LACERS
LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

Board of Administration Agenda

REGULAR MEETING **TUESDAY, NOVEMBER 12, 2019** **TIME: 10:00 A.M.** **MEETING LOCATION:** LACERS Ken Spiker Boardroom 202 West First Street, Suite 500 Los Angeles, California 90012-4401 Live Board Meetings can be heard at: (213) 621-CITY (Metro), (818) 904-9450 (Valley), (310) 471-CITY (Westside), and (310) 547-CITY (San Pedro Area). Sign Language Interpreters, Communication Access Real-Time Transcription, Assistive Listening Devices, or other auxiliary aids and/or services may be provided upon request. To ensure availability, you are advised to make your request at least 72 hours prior to the meeting you wish to attend. Due to difficulties in securing Sign Language Interpreters, five or more business days' notice is strongly recommended. For additional information, please contact: Board of Administration Office at (213) 473-7169.	President: Cynthia M. Ruiz Vice President: Michael R. Wilkinson Commissioners: Annie Chao Elizabeth Lee Sandra Lee Nilza R. Serrano Sung Won Sohn Manager-Secretary: Lita Payne Executive Assistant: Ani Ghoukassian Legal Counsel: City Attorney's Office Public Pensions General Counsel Division

I. PUBLIC COMMENTS ON MATTERS WITHIN THE BOARD'S JURISDICTION

II. APPROVAL OF MINUTES FOR REGULAR BOARD MEETING OF OCTOBER 22, 2019 AND SPECIAL BOARD MEETING OF OCTOBER 31, 2019 AND POSSIBLE BOARD ACTION

III. BOARD PRESIDENT VERBAL REPORT

IV. GENERAL MANAGER VERBAL REPORT

A. REPORT ON DEPARTMENT OPERATIONS

B. UPCOMING AGENDA ITEMS

V. RECEIVE AND FILE ITEMS

A. BENEFITS PAYMENTS APPROVED BY GENERAL MANAGER

B. MARKETING CESSATION NOTIFICATION

C. JANUARY – JUNE 2020 PRE-APPROVED LIST OF BOARD EDUCATIONAL OPPORTUNITIES

VI. DISABILITY RETIREMENT APPLICATION(S)

A. CONSIDER THE RETURN TO WORK REQUEST OF RETIREE SHARON DOUGLAS AND POSSIBLE BOARD ACTION (HEARING)

B. CLOSED SESSION PURSUANT TO GOVERNMENT CODE SECTION 54957(b) TO CONSIDER THE DISABILITY RETIREMENT APPLICATION OF HENRY CUARON AND POSSIBLE BOARD ACTION

VII. CONSENT AGENDA

A. TRAVEL AUTHORITY – COMMISSIONER SUNG WON SOHN; 89TH INTERNATIONAL ATLANTIC ECONOMIC CONFERENCE, ROME, ITALY; MARCH 25-28, 2020 AND POSSIBLE BOARD ACTION

VIII. INVESTMENTS

A. CHIEF INVESTMENT OFFICER VERBAL REPORT

B. PRI ACTION PLAN

C. PRI BALLOT MEASURES AND BOARD ELECTION AND POSSIBLE BOARD ACTION

D. REVISION TO RESOLUTION FOR QUANTITATIVE MANAGEMENT ASSOCIATES, LLC AND POSSIBLE BOARD ACTION

E. NOTIFICATION OF COMMITMENT OF UP TO $35 MILLION IN LBA LOGISTICS VALUE FUND VII, L.P.

IX. BOARD/DEPARTMENT ADMINISTRATION

A. PRESENTATION BY CEM BENCHMARKING INC. OF INVESTMENT BENCHMARKING FOR THE FIVE-YEAR PERIOD ENDING DECEMBER 31, 2018 AND PENSION ADMINISTRATION BENCHMARKING FOR THE FISCAL YEAR ENDING JUNE 30, 2018

B. ACTUARIAL VALUATIONS AS OF JUNE 30, 2019 INCLUDING PROPOSED CITY CONTRIBUTION RATES FOR FISCAL YEAR 2020-21 AND POSSIBLE BOARD ACTION

X. OTHER BUSINESS

XI. NEXT MEETING: The next Regular meeting of the Board is scheduled for Tuesday, November 26, 2019 at 10:00 a.m. in the LACERS Ken Spiker Boardroom, 202 West First Street, Suite 500, Los Angeles, CA 90012-4401.

XII. ADJOURNMENT

MINUTES OF THE REGULAR MEETING
BOARD OF ADMINISTRATION
LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

LACERS Ken Spiker Boardroom
202 West First Street, Fifth Floor
Los Angeles, California

October 22, 2019

10:02 a.m.

Agenda of: **<u>Nov. 12, 2019</u>**
Item No: **<u>II</u>**

PRESENT:	President:	Cynthia M. Ruiz
	Vice President:	Michael R. Wilkinson
	Commissioners:	Annie Chao
		Elizabeth Lee
	(arrived at 10:04 a.m.)	Sandra Lee
		Nilza R. Serrano
		Sung Won Sohn
	Manager-Secretary:	Neil M. Guglielmo
	Executive Assistant:	Ani Ghoukassian
	Legal Counsel:	Anya Freedman

The Items in the Minutes are numbered to correspond with the Agenda.

I

PUBLIC COMMENTS ON MATTERS WITHIN THE BOARD'S JURISDICTION – President Ruiz asked if there were any persons who wished to speak on matters within the Board's jurisdiction, to which there was no response and no public comment cards were received.

II

APPROVAL OF MINUTES FOR REGULAR BOARD MEETING OF OCTOBER 8, 2019 AND POSSIBLE BOARD ACTION – A motion to approve the Regular Board Meeting minutes of October 8, 2019 was moved by Commissioner Chao, seconded by Commissioner Serrano, and adopted by the following vote: Ayes, Commissioners Chao, Elizabeth Lee, Serrano, Sohn, Vice President Wilkinson, and President Ruiz -6; Nays, None.

Commissioner Sandra Lee arrived at the Regular Meeting at 10:04 a.m.

III

BOARD PRESIDENT VERBAL REPORT – President Ruiz stated that Commissioner Serrano was presented with the "Leader of the Year" award from the Los Angeles Democratic Party.

IV

GENERAL MANAGER VERBAL REPORT

A. REPORT ON DEPARTMENT OPERATIONS – Neil M. Guglielmo, General Manager, discussed the following items:

- Public Pension Coordinating Council Award 2019
- Great Shake-Out Drill
- LACERA Site Visit
- Gwen Poindexter's last LACERS Meeting

B. UPCOMING AGENDA ITEMS – Mr. Guglielmo stated the following items will be on an upcoming Board agenda:

- October 31, 2019 – Special Board Meeting
- November 12, 2019 – Segal to present annual valuations
- CEM Benchmarking presentation

V

RECEIVE AND FILE ITEMS

A. MONTHLY REPORT ON SEMINARS AND CONFERENCES FOR SEPTEMBER 2019

VI

Deputy City Attorney James Napier was present during Items VI-A, VI-B, VII-A, and VII-B.

DISABILITY RETIREMENT APPLICATION(S)

A. CONSIDER THE DISABILITY RETIREMENT APPLICATION OF AZAR NEJAD AND POSSIBLE BOARD ACTION (HEARING) – Estella Priebe, Management Analyst with Retirement Services Division and Former Member Azar Nejad discussed this item with the Board. Commissioner Serrano moved approval of the staff recommendation to deny the application, seconded by Vice President Wilkinson, and adopted by the following vote: Ayes, Commissioners Chao, Elizabeth Lee, Sandra Lee, Serrano, Sohn, Vice President Wilkinson, and President Ruiz -7; Nays, None.

President Ruiz recessed the Regular Meeting at 10:58 a.m. to convene in Closed Session.

B. CLOSED SESSION PURSUANT TO GOVERNMENT CODE SECTION 54957(b) TO CONSIDER THE DISABILITY RETIREMENT APPLICATION OF NICOLE LAWRENCE AND POSSIBLE BOARD ACTION

VII

INVESTMENTS

A. CLOSED SESSION PURSUANT TO GOVERNMENT CODE SECTION 54956.81 TO CONSIDER A COMMITMENT TO LBA LOGISTICS VALUE FUND VII, L.P. AND POSSIBLE BOARD ACTION

B. CLOSED SESSION PURSUANT TO GOVERNMENT CODE SECTION 54956.81 TO CONSIDER A COMMITMENT TO NREP NORDIC STRATEGIES FUND IV, L.P. SCSP AND POSSIBLE BOARD ACTION

President Ruiz reconvened the Regular Meeting at 11:09 a.m. and announced that the Board unanimously approved the Disability Retirement Application of Nicole Lawrence.

C. CHIEF INVESTMENT OFFICER VERBAL REPORT – Rod June, Chief Investment Officer, reported on the portfolio value, $18.3 Billion as of October 21, 2019. Mr. June discussed the following items:

- Mr. June attended the Pacific Center for Asset Management
- Future Board Agenda items: Presentation by CEM Benchmarking, PRI Action Plan, Private Equity Portfolio Performance Reporting, Finalist Interviews for the Asset Manager RFQ, and Principles for Responsible Investing ballot measures and board election.

D. PRIVATE REAL ESTATE PORTFOLIO PERFORMANCE REVIEW FOR THE PERIOD ENDING JUNE 30, 2019 – Jennifer Stevens, Partner and Felix Fells, Associate with Townsend presented this item to the Board.

VIII

COMMITTEE REPORT(S)

A. INVESTMENT COMMITTEE VERBAL REPORT ON THE MEETING OF OCTOBER 8, 2019 – Commissioner Sohn stated the Committee was presented a closed session real estate item, the Private Equity Program 2020 Strategic Plan, and the Brokerage Activity Report for Period July 1, 2018 to June 30, 2018.

IX

BOARD/DEPARTMENT ADMINISTRATION

A. BUDGET APPROPRIATION FOR THE HUMAN RESOURCES AND PAYROLL PROJECT AND POSSIBLE BOARD ACTION – Commissioner Serrano moved approval of the following Resolution:

BUDGET APPROPRIATION
FOR HUMAN RESOURCES AND PAYROLL PROJECT

<u>RESOLUTION 191022-E</u>

WHEREAS, the City of Los Angeles is replacing its current payroll system, PaySR, with the Human Resources and Payroll (HRP) system;

WHEREAS, LACERS utilizes the City's payroll system to perform personnel, accounting, retirement, and active member account related work, contributing to the accurate and timely delivery of Member benefits;

WHEREAS, the City requests user departments to subsidize the cost of replacing the new system;

WHEREAS, the calculated cost is proportional, based on the staff count of each participating department;

WHEREAS, LACERS' share of the first-year costs to replace the PaySR system is $31,332;

WHEREAS, LACERS' FYE 2020 budget does not include an appropriation for this expense because the amount was unknown at the time of the budget process;

NOW, THEREFORE, BE IT RESOLVED, that the Board:

1. Approve a FYE 2020 budget expenditure to be funded from savings in the Office and Administration Expense appropriation (Account No. 166010) to cover LACERS' portion of the first-year costs related to the HRP project in the amount of $31,332; and,

2. Delegate authority to the Chief Accounting Employee to increase the budget appropriation by $31,332 if the surplus in the Office and Administration Expense appropriation is insufficient through June 30, 2020.

Which motion was seconded by Commissioner Elizabeth Lee, and adopted by the following vote: Ayes, Commissioners Chao, Elizabeth Lee, Sandra Lee, Serrano, Sohn, Vice President Wilkinson, and President Ruiz -7; Nays, None.

B. LEGISLATIVE UPDATE OF OCTOBER 2019 – Chhintana Kurimoto, Management Analyst with the Administration Division, presented this item to the Board.

