a 300 basis point hurdle -- arithmetic hurdle and 158 basis point geometric hurdle. That second part, that second clause of the direction was never included.

But in retrospect if it had been, State Street probably would have been calculating it correctly. Unfortunately, what happened, as Mr. Baggesen mentioned earlier, they read the 300, and they applied an arithmetic hurdle for the last -- you know for essentially the term of the Private Equity Program. And that's made the -- what is essentially supposed to be a one-year noncompounded arithmetic hurdle of 300 basis points.

That's made a very, very challenging hurdle to undertake. If you use the concept of a volatility penalty, which Mr. Baggesen also mentioned, and the idea that the compound is roughly half of the arithmetic, you would have had to earn a dramatic level of outperformance in your private equity portfolio to earn the 300 basis point compounded hurdle.

The real hurdle that the Board approved back in 2013 was 158 basis points, and we're now proposing 150 basis point geometric hurdle. So the actual returns and the actual benchmark that we're trying to hit is quite similar. And I think basically if you look back in time at the private equity benchmark, it's been changed three or four times in the last number of years.

So the question of restatement comes up. If we go down that path, the real question becomes is where do we stop, because there's a whole number of different issues that are embedded in the past private equity benchmark decisions that CalPERS has made over the years. It's changed a number of times.

COMMITTEE MEMBER JELINCIC: Well, I will point out if we had had the discussion about 150 versus 300, we might have had a different number and it certainly would have been a different discussion.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: I think that's right.

CHAIRPERSON JONES: Okay. We're -- you're going to provide the information --

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: Yes, we'll provide the memo.

CHAIRPERSON JONES: -- and we'll have that dialogue when the information comes.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: That's right. I was meant -- I was only mentioning it, because there was quite a bit of commentary around it. So thank you, Mr. Chairman.

CHAIRPERSON JONES: Okay. Thank you.

The -- now have two requests to speak Mr. Dan Matusiewicz and Mr. Laura Rubaccaba.

MR. MATUSIEWICZ: Thank you, Mr. Chair and members of the Board. I'd like to state my -- or voice my opposition to an old topic.

CHAIRPERSON JONES: Would you restate your name again for the record?

MR. MATUSIEWICZ: Sure. I'm sorry. It's Dan Matusiewicz. I'm with the City of Newport Beach.

So I'd like to state my -- voice my opposition to an old topic that is divestment mandates placed on the Investment Office. You know, where we are today at 68 percent funded, we're 168 -- close to 160 billion short of our target. Our system is in crisis. We're only one recession away from reaching a point in which it will be very difficult for the system to recover, an event Horizon, if you will.

The math is pretty simple, we can either generate greater investment returns, we can increase employer and employee contributions, which we've done, or slash benefits. And perhaps maybe we need to do all three.

The latter options seem to put the Board at odds with both the employee groups and the retirees. So it would appear to me that of the Board's options, the simplest action would be to unwind some of the past Board decisions to divest from certain asset classes, and industries.

I realize that some of the divestments were tactical in nature, but many were political in nature. And some of the tactical reasons, for instance, tobacco perhaps are no longer relevant. We know that reducing the universe of investment options increases risk, and lowers potential investment returns. That is an undisputed mathematical fact. And it seems to run in contrary to the whole ALM processes of de-risking the portfolio.

So of the choices before you, I respectfully urge the Board -I hate to say this - not to sit on your hands, but take action to undue some of the previous divestment directives, and at the very least, suspend the previous divestment directions until the system is no longer in crisis.

Let the Investment Office do their job without artificial constraints. By doing this, I think the employees, the employers, and the retirees will all thank you.

Thank you.

CHAIRPERSON JONES: Okay. Thank you for your comments.

Ms. Laura Rubaccaba, you have three minutes to speak, and come down at the mic at the -- on my left here, and there's a clock right in front here that will alert you as to your dime.

MS. RUBACCABA: Thank you, Board. My name is Laura Rubaccaba and I'm a State employee. I'm here talking today about the Item 6A, which was the benchmark change.

We see here today that CalPERS is unwilling to give us its corrupt relationship with private equity. CalPERS former CEO Fred Buenrostro is now serving a four and a half year prison sentence for taking bribes that ultimately came from private equity firms.

Yet, unlike private defense contractors who are far more irreplaceable, none of these crooked actors were put in a penalty box and prohibited from doing business with CalPERS. It isn't even clear whether the weak sections they agreed to were ever enforced.

Private equity returns are going down, but risks are not. Yet, we see CalPERS again making excuses for private equity at the expense of CalPERS beneficiaries and California taxpayers.

There's no justification for cutting your private equity standards, by lowering the risk premium, by moving to a more flattering stock index, and by using geometric weighting. There's no reason except to make private equity and staff performance look better than they are, and that contradicts the advice of experts.

It suggests that CalPERS would rather fall further behind on risk-adjusted performance, than do what competent public pension funds are doing, and bring more activities in-house to save fees and increase performance.

In your November 2015 private equity workshop, Harvard Professor, and industry consultant, Josh Lerner presented to the Board and staff in his written materials where he questioned - and this is a direct quote - "Whether a private equity program is worth it if it's only getting average returns". He further suggested that to be worthwhile, private equity programs must have outperformance.

Yet, the benchmark change is an admission that

CalPERS expects to underperform in private equity and is out to cover that up.

And what about the Board's action, or more accurately inaction. Rob Feckner was President of this Board when Buenrostro was taking bribes. Some Board members, even when up for election, say nothing in these meetings and always vote for and with staff.

If you want to restore the public's confidence in CalPERS and public pension funds generally, you need to hold the staff and yourselves to a higher standard of conduct, reject this indefensible benchmark change.

Thank you.

CHAIRPERSON JONES: Thank you.

Okay. That concludes the open session for the Investment Committee. And we will convene the closed session Investment Committee at 1:45.

And then the anticipated asset liability management workshop is still for 3:00 o'clock, anticipated.

(Thereupon California Public Employees' Retirement System, Investment Committee meeting open session adjourned at 1:06 p.m.)

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

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

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

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

IN WITNESS WHEREOF, I have hereunto set my hand this 18th day of November, 2017.

James F. Peters

JAMES F. PETERS, CSR
Certified Shorthand Reporter
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