C. DESIGNATION OF EXECUTIVE OFFICER PURSUANT TO CHARTER SECTION 512 AND POSSIBLE BOARD ACTION – Commissioner Chao moved approval of the following Resolution:

DESIGNATION OF EXECUTIVE OFFICER TO CARRY OUT ALL DUTIES OF GENERAL MANAGER DURING GENERAL MANAGER'S TEMPORARY ABSENCE

RESOLUTION 191022-F

WHEREAS, the LACERS Board of Administration (the Board) is the appointing authority for the LACERS General Manager under Los Angeles City Charter (LACC) Section 1108(b); and

WHEREAS, the General Manager is authorized under LACC Section 509 to administer the affairs of the department as its Chief Administrative Officer; and

WHEREAS, the General Manager shall be temporarily absent and unable to act from from November 4, 2019 through the estimated return date of May 4, 2020; and

WHEREAS, in consideration of the best interests of the department, the General Manager has requested that the Board, pursuant to its authority under LACC Section 512, designate a qualified employee to act with the full authority of the General Manager during this temporary absence; and

WHEREAS, the Board has determined that the Executive Officer has demonstrated the experience and ability to carry out these duties.

NOW, THEREFORE, BE IT RESOLVED that the Board, hereby designates the Executive Officer to act with all the authority of the General Manager during the General Manager's temporary absence from November 4, 2019 through the earlier of the General Manager's return to full time service with LACERS or May 4, 2020.

Which motion was seconded by Vice President Wilkinson, and adopted by the following vote: Ayes, Commissioners Chao, Elizabeth Lee, Sandra Lee, Serrano, Sohn, Vice President Wilkinson, and President Ruiz -7; Nays, None.

X

OTHER BUSINESS – Commissioner Serrano stated she wants to look into including staff demographics for Asset Managers and vendors for data collection purposes only.

XI

NEXT MEETING – The next Regular meeting of the Board is scheduled for Tuesday, November 12, 2019 at 10:00 a.m. in the LACERS Ken Spiker Boardroom, 202 West First Street, Suite 500, Los Angeles, CA 90012-4401.

XII

ADJOURNMENT – There being no further discussion before the Board, President Ruiz adjourned the meeting at 12:20 p.m.

Cynthia M. Ruiz
Vice President

Neil M. Guglielmo
Manager-Secretary

MINUTES OF THE SPECIAL MEETING
BOARD OF ADMINISTRATION
LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

LACERS Ken Spiker Boardroom
202 West First Street, Fifth Floor
Los Angeles, California

October 31, 2019

9:01 a.m.

Agenda of: Nov. 12, 2019

Item No: II

PRESENT:	President:	Cynthia M. Ruiz
	Vice President:	Michael R. Wilkinson
	Commissioners:	Annie Chao
		Elizabeth Lee
		Sandra Lee
		Nilza R. Serrano
		Sung Won Sohn
	Manager-Secretary:	Neil M. Guglielmo
	Executive Assistant:	Erin Knight
	Legal Counsel:	Anya Freedman

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I

PUBLIC COMMENTS ON MATTERS WITHIN THE BOARD'S JURISDICTION – President Ruiz asked if there were any persons who wished to speak on matters within the Board's jurisdiction, to which there was no response and no public comment cards were received.

II

NOTIFICATION OF PURCHASE OF REAL PROPERTY LOCATED AT 977 N. BROADWAY IN LOS ANGELES, CALIFORNIA, FOR $33,750,000 – This report was received by the Board and filed.

III

FINALIST FIRM FOR ASSET MANAGEMENT REAL ESTATE SERVICES SEARCH AND POSSIBLE BOARD ACTION – Commissioner Chao moved approval of the following Resolution:

CONTRACT AUTHORIZATION
INVESCO REAL ESTATE
ASSET MANAGEMENT REAL ESTATE SERVICES

RESOLUTION 191031-A

WHEREAS, on October 8, 2019, the Board of Administration (Board) authorized a Request for Qualification for the Asset Management Real Estate Services; and,

WHEREAS, staff and the Townsend Group conducted further due diligence on the three finalist candidates; and,

WHEREAS, on October 31, 2019, the Board awarded a five-year contract to Invesco Real Estate; and,

WHEREAS, LACERS purchased a commercial office building and underground parking structure that requires Asset Management Services prior to execution of the contract with Invesco Real Estate;

NOW, THEREFORE, BE IT RESOLVED, that the Board hereby authorizes a contract with Invesco Real Estate for asset management real estate services; and, authorizes the General Manager to execute the necessary documents, subject to satisfactory business and legal terms.

Which motion was seconded by Vice President Wilkinson, and adopted by the following vote: Ayes, Commissioners Chao, Elizabeth Lee, Sandra Lee, Serrano, Sohn, Vice President Wilkinson, and President Ruiz -7; Nays, None.

IV

ADJOURNMENT – There being no further discussion before the Board, President Ruiz adjourned the meeting at 9:25 a.m.

Cynthia M. Ruiz
Vice President

Neil M. Guglielmo
Manager-Secretary

BENEFIT PAYMENTS APPROVED BY GENERAL MANAGER: ITEM V-A

Pursuant to the authority delegated to the General Manager under Board Rule GMA 1, General Manager Authorization, adopted by the Board of Administration on June 14, 2016, the following benefit payments have been approved by the General Manager:

SERVICE RETIREMENTS

Member Name	Service	Department	Classification
Acuna, Miguel A	32	EWDD	Indust Comrcl Fin Ofri
Adams Wright, Stacy Louise	34	Police Dept. - Civilian	Administrative Clerk
Allen, Andrew A	31	Dept. of Airports	Airport Police Ofcr
Barberena, Raul	8	GSD - Fleet Svcs.	Event Attendant
Bedikian, Hagop K	6	Dept. of Airports	Environmental Spec
Bishop, Jacquie	7	GSD - Admin.	Management Analyst
Brown, Aubrey M	29	Dept. of Rec. & Parks	Park Ranger
Cabrera, Agnes C	18	PW - Contract Admin	Systems Analyst
Callaway, Wendell A	35	Dept. of Airports	Airport Police Sgt
Cammarata, Nancy Ann	32	Police Dept. - Civilian	Sr Mgmt Analyst
Chavez, Jeanna	15	PW - Contract	Sr Administrative Clerk
Cochran, Kennith J	32	Dept. of Rec. & Parks	Carpenter
Cruz, Cynthia Salazar	16	City Attorney's Office	City Atty Acctg Clerk
De La Cruz Nieto, Rafael	15	Dept. of Rec. & Parks	Irrigation Specialist
Diaz, Maria S	13	Dept. of Airports	Custodian Airport
Diaz, Rafael	10	PW - Resurf & Reconstr	St Svcs Worker
Dyche, Daniel M	36	Dept. of Rec. & Parks	Gardener Caretaker
Eng, Zachary Bryan	31	Dept. of Transportation	Transp Engrg Assc
Ferguson, Lonney Ron	30	ITA	Dir Of Systems
Flake, Anthony R	10	Dept. of Airports	Custodian
Fong, Wanda	47	Library Dept.	Library Asst
Gallegos, Paula	35	Police Dept. - Civilian	Sr Administrative Clerk
Gardner, Keith B	17	Harbor Dept.	Painter
Gordon, Randy T	31	GSD - Mail/Messenger	Administrative Clerk
Hansen, Harold Neal	17	Police Dept. - Civilian	Polygraph Examiner
Hernandez, John M	29	Dept. of Airports	Airport Police Sgt
Hines, Barbara A	20	Police Dept. - Civilian	Administrative Clerk
Hom, Randolph S	2	City Attorney's Office	Deputy City Attorney
James, Carolyn M	35	Dept. of Rec. & Parks	Pr Rec Supervisor
Kamchamnan, Sompong	13	GSD - Public Bldgs.	Parking Attendant
Kelley, Detra Dejuania	33	Police Dept. - Civilian	Pr Clerk Police
Kennedy, Margaret A	30	Dept. of Rec. & Parks	Management Analyst
Kirkwood, Ruby J	21	El Pueblo - Historical Park	Sr. Administrative Clerk
Kuo, Steven	3	Library Dept.	Library Clerical Asst

Lane, Priscilla O	19 Dept. of Rec. & Parks	Administrative Clerk
Martinez, Alejandro W Coca	15 GSD - Bldg. Fac Mgmt.	Custodian
Medina, Juanita	27 Police Dept. - Civilian	Sr Administrative Clerk
Ortiz, Jaime A	10 GSD - Fleet Svcs.	Parking Attendant
Palmer, Stephen	4 Dept. of Rec. & Parks	Asst Park Svcs Attnd
Ramirez, Carlos A	27 GSD - Bldg. Fac Mgmt.	Custodian
Raphael, Yolanda	30 GSD - Operation Analysis	Management Analyst
Richard, Brenda F	40 Controller's Office	Administrative Clerk
Roberson, Connie Karetha	29 Police Dept. - Civilian	Sr Police Serv Rep
Saludares, Lourdes M	44 Police Dept. - Civilian	Sr Auditor
Sarmiento, Concepcion Baluyot	31 Dept. of Rec. & Parks	Sr Accountant
Schmitter, Susan D	30 City Attorney's Office	Deputy City Atty
Scipioni, Vincent Carl	18 Dept. of Bldg. & Safety	Build Mech Inspector
Shanklin, Kenneth B	27 Dept. of Airports	Security Officer
Shaw, James Arthur	20 Police Dept. - Civilian	Gardener Caretaker
Sheets, Kathleen Elizabeth	24 Police Dept. - Civilian	Management Analyst
Smith, Mentha C	6 Library Dept.	Administrative Clerk
Spillman, Lawrence D	31 PW - St. Lighting	Welder
Sturdivant, Elaine E	20 Dept. of Airports	Sr Administrative Clerk
Takaki, Rory Y	33 Dept. of Rec. & Parks	Park Maint Supvr
Torres, Anna Marie C	31 Personnel Dept.	Sr Personnel Analyst
Trodahl, Colleen	6 Dept. of Rec. & Parks	Administrative Clerk
Tujian, Hagop S	33 PW - St. Lighting	St Ltg Engineer
Vega, Ruben	5 Dept. of Rec. & Parks	Special Prog Asst
Viramontes, Jaime J	30 PW - Contract Admin	Sr Constr Inspector
Wilmarth, Miriam W	44 PW - St. Lighting	Improv Assessor Supv
Wong, Thomas	25 City Attorney's Office	City Atty Admin Crd
Woodbury, John Whallon	8 Dept. of Rec. & Parks	Video Production Coord
Wooley, Henry A	16 Dept. of Airports	Custodian

BENEFIT PAYMENTS APPROVED BY GENERAL MANAGER: ITEM V-A

Pursuant to the authority delegated to the General Manager under Board Rule GMA 1, General Manager Authorization, adopted by the Board of Administration on June 14, 2016, the following benefit payments have been approved by the General Manager:

Approved Death Benefit Payments

Deceased	Beneficiary/Payee
TIER 1	
Blair, Alvon	Adam Gerrard Blair for the payment of the Burial Allowance
	Alvon Blair for the payment of the Burial Allowance
	Cynthia Ann Mc Glover for the payment of the Accrued But Unpaid Service Retirement Allowance
Brand, Lester (Deceased Active)	Jasmine Rose Brand for the payment of the Accumulated Contributions
Brugger, Margaret Ann	Margaret A Oliva for the payment of the Accrued But Unpaid Continuance Allowance
Ford, Neil D	Mary Mae Ford for the payment of the Accrued But Unpaid Vested Retirement Allowance Burial Allowance
Granger, Nancy	Eric S Granger for the payment of the Accrued But Unpaid Survivorship (Disability) Allowance
	Scott Michael Granger for the payment of the Accrued But Unpaid Survivorship (Disability) Allowance

Harmon, Eileen	Barbara Harmon for the payment of the Accrued But Unpaid Continuance Allowance
Meaglia, Catherine L	Robert James Meaglia for the payment of the Accrued But Unpaid Service Retirement Allowance
Pelayo Beltran, Rigoberto	Silvia Almazan Pelayo for the payment of the Accrued But Unpaid Service Retirement Allowance
Peterson, Elmer T	Donna Mae Peterson for the payment of the Accrued But Unpaid Service Retirement Allowance Burial Allowance
Russell, Jeanette B	Eddie Thomas Russell for the payment of the Accrued But Unpaid Continuance Allowance
Snelling, Charles F	Goldie Beth Snelling for the payment of the Accrued But Unpaid Vested Retirement Allowance Burial Allowance
Tanori, Edward S	Greg Mathew Rossi for the payment of the Accrued But Unpaid Service Retirement Allowance Burial Allowance James Craig Rossi for the payment of the Accrued But Unpaid Service Retirement Allowance Paul Enrico Rossi for the payment of the Accrued But Unpaid Service Retirement Allowance Burial Allowance

TIER 3
NONE

LACERS
LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM
Securing Your Tomorrows

Agenda of:	**November 12, 2019**
Item No:	**V-B**

MARKETING CESSATION REPORT
NOTIFICATION TO THE BOARD

The Board's Marketing Cessation Policy was adopted in order to prevent and avoid the appearance of undue influence on the Board or any of its Members in the award of investment-related and other service contracts. Pursuant to this Policy, this notification procedure has been developed to ensure that Board Members and staff are regularly apprised of firms for which there shall be no direct marketing discussions about the contract or the process to award it; or for contracts in consideration of renewal, no discussions regarding the renewal of the existing contract.

Firms listed in Attachments 1 and 2 are subject to limited communications with Board Members and staff pursuant to the Policy and will appear and remain on the list, along with the status, from the first publicized intention to contract for services through the award of the contract. Lists of current LACERS contracts are on file in the Board office and are available upon request.

Attachments: 1) Contracts Under Consideration for Renewal
2) Active RFPs and RFQs

ATTACHMENT 1

CONTRACTS UNDER CONSIDERATION FOR RENEWAL

NO.	VENDOR / CONSULTANT	DESCRIPTION	INCEPTION DATE	EXPIRATION DATE	MARKETING CESSATION STATUS	RESTRICTED PERIOD*	
						START	END
INVESTMENTS							
1	Quantitative Management Associates, LLC	Active Core Non-U.S. Emerging Markets Equities	1/1/2014	12/31/2019	Board approved contract extension on 8/27/19; negotiations in process	8/8/2019	3/31/2020
ADMINISTRATION DIVISION							
2	Cresa	Real Estate Services	Pending	Pending	Board awarded new contract on 11/28/2017; Contract under review for execution.	10/1/2017	12/31/2019
HEALTH BENEFITS ADMINISTRATION							
3	Kaiser 2019	Medical HMO	1/1/2019	12/31/2019	Board approved on 8/28/2018; Contract under review for execution.	1/1/2019	12/31/2019
4	SCAN 2019	Medical HMO	1/1/2019	12/31/2019	Board approved on 8/28/2018; Contract under review for execution.	1/1/2019	12/31/2019
5	United Healthcare 2019	Medical HMO	1/1/2019	12/31/2019	Board approved on 8/28/2018; Contract under review for execution.	1/1/2019	12/31/2019

ATTACHMENT 1

CONTRACTS UNDER CONSIDERATION FOR RENEWAL

NO.	VENDOR / CONSULTANT	DESCRIPTION	INCEPTION DATE	EXPIRATION DATE	MARKETING CESSATION STATUS	RESTRICTED PERIOD*	
						START	END
6	Delta Dental 2019	Dental PPO and HMO	1/1/2019	12/31/2019	Board approved on 8/28/2018; Contract under review for execution.	1/1/2019	12/31/2019
7	Anthem Blue View Vision 2019	Vision Services Contract	1/1/2019	12/31/2019	Board approved on 8/28/2018; Contract under review for execution.	1/1/2019	12/31/2019
8	Anthem 2019	Medical HMO & PPO	1/1/2019	12/31/2019	Board approved on 8/28/2018; Contract under review for execution.	1/1/2019	12/31/2019
RETIREMENT SERVICES DIVISION							
9	QTC Medical Group, Inc	Disability Medical Evaluation Services	Pending	Pending	Board approved on 8/13/19; Contract under review for execution.	5/1/2019	11/1/2019
10	Mitchell International dba MCN	Disability Medical Evaluation Services	Pending	Pending	Board approved on 8/13/2019; Contract under review for execution.	5/1/2019	11/1/2019
CITY ATTORNEY							
11	Foley & Lardner LLP	Legal Services - Health & Data Privacy Law	Pending	Pending	Board approved on 8/27/2019; Contract under review for execution.	5/27/2019	11/27/2019

 ATTACHMENT 1

CONTRACTS UNDER CONSIDERATION FOR RENEWAL

NO.	VENDOR / CONSULTANT	DESCRIPTION	INCEPTION DATE	EXPIRATION DATE	MARKETING CESSATION STATUS	RESTRICTED PERIOD*	
						START	END
12	Polsinelli LLP	Legal Services - Health & Data Privacy Law	Pending	Pending	Board approved on 8/27/2019; Contract under review for execution.	5/27/2019	11/27/2019
13	Orrick, Herrington & Sutcliffe LLP	Legal Services - Health & Data Privacy Law	Pending	Pending	Board approved on 8/27/2019; Contract under review for execution.	5/27/2019	11/27/2019
14	Hogan Marren Babbo & Rose, Ltd	Legal Services - Health & Data Privacy Law	Pending	Pending	Board approved on 8/27/2019; Contract under review for execution.	5/27/2019	11/27/2019

Start Date - The estimated start date of the restricted period is three (3) months prior to the expiration date of the current contract. No entertainment or gifts of any kind should be accepted from the restricted source as of this date. Firms intending to participate in the Request for Proposal process are also subject to restricted marketing and communications.

End Date - The estimated end date of the restricted period is three (3) months following the expiration date of the current contract. For investment-related contracts, the estimated end date is normally six (6) months following the expiration of the current contract. For health carrier contracts, the estimated end date is normally one (1) year following the expiration of the current contract. Estimated dates are based on contract negotiation periods from prior years.

ACTIVE RFPs AND RFQs*

NO.	DESCRIPTION	MARKETING CESSATION STATUS AND VENDOR RESPONSES
INVESTMENTS		
1	Private Credit Mandate Search	**RFP Release Date:** December 10, 2018 **Submission Deadline:** January 18, 2019 **Status:** On July 23, 2019, Board awarded contracts to Alcentra Limited; Benefit Street Partners L.L.C.; Crescent Capital Group LP; and Monroe Capital LLC. Negotiations in process. **List of Respondents:** Alcentra Limited, Barings LLC, MB Global Partners, LLC, Backcast Partners Management LLC, BlackRock, Inc., CLSA Capital Partners (HK) Limited, Cross Ocean Adviser LLP, Clearwater Capital Partners (Fiera Capital Corporation), Guggenheim Partners, LLC, Goldman Sachs Asset Management, L.P., Pemberton Capital Advisors LLP, Kayne Anderson Capital Advisors, L.P., Maranon Capital, L.P., Bain Capital Credit, LP, Breakwater Management LP, Carlyle Global Credit Investment Management L.L.C., Crescent Capital Group LP, MV Credit Partners LLP, New Mountain Capital, LLC, Park Square Capital USA LLC, Tor Investment Management (Hong Kong) Limited, AlbaCore Capital LLP, Muzinich & Co., Inc., Kartesia Management S.A., Medalist Partners, LP, NXT Capital Investment Advisers, LLC, Owl Rock Capital Partners, PennantPark Investment Advisers, PIMCO Investments LLC, Deerpath Capital Management, LP, Brightwood Capital Advisors, Magnetar Capital LLC, MC Credit Partners LP, Oaktree Capital Management, L.P., THL Credit Advisors LLC, White Oak Global Advisors, LLC, Benefit Street Partners L.L.C., EntrustPermal / Blue Ocean GP LLC, Willow Tree Credit Partners LP, Monroe Capital LLC, Runway Growth Capital LLC, Stellus Capital Management, LLC

ACTIVE RFPs AND RFQs*

NO.	DESCRIPTION	MARKETING CESSATION STATUS AND VENDOR RESPONSES
2	U.S. Small Cap Equities Mandate Search	**RFP Release Date:** February 25, 2019
		Submission Deadline: April 12, 2019
		Status: On July 9, 2019, Investment Committee advanced the following firms as semi-finalists for further due diligence: Core: ClearBridge Investments, LLC; Copeland Capital Management, LLC; Legato Capital Management, LLC; PIMCO; QMA LLC; Rothschiled & Co Asset Management US Growth: EAM Investors, LLC; Goldman Sachs Asset Management; Granahan Investment Management; Lisanti Capital Growth, LLC; Westfield Capital Management Co, L.P.; William Blair Investment Management, LLC. Value: Ariel Investments, LLC; Bernzott Capital Advisors; Dimensional Fund Advisors LP; Hotchkis & Wiley Capital Management, LLC; Investment Counselors of Maryland, LLC; Segall Bryant & Hamill.
		List of Respondents: 361 Capital, LLC, Aberdeen Standard Investments Inc., Acuitas Investments, LLC, Alliance Bernstein AB, Allianz Global Investors AllianzGI, AltraVue Capital, LLC , American Century Investment Mangement, Inc., AMI Asset Mangement Corporation, Anchor Capital Advisors LLC, Ariel Investments, LLC, Aristotle Capital Boston, LLC, Axiom Investors , Baron Capital, Barrow, Hanley, Mewhinney, Strauss, LLC, Bernzott Capital Advisors, Bivium Capital Partners, LLC, BlackRock, Inc., BMO Global Asset Management, BNP Paribas Asset Management USA Inc, Boston Advisors, LLC, Boston Partners Global Investors, Inc., Bridge City Capital, LLC, Cadence Capital Management LLC, Capital Impact Advisors, LLC, Capital Prospects LLC, Ceredex Value Advisors LLC, ClearBridge Investments, LLC, Copeland Capital Management, LLC, Dimensional Fund Advisors LP, Driehaus Capital Management LLC, Eagle Asset Management, EAM Investors, LLC, EARNEST Partners, LLC, Eastern Shore Capital Management, a Division of Moody Aldrich Partners, LLC, Eaton Vance Management, Elk Creek Partners LLC, Falcon Point Capital, LLC, Federated MDTA, LLC, FIAM LLC, Fisher Investments, Franklin Advisers, Inc., Frontier Capital Management Company, LLC, Goldman Sachs Asset Management, Granahan Investment Management , Granite Investment Partners, LLC, Great Lakes Advisors, LLC, GW&K Investment Mangement, LLC Hotchkis and Wiley Capital Management, LLC, Investment Counselors of Maryland, LLC, Jacobs Levy Equity Management, Inc., Jennison Associates, JP Morgan, Kayne Anderson Rudnick Investment Mangement, LLC, Legato Capital Management, LLC, Legion Partners Asset Management, LLC, Lisanti Capital Growth, LLC, LMCG Investments, Loomis, Sayles & Company, L.P., Los Angeles Capital Management and Equity Research, Inc., Macquarie Investment Management, Manulife Asset Management, Matarin Capital Management, Mellon Investments Corporation, MFS Institutional Advisors, Inc., Monarch Partners Asset Management, LLC, Morgan Stanley Investment Management, Neuberger Berman, NewSouth Capital Management, Inc., Next Century Growth Investors, LLC, Northern Trust Investments, Inc., OFI Global Institutions, Inc., Pacific Ridge Capital Partners, LLC, Pacific View Asset Management, LLC, Palisade Capital Management, LLC, PanAgora Asset Management, Inc., Peregrine Capital Mangement, LLC, Perkins Investment Management LLC, Pier Capital, LLC, PIMCO, Portolan Capital Management LLC, Principal Global, Pzena Investment Management, QMA LLC, Ranger Investment Management, LP, Riverbridge Partners, LLC, RockCreek, Rothschild & Co Asset Management, Sapient Investments, LLC, Schroder Investment Management North America Inc., Segall Bryant & Hamill, Seizert Capital Partners, Smith Asset Management Group, Snyder Capital Management, L.P., Summit Creek Advisors, LLC, Systematic Financial Mangement, L.P., T. Rowe Price Associates, Inc., Teton Advisors, Inc., THB Asset Management, Tygh Capital Management, Vantagepoint Discovery, Victory Capital Management Inc., Voya Investment Management, Walkthausen & Co., LLC, Wasatch Advisors, Weatherbie Capital, LLC, Wedge Capital Management, Wellington Management Company LLP, Wells Fargo Asset Management, Westfield Capital Mangement Company, L.P., William Blair Investment Management, LLC, WisdomTree Asset Management, Inc., Zacks Investment Management

ACTIVE RFPs AND RFQs*

NO.	DESCRIPTION	MARKETING CESSATION STATUS AND VENDOR RESPONSES
3	High Yield Fixed Income and Hybrid High Yield Fixed Income / U.S. Floating Rate Bank Loan Mandate Search	**RFP Release Date:** February 25, 2019 **Submission Deadline:** April 12, 2019 **Status:** On August 13, 2019, the Investment Committee advanced the following firms as semi-finalists for further due diligence: High Yield Fixed Income - Aegon USA Investment Management, LLC, Loomis, Sayles & Company, L.P., and Morgan Staney Investment Management; Hybrid Fixed Income/Bank Loans - DDJ Capital Management, LLC, and KKR Credit **List of Respondents:** Ares Management LLC, Arena Capital Advisors, LLC, Guggenhein Partners Investment Management, LLC, Aegon Asset Management US, MacKay Shields LLC, Post Advisory Group, LLC, Diamond Hill Capital Management, Inc., AXA Investment Managers, Pacific Asset Management, Mesirow Financial Investment Management, Inc., DDJ Capital Management, LLC, Par-Four Investment Management, LLC, PGIM Fixed Income, Beach Point Capital Management LP, KKR Credit, Barrings LLC, Eaton Vance Management, Brigade Capital Management, LP, Morgan Stanley Investment Management, Lord, Abbett & Co. LLC, BlackRock, Inc., L & S Advisors, Inc., Mellon Investments Corporation, Seix Investment Advisors LLC, Legal & General Investment Management, Principal Global, Bain Capital Credit, LP, Princeton Asset Management, LLC, Symphony Asset Management, LLC, PIMCO, The Capital Group Companies, Inc., Loomis, Sayles & Company, L.P., Credit Suisse Asset Management, LLC, J.P. Morgan Asset Management, Hotchkis and Wiley Capital Management, LLC, Northern Trust, CVC Credit Partners, LLC
4	Emerging Market Small Cap Equities Mandate Search	**RFP Release Date:** June 10, 2019 **Submission Deadline:** July 22, 2019 **Status:** In progress **List of Respondents:** LMCG Investments, LLC, AQR Capital Management, LLC, Dimensional Fund Advisors LP, EAM Investors, LLC, Ashmore, Cedar Street Asset Management LLC, Copper Rock Capital Partners, LLC, FIAM LLC, Macquarie Investment Management, RBC GLobal Management, Inc., Capital, River and Mercantile LLC, Schroder Investment Management North America Inc., Somerset Capital Management LLP, Wasatch Advisors, Inc., Kayne Anderson Rudnick Investment Management, Franklin Templeton Investments, Globeflex Capital, LP, Quantitative Management Associates, LLC, State Street Global Advisors Distributor, LLC
5	Emerging Market Debt Mandate Search	**RFP Release Date:** June 10, 2019 **Submission Deadline:** July 22, 2019 **Status:** In progress **List of Respondents:** Eaton Vance Management, Ashmore Investment Management, Capital Group, Fidelity Institutional Asset Management, GAM USA, INC., Northwest Passage Capital Advisors LLC, Payden & Rygel, PGIM Fixed Income, Schroder Investment Management North America Inc., Stone Harbor Investment Partners LP, LM Capital Group, Wellington Management Company LLP, Manulife Investment Management, Global Evolution USA LLC, GoldenTree Asset Management LP, Goldman Sachs Asset Management L.P., Investec Asset Management, Nuveen, A TIAA Company

ACTIVE RFPs AND RFQs*

NO.	DESCRIPTION	MARKETING CESSATION STATUS AND VENDOR RESPONSES
6	Core Fixed Income RFP	**RFP Release Date:** August 19, 2019 **Submission Deadline:** October 4, 2019 **Status:** In progress **List of Respondents:** Amundi Pioneer Institutional Asset Mangement, Inc., Baird Advisors, BlackRock, Inc., BMO Global Asset Management, Brown Brothers Harriman & Co., C.S. McKee, L. P., Calvert Research and Management (Calvert or CRM),Conning, Dimensional Fund Advisors LP, Dodge & Cox, EARNEST Partners, LLC, FIAM LLC, Galliard Capital Management, Garcia Hamilton & Associates, L.P., Goldman Sachs Asset Management L.P., Guggenheim Partners Investment Management, LLC, Income Research & Management, Intergrity Fixed Income, Management, LLC, Invesco Advisers, Inc., J.P. Morgan Asset Management, Jennison Associates LLC, Lazard Asset Management LLC, LM Capital Group, LLC, Longfellow Investment Management Co., LLC, Loomis, Sayles & Company, L.P, Manulife Investment Management, MFS Institutional Advisors, Inc., Morgan Stanley Investment Management, National Investment Services, Neuberger Berman, Nuveen, LLC, Payden & Rygel, PGIM Fixed Income, Piedmont Investment Advisors, Inc., PIMCO, Princeton Asset Management, LLC, Progress Investment Management Company, LLC, Pugh Capital Management, Inc,. Quadratic Capital Management LLC, Ramirez Asset Management, Schroder Investment Management North America Inc., Securian Asset Management, Inc., Segall Bryant & Hamill, Sit Investment Associates, Inc. (Sit), SLC Management, Smith Graham & Co., Investment Advisors, L.P., Sterling Capital Management LLC, T. Rowe Price Associates, Inc., TCW Group, Inc., The Capital Group Companies,Inc., Voya Investment Management (Voya IM), Wellington Management Company LLP, Wells Fargo Asset Management, Western Asset Management Company, LLC

***RESTRICTED PERIOD FOR REQUEST FOR PROPOSAL OR REQUEST FOR QUALIFICATIONS:**

Start Date - The restricted period commences on the day the Request for Proposal is released.

End Date - The restricted period ends on the day the contract is executed.

LACERS
LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

REPORT TO BOARD OF ADMINISTRATION
From: Lita Payne, Executive Officer Lita Payne

MEETING: NOVEMBER 12, 2019
ITEM: V-C

SUBJECT: **JANUARY – JUNE 2020 PRE-APPROVED LIST OF BOARD EDUCATIONAL OPPORTUNITIES**

ACTION: ☐ CLOSED: ☐ CONSENT: ☐ RECEIVE & FILE: ☒

Recommendation

That the Board receive and file the FY 2019-20 Pre-Approved List of Educational Opportunities for January – June 2020

Executive Summary

The proposed FY 2019-20 Training Program for months January through June are listed below along with scheduled Board Meeting dates which might conflict with those conferences.

FY 2019-2020 Training Program: January – June 2020		
Conference/Training	**Location**	**Dates**
February 11th Board Meeting		
IFEBP New Trustee Institute – Level 2: Concepts in Practice	Orlando, FL	February 8 - 9, 2020
IFEBP New Trustee Institute – Level 1: Core Concepts	Orlando, FL	February 10 - 12, 2020
IFEBP Trustees and Administrators Institute	Orlando, FL	February 10 - 12, 2020
March 10th Board Meeting		
CALAPRS General Assembly	Rancho Mirage, CA	March 7 - 10, 2020
Council of Institutional Investors (CII) Spring Conference	Washington, DC	March 9 - 11, 2020
Falk Marquest Group – Women's Private Equity Summit	Dana Point, CA	March 11 - 13, 2020
CALAPRS Adv. Principles of Pension Management	UCLA	March 30 – April 1, 2020
IFEBP Health Care Management	Phoenix, AZ	April 6 - 8, 2020
April 14th Board Meeting		
Pension Bridge Annual Conference	San Francisco, CA	April 14 - 15, 2020

Wharton School – Portfolio Concepts & Management	Philadelphia, PA	April 23 – 26, 2020
May 12th Board Meeting		
National Conference on Public Employee Retirement systems (NCPERS) Annual Conference	Las Vegas, NV	May 10 - 13, 2020
SACRS Spring Conference	San Diego, CA	May 12 - 15, 2020
No Board Meeting during this period		
IFEBP New Trustee Institute – Level 2: Concepts in Practice	San Francisco, CA	June 27 - 28, 2020
IFEBP New Trustee Institute – Level 1: Core Concepts	San Francisco, CA	June 29 – July 1, 2020
IFEBP Trustees and Administrators Institute	San Francisco, CA	June 29 – July 1, 2020

Discussion

This report is to provide the Board with the list of upcoming Pre-approved educational opportunities and any conflicts with Board Meetings for the period of January 1, 2020 – June 30, 2020.

In order to provide sufficient time to process travel request materials, obtain Board approval (when necessary), secure travel authority numbers, and allow the attendee to make travel arrangement, staff requests that Board members provide at least 60 days of notice for training events they wish to attend.

The provided list of training options for the second half of Fiscal Year 2019-20 in this report includes only pre-approved events and does not preclude consideration of other training programs that may arise over the course of the year. Board members interested in events not on this list, whether now or later in the fiscal year, should contact staff for further assistance. Board members should not expend any personal funds for registration or travel until confirmation of final approval has been provided and before travel authorities are issued by the City Controller.

As per the Board Policy, Article II, Section 1.0, Board Members shall attend conferences or seminars that have a solid reputation for quality program content; i.e., agendas with a minimum of five hours of substantive educational content. Content shall not be geared toward marketing or the promotion of investment management and related sponsors. Topics covered during the conference or seminar must be related to the pension fund industry. Conferences not adopted in the Pre-Approved List of Educational Seminars for Fiscal Year 2019-20 will require discrete Board approval.

Prepared By: Alexander J. Lombardo, Management Assistant

NMG/AJL

LACERS
LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

REPORT TO BOARD OF ADMINISTRATION
From: Lita Payne, Executive Officer Lita Payne

MEETING: NOVEMBER 12, 2019
ITEM: VII-A

SUBJECT: **TRAVEL AUTHORITY – COMMISSIONER SUNG WON SOHN; 89TH INTERNATIONAL ATLANTIC ECONOMIC SOCIETY CONFERENCE, ROME, ITALY; MARCH 25-28, 2020 AND POSSIBLE BOARD ACTION**

ACTION: ☒ CLOSED: ☐ CONSENT: ☐ RECEIVE & FILE: ☐

Recommendation

That the Board authorize Commissioner Sohn to attend the International Atlantic Economic Society (IAES) 89th International Atlantic Economic Conference from March 25-28, 2020 (travel dates March 24-29, 2020) in Rome, Italy; and authorize the reimbursement of up to $4,500 for reasonable expenses in connection with participation and abstract submission.

Discussion

Commissioner Sohn has expressed interest in attending the above-mentioned educational conference, and this Board report is prepared on his behalf. Commissioner Sohn has been provided a copy of LACERS Board Education and Travel Policy.

Strategic Plan Impact Statement

As stipulated in the Policy, the sound management of the assets and liabilities of a trust fund imposes a continuing need for all Board Members to attend professional and educational conferences, seminars and other educational events that will better prepare them to perform their fiduciary duties.

For Fiscal Year 2019-20, Commissioner Sohn has an education travel budget of $10,000.

Prepared By: Ani Ghoukassian, Commission Executive Assistant II

Attachments: 1. Estimate of Reimbursable Expenses
2. Proposed Resolution
3. Tentative Schedule/Agenda

CITY OF LOS ANGELES
Intra-Departmental Correspondence

BOARD Meeting
Item VII-A
Attachment 1

DATE: October 11, 2019

TO: Accounting Section
City Employees' Retirement System

FROM: Ani Ghoukassian, Commission Executive Assistant II
Board of Administration

SUBJECT: ESTIMATE OF REIMBURSABLE EXPENSES

Name of Attendee Title	SUNG WON SOHN, COMMISSIONER LACERS Board of Administration	
Event	International Atlantic Economic Meeting	
Organization	International Atlantic Economic Society (IAES)	
Date(s) of Event	March 25-28, 2020 (Travel dates March 24-29, 2020)	
Location of Event	Rome, Italy	
ESTIMATED EXPENSES:	Registration: *Member rate before Jan. 15 $480.00 *Member rate Jan. 15-Feb. 10 $580.00* *Member rate after Feb. 10 $650.00 Abstract: *Member rate before Nov. 15 $90.00	$755.00
	Conf. Hotel: €156 per night (4 nights) (USD to Euros Exchange rate is 1.10067 as of 10/11/19) plus tax & transaction fees	$908.00
	Commercial Airline: Roundtrip LAX to Rome	$1,300.00
	State Department Per diem: Mar. 24 - $132.00 Mar. 25 - $112.00 (Breakfast provided) Mar. 26 - $79.00 (Bkfst/lunch provided) Mar. 27 - $79.00 (Bkfst/lunch provided) Mar. 28 - $112.00 (Breakfast provided) Mar. 29 - $132.00	$646.00
	Taxi: Home to Airport (roundtrip):	$124.00
	Taxi: Airport to Hotel (roundtrip): (USD to Euros Exchange rate is 1.10067 as of 10/11/19) plus transaction fees	$200.00
	Miscellaneous: ($30 per day) x 6 days	$180.00
	TOTAL ESTIMATE:	**$4,113.00**

BOARD Meeting
Item VII-A
Attachment 2

TRAVEL AUTHORITY
INTERNATIONAL ATLANTIC ECONOMIC SOCIETY
89TH INTERNATIONAL ATLANTIC SOCIETY CONFERENCE
MARCH 25-28, 2020
ROME, ITALY

PROPOSED RESOLUTION

WHEREAS, Board approval is required for all international travel requests and travel not included in the Approved List of Educational Seminars;

WHEREAS, the International Atlantic Economic Society (IAES) 89th International Atlantic Economic Conference in Rome, Italy is an international travel request and therefore requires individual approval;

WHEREAS, the sound management of the assets and liabilities of a trust fund imposes a continuing need for all Board Members to attend professional and educational conferences, seminars, and other educational events that will better prepare them to perform their fiduciary duties;

THEREFORE, BE IT RESOLVED, that Commissioner Sohn is hereby authorized to attend the IAES 89th International Atlantic Economic Conference from March 25-28, 2020 in Rome, Italy;

BE IT FURTHER RESOLVED, that the reimbursement of up to $4,500 is hereby authorized for reasonable expenses in connection with participation.

BOARD Meeting
Item VII-A
Attachment 3

89th International Atlantic Economic Conference

25-28 March 2020

Rome

WEDNESDAY, 25 MARCH 2020

13h30 – 18h30 Registration

THURSDAY, 26 MARCH 2020

08h30 – 16h00 Registration

09h30 – 11h30 Concurrent Sessions

11h30 – 12h00 Refreshment Break

12h00 – 13h00 Welcome, Formal Opening and 2020 Robert A. Mundell Distinguished Address:

13h15 – 14h45 Luncheon

14h45 – 16h45 Concurrent Sessions

16h45 – 17h15 Refreshment Break

17h15 – 19h15 Concurrent Sessions

19h30 – 20h30 Welcoming Reception

FRIDAY, 27 MARCH 2020

08h30 – 16h00 Registration

09h30 – 11h30 Concurrent Sessions

11h30 – 12h00 Refreshment Break

12h00 – 13h00 Invited Address or Plenary Panel

13h15 – 14h45 Luncheon

14h45 – 16h45 Concurrent Sessions

16h45 – 17h15 Refreshment Break

17h15 – 19h15 Concurrent Sessions

SATURDAY, 28 MARCH 2020

08h30 – 12h00 Registration

09h00 – 11h00 Concurrent Sessions

09h30 – 10h30 *International Advances in Economic Research* Board of Editors Meeting

11h00 – 11h30 Refreshment Break

11h30 – 13h30 Concurrent Sessions

89th International Atlantic Economic Conference

Rome, Italy
25-28 March 2020

The 89th International Atlantic Economic Conference will be held in Rome, Italy, 25-28 March 2020. Rome's history spans 28 centuries and is the fourth most populous city within the European Union.

Join us in Rome, Italy, a world-renowned locale where old-world charm intertwines with the city's modern-day beauty. Yes, pasta is an Italian cuisine staple, and most Italians do eat pasta at least once a day but, most importantly did you know that there are three things that are always on Italian dinner tables? Indeed, Italian homes usually always have water, wine, and bread. Each region in Italy has its favorite ways to enjoy pasta. In Rome, two classics are the alla carbonara (with eggs and pancetta, similar to bacon) and cacio e pepe (with cheese and fresh cracked black pepper).

The city's early population was comprised of Latins, Etruscans, and Sabines. Rome was the center of the first Italian Renaissance, and later the birthplace of the Baroque and Neoclassicism styles. Iconic artists, painters, sculptors, and architects made Rome the center of the world's artistic supernova. The city has a plethora of historic landmarks. If you have a couple of days to spare before or after the conference, visit Vatican City. Known as the smallest city in the world, Vatican City is an independent city-state that covers just over 100 acres, making it one-eighth the size of New York's Central Park. In the city, visit St. Peter's Basilica which sits atop its namesake's tomb, or the Sistine Chapel where you will be able to view the artistic wonders displayed on its walls and ceiling. Rome is home to several specialized agencies of the United Nations. Among them, the Food and Agricultural Organization, the World Food Programme, and the International Fund for Agricultural Development.

The mission of the conference is to create a platform where economists and finance experts from academe, government, and the private sector can present their research results, exchange ideas and network in a collegial environment. Meetings also provide opportunities for participants to renew acquaintances and to forge new ones. Distinguished delegates from around the world gather to present, discuss, and exchange valuable information in the fields of economics, business, and finance. Participants share drafts of their research with their session colleagues 30 days in advance of the meeting to facilitate dialogue at the conference. We invite you to take part in this opportunity to gain international insight and perspective in the iconic city of Rome. The conference also helps attendees stay up to date on research associated with their fields. Rome is a city rich with history and culture. We look forward to seeing you in Rome!

SIGNIFICANTLY REDUCED REGISTRATION FEES ARE NOW AVAILABLE FOR Ph.D. STUDENTS

ACCOMMODATIONS AND CONFERENCE HEADQUARTERS

Please visit our Conference Headquarters page for more details and a reservations link.

REGISTRATION PAYMENT

When registering by the online registration system, you must pay by credit card.

To pay by check or wire transfer, please contact the IAES Office by email at iaes@iaes.org or by calling 404-965-1555. Additional fees may apply to check and wire transfer payments.

Register

Registration Fees

MEMBER

Before 15 January **$480.00**

15 January-10 February **$580.00**

After 10 February-Conference **$650.00**

NON-MEMBER

Before 15 January **$565.00**

15 January-10 February **$665.00**

After 10 February-Conference **$735.00**

REGISTRATION/2020 MEMBERSHIP

Before 15 January **$625.00***

15 January-10 February **$725.00***

After 10 February-Conference **$795.00***

***Includes Electronic Version of the AEJ and IAER**

REDUCED RATES FOR PH.D. STUDENTS (requires proof of enrollment)

Ph.D. Student Member **$280.00**

Ph.D. Student Non-Member **$380.00**

LACERS
LOS ANGELES CITY EMPLOYEES'
RETIREMENT SYSTEM

REPORT TO BOARD OF ADMINISTRATION
From: Lita Payne, Executive Officer Lita Payne

MEETING: NOVEMBER 12, 2019
ITEM: VIII-B

SUBJECT: **PRI ACTION PLAN**

ACTION: ☐ CLOSED: ☐ CONSENT: ☐ RECEIVE & FILE: ☒

Recommendation

That the Board review the proposed PRI Action Plan.

Executive Summary

As a signatory of the Principles for Responsible Investing (PRI), LACERS has committed to incorporate environmental, social, and governance factors into investment decisions and the investment process. Staff has developed a preliminary Action Plan (as requested by the Board) that demonstrates LACERS' support of and commitment to the six Principles for Responsible Investment.

Discussion

On April 9, 2019, the Board of Administration approved becoming a signatory of the Principles for Responsible Investing (PRI). LACERS officially became a PRI signatory on September 3, 2019.

Responsible investing incorporates environmental, social, and governance (ESG) factors into investment decisions and the investment process to better manage risks and generate sustainable, long-term outperformance. As a signatory, LACERS has agreed to consider ESG factors by abiding to the six voluntary and aspirational PRI Principles (to the extent that is consistent with the Board's fiduciary responsibilities). LACERS further agrees to incorporate ESG factors into investment analysis and decision-making, engage with other asset owners, seek more transparent disclosure, report on investment program activities, and collaborate with other like-minded investors to promote ESG factors within the investment industry. The six PRI Principles are:

- **Principle One:** We will incorporate ESG issues into investment analysis and decision-making processes.
- **Principle Two:** We will be active owners and incorporate ESG issues into our ownership policies and practices.

- **Principle Three:** We will seek appropriate disclosure on ESG issues by the entities in which we invest.
- **Principle Four:** We will promote acceptance and implementation of the Principles within the investment industry.
- **Principle Five:** We will work together to enhance our effectiveness in implementing the Principles.
- **Principle Six:** We will each report on our activities and progress towards implementing the Principles.

As a recent signatory, LACERS is expected to meet several minimum responsibilities, to include:

1) Adopt a responsible investment policy that covers at least 50% of assets under management;
2) Assign staff to implement the responsible investment policy;
3) Have the backing of senior-level management;
4) Develop accountability mechanisms;
5) Complete the PRI annual report; and,
6) Submit an annual signatory fee.

To ensure that LACERS continues to progress and continually develop its responsible investment program, LACERS staff developed a preliminary operational PRI Action Plan (Plan); (Attachment 1). The Plan outlines several proposed administrative, operational, and policy initiatives that LACERS may pursue over the next 4 to 5 years. The Plan is also color coded to designate specific initiatives and reoccurring activities that are: 1) operational items, 2) policy considerations, and 3) research questions or discussions. The Plan is not an exhaustive list of all ESG initiatives that LACERS could pursue, but a feasible set of initiatives that will allow LACERS to maintain our commitment to PRI and explore future ESG investment opportunities.

The PRI Action Plan will be updated annually prior the end of the fiscal year to reflect progress against specific objectives, disclosure of new ESG information and issues, and any changes in Board priorities.

The Action Plan proposes several initiatives during the 2019-20 Fiscal Year, to include:

1) Define LACERS' Responsible Investment Policy;
2) Review LACERS Proxy Voting Policy;
3) Disseminate PRI Reporting Requirements to LACERS Investment Managers; and
4) Complete Baseline Report (Voluntary 1st Year PRI Report to compare in future years)

These four initiatives will be pivotal in determining the future of LACERS' ESG Program. Defining LACERS' Responsible Investment Policy will provide guidance on what research questions and investment opportunities fit into LACERS' ESG Program. Additionally, the PRI reporting period for Calendar Year 2019 will be open from January to April 2020. As a new signatory, reporting is voluntary, however, this reporting period will be vital to establish a program baseline, evaluate data gaps, and analyze needs for future mandatory reporting.

One specific administrative action is the proposed release of an ESG Consultant RFP. To ensure that LACERS' ESG Program is developed with an appropriate framework that meets PRI signatory responsibilities, staff believes that it would be prudent to seek the assistance of an experienced consultant. The consultant would assist with internal policy development, identifying specific goals and measurable objectives, appropriate sequencing of ESG initiatives across all major asset classes, and collaboration with other signatory asset owners. Staff intends to bring this RFP for Board consideration in the third quarter of 2019-20 Fiscal Year.

Staff will continue to work on the above 2019-20 Fiscal Year initiatives during the proposed ESG Consultant Search. Staff will return with an annual progress report in the first quarter of the 2020-21 Fiscal Year.

Strategic Plan Impact Statement

LACERS' membership and adoption of the Principles for Responsible Investment promotes good governance practices (Goal V) and the consideration of ESG issues as risk factors will assist LACERS in optimizing long-term risk-adjusted investment returns (Goal IV).

Prepared By: Saira Gandhi, Management Analyst, Investment Division

RJ/WL/SG:ap

Attachments: 1. Proposed PRI Action Plan

Proposed PRI Action Plan

Color Guide: Blue = Operations | Green = Policy Consideration | Purple = Research Question/Discussion

PRI Action Plan

FY 2019-2020: Q2, Q3, Q4 | FY 2020-2021: Q1, Q2, Q3, Q4 | FY 2021-2022: Q1, Q2, Q3, Q4 | FY 2022-2023: Q1, Q2, Q3, Q4 | FY 2023-2024: Q1, Q2, Q3, Q4

Administrative Priorities

- Release ESG Consultant RFP and Execute Contract
- Revise PRI Action Plan based on ESG Consultant Recommendations
- Submit to Board Annual PRI Action Plan for Review
- Submit Board Annual PRI Action Plan Review
- Submit Board Annual PRI Action Plan Review
- Submit Board Annual PRI Action Plan Review
- Appoint ESG Risk Officer
- PRI Progress Board Report
- PRI Progress Board Report
- PRI Progress Board Report
- PRI Progress Board Report
- Develop Automated PRI Tracking and Reporting System
- Attend PRI in Person
- Attend PRI in Person
- Attend PRI in Person
- Attend PRI in Person

Principle One: *We will incorporate ESG issues into investment analysis and decision-making processes*

Update Investment Policy

- Define LACERS RI Policy
- Develop specific RI guidelines for each asset class
- Incorporate ESG risk modelling into Asset Class
- Ensure RI Policy covers 50% of AUM
- Work with Consultant to determine how to evaluate effectiveness of ESG strategies and fiscal impact

Manager Selection Processes

- Discuss Integration of ESG in Asset Allocation Policy
- Determine ESG criteria for future RFP scoring; Create ESG Questions for Investment Manager RFP's
- Develop ESG Questions for Due Diligence for each asset class

ESG / Impact Fund Investment

- Research Active & Passive ESG investment strategies for possible inclusion in Asset Allocation

Principle Two: *We will be active owners and incorporate ESG issues into our ownership policies and procedures*

Update Proxy Voting Guidelines

- Review LACERS Proxy Voting Guidelines to best ESG practices
- Update Proxy Voting Guidelines that support Responsible Investing
- Track Proxy Votes in accordance to PRI Reporting requirements

Engage with companies through ESG/RI Trade Associations

- Engage in shareholder advocacy and collaborate on specific shareholder issues and proposals
- Partner with ESG-related organizations and actively contribute and participate within those organizations

Principle Three: *We will seek appropriate disclosure on ESG issues by the enities in which we invest*

Streamline ESG evaluation of investments

- Track and monitor exposure to ESG holdings
- Determine what information is needed from managers for PRI Annual Report
- Request investment managers to report ESG activity on a periodic basis

Track ESG data of PE and RE investments

- Prepare ESG Survey of current PE and RE holdings (voluntary for existing PE/RE Managers; mandatory if negotiated)
- Encourage GP's to Adopt ESG Decision-making Framework
- Consider ESG disclosure in side letter agreements

Principles Four & Five: *We will promote acceptance and implementation of the Principles within the investment industry & We will work together to enhance our effectiveness in implementing the Principles*

Participate in ESG/RI Trade Associations

- Attend PRI, ESG, RI workshops and events
- Participate in ESG-focused advocacy organizations and explore leadership roles

Participate in governance and policy discussions

- Educate peer plans, local officials, and members about LACERS RI Policy
- Collaborate with partner ESG organizations on evolving ESG issues and policies

Principle Six: *We will report on our activities and progress towards implementing the Principles*

Annual PRI Reporting

- Complete 1st year voluntary PRI report as a baseline
- Determine data gaps and prep for first public reporting period
- Monitor tracking of PRI-aligned ESG efforts
- Complete & publish PRI report
- Complete & publish PRI report
- Complete & publish PRI report
- Complete & publish PRI report

Create accountability measures for ESG reporting

- Research best practices for ESG data management and validation
- Implement ESG data protocols

LACERS
LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

Lita Payne

REPORT TO BOARD OF ADMINISTRATION
From: Lita Payne, Executive Officer

MEETING: NOVEMBER 12, 2019
ITEM: VIII – C

SUBJECT: **PRI BALLOT MEASURE AND BOARD ELECTION AND POSSIBLE BOARD ACTION**

ACTION: ☒ CLOSED: ☐ CONSENT: ☐ RECEIVE & FILE: ☐

Recommendation

That the Board consider the Principles for Responsible Investment (PRI) 2019 Asset Owner Ballot and;

1) Vote to support two specific candidates for the PRI Board as recommended by staff;
2) Vote to support the 2019 Annual Report and Accounts; and
3) Vote to support the approval of the 2019 Signatory General Meeting (SGM) Minutes

Executive Summary

As signatories of the Principles for Responsible Investment (PRI), LACERS may vote in the 2019 election, including the 2019 PRI Board Election, the 2019 Annual Report and Accounts and the 2019 Signatory General Meeting (SGM). Staff recommends that the Board approve a vote to support Hiromichi Mizuno and Rafael Soares Ribeiro de Castro. Staff also recommends that the Board approve the 2019 Annual Report and SGM Minutes.

Discussion

As a signatory of the Principles for Responsible Investment (PRI), LACERS has the right to participate in all areas of PRI governance. Asset owner signatory organisations are asked to:

- Vote for asset owner signatory representatives in the 2019 PRI Board elections;
- Vote to receive the Annual Report and accounts for year ended 31 March 2019; and
- Vote to approve the 2019 Signatory General Meeting minutes.

2019 PRI Board Election

Following the nominations received, there are three candidates competing for two open asset owner positions on the PRI Board.

- Eva Halvarsson, Chief Executive Officer, AP2
- Hiromichi Mizuno, Executive Managing Director and Chief Investment Officer, GPIF
- Rafael Soares Ribeiro de Castro, Executive Manager of Compliance and Internal Control, PREVI

Asset owner signatories have **two** votes each, for the **two** open asset owner positions.

The PRI Board should have the appropriate balance of skills, diversity, experience, independence and knowledge of the organisation to enable it to discharge its duties and responsibilities effectively. This necessary diversity encompasses a sufficient mix of relevant skills, competence, and diversity of perspectives. It may include but is not limited to: geographical diversity of signatory representation to bring regional knowledge and perspectives to the board; diversity of geographical origin, ethnicity, language and culture, and also gender diversity.

The PRI Board encourages the election of candidates with leadership and governance experience. The candidates statements (Attachment 1) highlight their demonstrated leadership within responsible investment, ESG expertise and other experience relevant to PRI's long-term success.

2019 Annual Report and Accounts
Signatories have the right to receive the annual accounts. The PRI must present to signatories at each Signatory General Meeting (SGM) the Company's latest annual accounts, any required accompanying reports and the auditor's report.

The PRI Board is asking all signatories to receive and vote for the 2019 Annual Report and Accounts (Attachment 2).

2019 Signatory General Meeting (SGM) Minutes
Signatories have the right to approve the SGM minutes. All signatories have had the opportunity to attend the 2019 SGM either in-person or via webcast or listen to the meeting recording at a later date.

The PRI Board is asking all signatories to approve the 2019 SGM minutes (Attachment 3).

Staff Recommendation

Staff recommends that the LACERS Board vote for Hiromichi Mizuno and Rafael Soares Ribeiro de Castro to represent Asset Owners on the PRI Board. Staff also recommends that the Board approve the PRI 2019 Annual Report and Accounts and the 2019 Signatory General Meeting Minutes.

Strategic Plan Impact Statement

Voting in the PRI 2019 Ballot is in line with Goal V to uphold good governance practices which affirm transparency, accountability, and fiduciary duty.

Prepared By: Saira Gandhi, Management Analyst, Investment Division

LP:RJ:BF:sg

Attachments: 1. PRI Board Candidate Statements
2. PRI 2019 Annual Report
3. PRI 2019 Signatory General Meeting Minutes

CANDIDATE STATEMENT, BIOGRAPHY, SIGNATORY AND COMPARATIVE INFORMATION FORM

Name: Eva Halvarsson
Title: Chief Executive Officer
Signatory organisation: Andra AP-fonden (AP2)
Signatory organisations seconding your candidacy: Stichting pensioenfonds van de ABN AMRO Bank N.V. and Länsförsäkringar

CANDIDATE STATEMENT

I joined AP2 in 2006 - the same year the fund was one of the original signatories of the UN-PRI. I have followed the work of PRI with great interest over the years, and for the last three years also as an asset owner representative of the PRI board.

I am impressed over the dedicated and professional work that is being done within the organisation and also with the growth of impact and reach of the Principles over the years. The board work has been very interesting and intensive. To me, it illustrates the importance to gather asset owners, investment managers and service providers from all parts of the world to cooperate in the further development of a more responsible and sustainable way to invest.

In my own organisation, AP2, I often talk about the importance of Commitment, Culture and Curiosity to integrate sustainability in our daily work. To accomplish real change you need commitment from everybody in the organisation, both top-down and bottom-up. A culture with clear values that encourages everybody to bring along new ideas for the development of a sustainable portfolio and last, but not least, the insight that we all need to increase our competence in a lot of new areas to be able to analyze the sustainability of our investments.

For many years AP2 and I have been focusing our ESG-work on climate, diversity, corporate governance and reporting. We consider reporting and corporate governance to be important tools, both to assess the work our companies are doing and also to drive change when needed. Our work includes developing a portfolio in line with the Paris agreement, which translates to divesting from the fossil companies that we consider will not handle the transition, actively investing in sustainable solutions and engaging in dialogues to encourage change.

My experience in the field of sustainability includes developing policies for the state owned companies in Sweden, bringing forward Sweden´s first Corporate Governance Code, active work in many boards and nomination committees, integrating sustainability in AP2´s “DNA” and cooperation with different stakeholders in organisations/initiatives such as PRI, IIGCC and Climate Action 100+.

I hope that my contributions so far to the PRI board have been valuable and I would very much like to engage in the further development of the work.

BIOGRAPHY

Since 2006, Eva Halvarsson has acted as the CEO of AP2. She heads up an organization with more than SEK 367 billion (approx. EUR 34 billion) under management in virtually every asset class, and one that is active in all parts of the world; AP2 is one of northern Europe's largest pension funds.

Ms. Halvarsson began her career as an accountant, progressing to the point that before joining AP2, she spent ten years working for the Swedish Government where she was responsible for the governance and management of the large and extensive portfolio of state owned companies.

Eva Halvarsson has had a distinguished and varied leadership career. She took part in the working group that put into effect the Swedish Corporate Governance Code in 2004. She also spent several years, serving on the Swedish Corporate Governance Board. Eva has been a board member of many large companies and has chaired the nomination committees of some of Sweden's largest listed companies. She recently left after serving for ten years as the Deputy Chairperson of the board of the University of Gothenburg.

In 2017, Eva Halvarsson was awarded the medal Pro Studio et Scientia – for Commitment and Science - from the Gothenburg School of Business for her dedicated work to develop the school.

Presently, she is board member of the UN-PRI (the United Nations Supported Principles for Responsible Investment), Vasakronan (the largest real estate company in Sweden), The WIN WIN Gothenburg Sustainability Award and The Royal Swedish Opera. In addition, she serves on the advisory board of the Women Entrepreneur´s Opportunity Facility, the first-ever global finance facility dedicated exclusively to women-owned small and medium-sized enterprises.

Eva Halvarsson was born in 1962 and holds an MSc in Business and Economics from the School of Business, Economics and Law at the University of Gothenburg.

SIGNATORY ORGANISATION INFORMATION

With about EUR 34 billion under management in virtually every asset class and all parts of the world, AP2 is one of northern Europe's largest pension funds. The Fund is tasked with an important assignment by the Swedish Government - to maximize the long-term return on pension assets under management and manage its fund assets in an exemplary way through responsible investments and responsible ownership.

The Fund was one of the original signatories to the UN PRI in 2006.

AP2 is one of five buffer funds within the Swedish pension system. The assignment as a buffer fund means that AP2, with its return, will in the long term contribute to the balance of the pension system and thereby good pension development, even in times of economic and demographic fluctuations. The AP Funds shall manage the capital so that it will be of the greatest benefit to the pension system.

Despite the turbulent financial markets of the past 10–15 years, the Fund's performance has proved solid, both in absolute terms and in comparison with similar funds, whether seen from a national or international perspective.

By actively working with and integrating environmental, ethical, social and corporate governance issues in AP2's activities, values can be created and protected. By including sustainability aspects in analyses and investment processes provides the Fund with broader and better decision data.

Both sustainability and responsible ownership are a high priority for the Fund. A proactive approach to the environment, ethics, social issues and corporate government are means to attain the goal of a high risk-adjusted return.

AP2 is an attractive employer that numbers approximately 70 staff, all of whom are located in Gothenburg, Sweden. The Fund employs some of the foremost in their respective fields, as portfolio managers, analysts and other specialists.

SPECIFIC EXPERTISE:

LEADERSHIP AND GOVERNANCE EXPERIENCE

Working with issues aligned with a sustainable development has been an important part of my career for over twenty years.

Before joining AP2 2006 I worked for ten years for the Swedish government with developing the governance of the state owned companies. I was heading the Division of State Owned Enterprises (SOEs) and during my time we implemented ESG-policies in all of the companies (around 60) and put in place a system to evaluate these.

I have over the years been active in many company boards as well as nomination committees. One focus for me in that work have always been to drive the development of ESG.

When the Swedish Corporate Governance Code (SCCC) was being brought forward I was part of the working group and I served on the SCCC board for a number of years.

Ever since joining AP2 I have worked to integrate sustainability in our daily work. Since we have a diverse global portfolio with many asset classes, both managed internally and externally and in different ways (own companies, fundamental and quant) we have implemented different ways for the integration of ESG. For example, in the companies where we own a major owner we are able to work with these issues from inside the board. In our fundamental management of equities we are focusing on having a dialogue with the companies and in our quant management we have been constructing new indices with ESG-factors included. In our external management we have developed our due diligence-process.

Fundamental for the change driven has been to encourage and provide the organization with increased knowledge about ESG. We have worked with several instruments; internal education, academic visits, exchange with peers/companies/organisations, dialogues with governmental institutions, etc. In that work the PRI has been an important part.

GENERAL:

DEMONSTRATED LEADERSHIP WITHIN RESPONSIBLE INVESTMENT, ESG EXPERTISE AND OTHER EXPERIENCE RELEVANT TO THE LONG-TERM SUCCESS OF THE PRI

- Implementing and evaluating ESG-policies in 60 Swedish state-owned companies, including professionalizing the nomination and evaluation processes for the boards of the above companies (approx. 400 board members)
- Part in the working group bringing forward the Swedish Corporate Governance Code
- Calculating the carbon footprint of the AP2 portfolio for the first time in 2009
- AP2 one of the first investors in green bonds 2009 (since 2016 part of the strategic asset allocation)
- AP2 taking initiative to bring forward Principles for Responsible Investment in Farmland
- AP2 active in PRI:s working groups on private equity and SDGs
- Developing the AP2 Women´s Index, presenting a large number of facts and figures to support the discussion on increasing the diversity of company boards
- Since 2014 divesting from more than 80 fossil companies due to financial climate risk
- Constituting the AP2 Price for the best candidate or master thesis at the Gothenburg Business School that combines finance and sustainability
- In 2016 first investment in Women Entrepreneur Opportunity Facility, to increase access to capital for women entrepreneurs
- AP2 sustainability reporting has for many years been nominated as one of the best reports from large global assets owners, by Responsible Investor
- Actively participation in Climate Action 100+
- At the beginning of 2018, as one of the first investors, AP2 published a climate report according to the recommendations from the Task Force on Climate-related Financial Disclosures (TCFD)
- Actively working to take human rights into consideration in the entire business operation and will during 2019 publish a human rights report according to the UN's Guiding Principles
- Internally developed multi-factor indices implemented for approximately a third of the portfolio (~ EUR 10 billion). In the two indices ESG factors have been given the most importance

CANDIDATE STATEMENT, BIOGRAPHY, SIGNATORY AND COMPARATIVE INFORMATION FORM

Name: Hiromichi Mizuno
Title: Executive Managing Director and Chief Investment Officer
Signatory organisation: Government Pension Investment Fund, Japan (GPIF)
Signatory organisation seconding your candidacy: CBUS Superannuation Fund and CalSTRS

CANDIDATE STATEMENT

GPIF signed the Principles for Responsible Investment (PRI) in 2015. I have contributed to the PRI as a member of the board since January 2017 and I have served Policy Committee and Ethic Committee alongside.

GPIF is a cross-generational investor and a universal owner with US$1.5trillion in AUM. Our two driving forces to promote ESG are ESG engagement with our asset managers, and investments into ESG themed indices. GPIF requires all of our asset managers to integrate ESG into their investment processes and investment decision. We incentivise passive equity managers to act as a responsible owner to engage on ESG issues. In ESG indices, we have invested more than US$33billion. GPIF has also built a partnership with the World Bank Group, European Investment Bank and Asian Development Bank that aims to mobilise capital into green and sustainable bonds. GPIF has built US$1billion Green Bond portfolios over 4 months benefiting from these partnership.

In this spring, GPIF's ESG activities were featured in a Harvard Business School (HBS) case study entitled "Should a Pension Fund Try To Change the World? Inside GPIF's Embrace of ESG", indicating widespread of recognition of our ESG activities and its influences.

We are regarded as a leader in Asia for promoting ESG. Since I was appointed as a PRI Board member, signatories from Asia has increased from around 100 to over 190. Also I've been committed to promote TCFD in Japan, which results in 185 supporters in Japan, the highest supporters in the world. In Climate Action 100+, I serve as a member of Asia Advisory Group which advises to its steering committee on Asian matters.

It is my belief that sustainability is particularly important in Asia, a region with high economic growth and with increasing needs for infrastructures. It would be critical that those developments will be made in sustainable ways. I have been calling for cooperation, not competitions between Asian investors to make sure Asian infrastructures will be built with sustainable technologies.

As the CIO of the largest pension fund in the world and the board member of the PRI, I have devoted my time to make the whole investment chain more sustainable by driving ESG. I am confident that I can continuously add new perspectives to the PRI board and contribute to the further journey of the PRI.

BIOGRAPHY

Hiro Mizuno has served as Executive Managing Director and Chief Investment Officer of Japan's US$1.5trillion Government Pension Investment Fund (GPIF) since January 2015. Prior to joining GPIF, he was a partner of Coller Capital, a London-based private equity firm. He previously worked at Sumitomo Trust & Banking Co., Ltd. in Japan, Silicon Valley and New York.

Hiro Mizuno is a member of the Board and Asset Owner Advisory Committee of PRI, a co-chair of the Milken Institute's Global Capital Markets Advisory Council.

He is the Founding Members of Climate Finance Leadership Initiative (CFLI), the Global Investors for Sustainable Development (GISD) Alliance Member and the Global Business Coalition for Education Advisory Board Member. Also, Asia Advisory Group Member of Climate Action 100+.

He is also an executive adviser to Japanese Cabinet on Growth Strategy in accordance with Paris Climate Change Agreement, on Healthcare and Medical Growth Strategy, a member of Japanese Government Strategic Funds Integrated Advisory Board, a member for Ministry of Education, Culture, Sports, Science and Technology-Japan National University Evaluation Committee.

His engagements in academics involve: Advisor of Office of the President of the University of Tokyo, a guest professor of Osaka University Graduate School of Medicine, an adviser to the Kyoto University's Center for iPS Cell Research and Application, and a guest professor of Kindai University Global Economic Research Center, a senior fellow of Tel Aviv University Graduate School of Management and a member of the International Executive Committee for the Einstein Legacy Project at Hebrew University.

He holds an MBA from Kellogg Graduate School of Management at Northwestern University in Illinois, USA.

SIGNATORY ORGANISATION INFORMATION

GPIF is the largest pension fund in the world, holding assets worth JPY159trillion, equivalent to US$1.5trillion (as of March 2019).

Japan's public pension system (Employees' Pension Insurance and National Pension) is managed as a pay-as-you-go system that incorporates the concept of intergenerational dependency, where contributions paid by working generations support the elders.

GPIF is a cross-generational investor and a universal owner by textbook definition, owning a very well diversified portfolio. With US$1.5trillion in AUM, we have about 10 percent of the Japanese stock market and close to 1 percent of the global equity market (float adjusted). We manage the reserve fund for the pension system based upon a projection of the next 100 years to bridge the intergenerational gap of contribution. GPIF's mission is to contribute to the stability of the pension system by achieving the long-term investment returns required for it. Its cumulative return from fiscal 2001 to fiscal 2018 is about US$650billion.

Its investment plan, which includes an ESG investing strategy, is periodically approved by the Board of Governors, comprised of independent economic/financial experts, and authorized by the Ministry.

GPIF revised Investment Principle in 2017, incorporating Stewardship responsibilities including ESG consideration into all asset classes. Our two driving forces to promote ESG are ESG engagement with our asset managers, and investments into ESG themed indices. As GPIF outsources almost all of our portfolio, we require all of our asset managers to integrate ESG into investment processes and engage with their portfolio companies. We have invested US$33billion into ESG indices, as well as more than US$1billion in green bonds and sustainability bonds in partnership with the World Bank Group, European Investment Bank and Asian Development Bank.

SPECIFIC EXPERTISE:

LEADERSHIP AND GOVERNANCE EXPERIENCE

- Executive Managing Director and Chief Investment Officer of the Government Pension Investment Fund (GPIF)
- Board Member, Policy Committee Member, Ethic Committee Member and Asset Owner Advisory Committee Member of PRI
- Co-chairperson of the Milken Institute's Global Capital Markets Advisory Council
- Founding Members of Climate Finance Leadership Initiative (CFLI)
- Global Investors for Sustainable Development (GISD) Alliance Member
- Global Business Coalition for Education Advisory Board Member
- Asia Advisory Group Member of Climate Action 100+
- Executive Adviser to Japanese Cabinet on Growth Strategy in accordance with Paris Climate Change Agreement
- Executive Adviser to the Japanese Cabinet on healthcare and medical growth strategy
- Board member of Japanese Government Strategic Funds Integrated Advisory Committee
- A Member for Ministry of Education, Culture, Sports, Science and Technology-Japan National University Evaluation Committee
- Advisor of Office of the President of the University of Tokyo
- Guest Professor of Osaka University Graduate School of Medicine
- Adviser to the Kyoto University's Center for iPS Cell Research and Application
- Senior fellow of Tel Aviv University Graduate School of Management
- A Member of the International Executive Committee for the Einstein Legacy Project at Hebrew University

GENERAL:

DEMONSTRATED LEADERSHIP WITHIN RESPONSIBLE INVESTMENT, ESG EXPERTISE AND OTHER EXPERIENCE RELEVANT TO THE LONG-TERM SUCCESS OF THE PRI

At the GPIF, I have been pushing forward with the following initiatives.

Mar. 2015	Announced "Investment Principles" which incorporate stewardship responsibility
Sep. 2015	Signed "Principles for Responsible Investment (PRI)"
Jul. 2016	Announced the establishment of "Business and Asset Owner's Forum" and "Global Asset Owners' Forum" to enhance sustainable investment in Japanese and non-Japanese equities
Oct. 2016	Established "Stewardship & ESG Division"
Jun. 2017	Announced "Stewardship Principles" and "Proxy Voting Principles"
Jul. 2017	Selected "ESG indices for Japanese equities"
Aug.2017	Updated "Policy to Fulfill Stewardship Responsibilities" in accordance with the revised Japan's Stewardship Code
Oct. 2017	Revised "Investment Principles" (Expand stewardship and ESG activities to all asset classes)
Apr. 2018	Published a joint research report with the World Bank Group concerning ESG integration into fixed income investment

Sep. 2018	Selected "Global Environmental Stock Indices"
Oct. 2018	Joined Climate Action 100+
Dec. 2018	Supported to the TCFD (Task Force on Climate-related Financial Disclosures) Recommendations
Apr. 2019	GPIF and World Bank Group launch new initiative to promote Green, Social and Sustainability Bonds
Jun. 2019	GPIF and EIB launch initiative to promote Green, Social and Sustainability Bonds
Aug. 2019	GPIF and ADB launch initiative to promote Green Bonds

Outside of the GPIF, I have been advocating considering ESG issues at the following conferences (from August 2018 through July 2019)

Aug. 2018	"TCFD Study Group" by Ministry of Economy, Trade and Industry, Japan
Nov. 2018	G20 Summit: Investor Forum
Feb. 2018	The High Level Meeting on ESG Finance by Ministry of Environment, Japan
Mar. 2019	CII Spring 2019 Conference by Council of Institutional Investors
Apr. 2019	World Bank Spring Meetings 2019 "The Power of Partnerships: Mobilizing Finance and Unlocking Private Sector Solutions" by the World Bank Group
May. 2019	G20/OECD Seminar on Corporate Governance in Today's Capital Markets

CANDIDATE STATEMENT, BIOGRAPHY, SIGNATORY AND COMPARATIVE INFORMATION FORM

Name: Rafael Soares Ribeiro de Castro
Title: Executive Manager of Compliance and Internal Control
Signatory organisation: Previ – Caixa de Previdência dos Funcionários do Banco do Brasil
Signatory organisation seconding your candidacy: Real Grandeza

CANDIDATE STATEMENT

My name is Rafael Castro and it is an honor to be a candidate in the PRI's Board elections.

As PREVI's Compliance and Internal Control Executive Manager, I am proud to represent an institution that was invited by the UN to participate in the PRI's creation in 2006 and was its first Latin American signatory. Ever since, PREVI has been actively contributing to the development of the PRI, locally and internationally.

As I detail below, I believe that the unique combination of my professional and academic backgrounds can be an asset to the implementation of the PRI's Blueprint of responsible investment considering mainly three aspects: a) PRI's growth in emerging markets (particularly in Latin America); b) a responsible investment implementation practical knowledge and c) a collective engagement experience.

Firstly, as a global initiative, it is critical that the PRI Board understands the responsible investment challenges of the different parts of world. Currently, Latin America is not represented in the Board and I could bring fresh perspectives to existing debates and help the development and implementation of PRI strategies in the region.

Secondly, PRI's impact will be a result of not only the design of responsible investment strategies but mainly of their implementation. Over the past 15 years, I have had first hand experience implementing the PRI principles in one of the largest pension funds in Latin America. In addition, I have participated in the implementation of the Brazilian network of signatories, organized responsible investment events, acted directly in the promotion of the Principles to potential new signatories, participated in panels of PRI events around the world and served as a delegate member of the Board of PRI, supporting the representation of PREVI in that Board. In sum, I have played a pioneering role in helping developing, promoting and implementing responsible investment not only at PREVI but in Latin America and beyond.

Thirdly, my involvement in national and international collective engagement initiatives will also help to develop the strategy of fostering a community of active owners.

Ever since its inception, I have always believed that PRI has to think globally but act locally. If offered the opportunity, I would be deeply committed to carrying out a leadership role among the Latin American asset owners, engaging new potential signatories and stimulating the development of collective engagement initiatives, with a focus on emerging markets, adding value to the development of more sustainable markets.

BIOGRAPHY

Rafael Castro is the Compliance and Internal Control Executive Manager of Previ. With over 25 years of experience, he has built an extensive and solid career at Banco do Brasil (one of the largest banks in the Americas), BB DTVM (a manager of assets exceeding $ 250 billion) and Previ.

At Previ, Rafael was a senior analyst in the Real Estate Investments Management area and in the Capital Market Investment area, where he worked with Private Equity and Venture Capital.

After those positions, Rafael was a division manager in the Office of the Presidency, for 5 years, responsible for coordinating the strategic planning and sustainability process of Previ. In this period, Rafael was a delegate member of the PRI Board, a coordinator of the national commission of sustainability of ABRAPP (Brazilian Pension Fund Association) and a member of the Carbon Disclosure Project's Technical Advisory Council - South America.

Currently, Rafael leads Previ's Compliance and Internal Control department. This area is responsible, among other things, for the Anticorruption program, strengthening the entity's governance. Rafael is also the president of the current business integrity policy working group of the Brazilian network of PRI signatories and a member of the governance regional technical commission of ABRAPP.

Rafael Castro has a LL.B. degree at the Federal University of Rio de Janeiro (Brazil), a Postgraduate Diploma in Real State Management at PUC – Rio (Brazil), a Postgraduate Certificate in Sustainable Business at the University of Cambridge (UK) and a MSc in Tourism Management at the University of Surrey (UK).

SIGNATORY ORGANISATION INFORMATION

Created in 1904, even before the Official Pension Plan of Brazil, PREVI - Banco do Brasil's Employees Pension Fund is among the largest pension funds in Latin America. It has over 200,000 participants and more than $ 52 billion under management.

PREVI is a closed pension entity and its participants are employees of Banco do Brasil and its own employees. The Institution works to guarantee these participants social security benefits complementary to those of the Official Pension Plan, in order to contribute to the quality of life of members and their dependents.

PREVI's resources come essentially from personal and employer contributions. These funds are invested in a diversified manner, in accordance with the Investment Policy, which is reviewed annually in a judicious manner, according to the need of each Benefit Plan.

Being a PRI signatory since 2006, PREVI included RI criteria in its investment policy and practices involving all its different asset classes. Recently, PREVI was recognized in the OECD Annual Survey of Large Pension Funds by its interaction with its invested companies to promote strong systems of corporate governance, social and environmental responsibility.

SPECIFIC EXPERTISE:

LEADERSHIP AND GOVERNANCE EXPERIENCE

A pioneer and today a reference in Brazil when it comes to responsible investment, Rafael leads Previ's anticorruption policy and strategy. This specific work, produced as a result of his researches at the University of Cambridge, is strongly related to Previ's main sustainability strategy as it creates actions to disseminate / stimulate ethical behavior, anticorruption processes and fraud detection instruments in Previ's own practices and in its relations with its stakeholders (including the companies in which PREVI invests, i.e. some of the most important companies in Brazil).

Rafael has been participating in the integrity working group of the Ethos Institute in Brazil, the anticorruption working group of the Global Compact local network and the governance regional commission of ABRAPP. He also leads an integrity initiative in the PRI Brazilian network of signatories.

In his managerial positions at Previ, Rafael has been responsible for leading different teams and projects for the past 12 years.

GENERAL:

DEMONSTRATED LEADERSHIP WITHIN RESPONSIBLE INVESTMENT, ESG EXPERTISE AND OTHER EXPERIENCE RELEVANT TO THE LONG-TERM SUCCESS OF THE PRI

Rafael Castro has a large experience in leadership and governance within Responsible Investment. Rafael was a coordinator of the national technical sustainability commission of ABRAPP (Brazilian Pension Fund Association), a member of the Technical Advisory Council of the Carbon Disclosure Project - South America and participated directly in the implementation of PRI's Brazilian Network of Signatories (the first regional network and a reference to the implementation of networks in other parts of the world). He also served as a delegate member of the Board of PRI, supporting the representation of PREVI in that Board.

Rafael Castro taught socio-environmental responsibility in postgraduate courses (MBA) at FGV-RJ (a leading university in Brazil) and at the Brazilian Bar Association (OAB) Higher School of Law. He has been a speaker at several seminars and conferences in Brazil, South Africa, USA, and France, just to name a few (including PRI in Person events) and has leaded collective engagement initiatives.

In PREVI he was responsible to coordinate the development of its sustainability policy and coordinated the process to implement the PREVI's annual report using the GRI reference in 2009.

EXECUTIVE EMPLOYEE INFORMATION

The Compliance and Internal Controls Executive Manager reports directly to the CEO and is responsible for promoting compliance in investments, activities and products, fostering a culture of internal controls, risk management, information security and business continuity management. Number of years employed in an executive position: 6

BOARD Meeting: 11/12/19
Item VIII-C
Attachment 2

PRI Principles for Responsible Investment

PRINCIPLES FOR RESPONSIBLE INVESTMENT

Annual Report 2019

UNEP FINANCE INITIATIVE | United Nations Global Compact

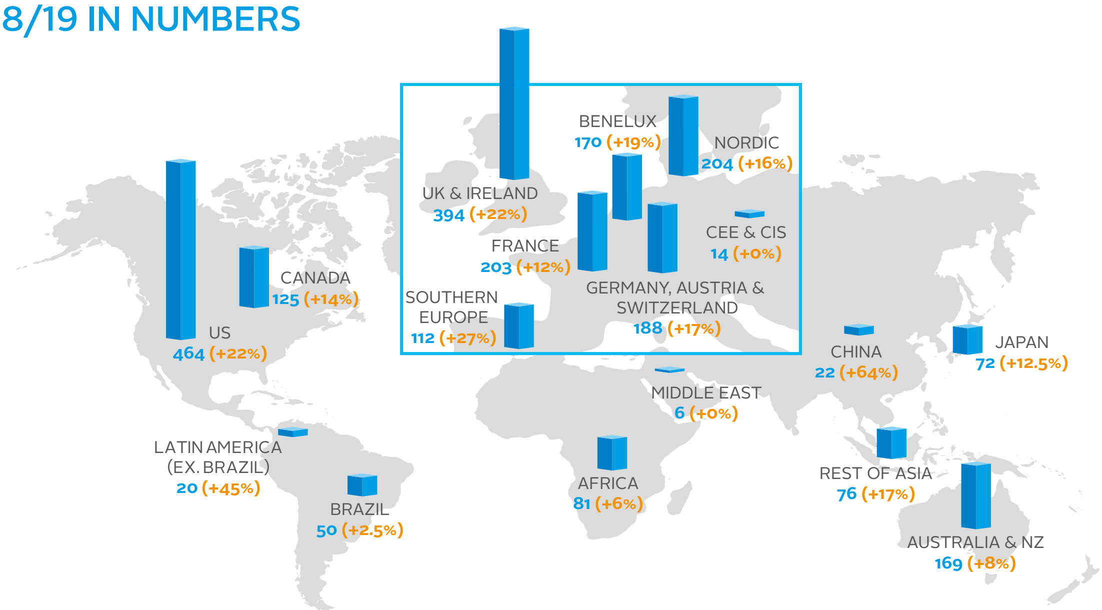
An investor initiative in partnership with UNEP Finance Initiative and UN Global Compact

THIS ANNUAL REPORT SETS OUT HOW OUR WORK OVER THE PAST YEAR CONTRIBUTES TO THE GOALS OF OUR 10-YEAR BLUEPRINT FOR RESPONSIBLE INVESTMENT

FOREWORD

The PRI will continue to guide, support and represent signatories to the six Principles, but as ever the real work is done by our signatories themselves. This international community of forward-thinking investors continues to drive responsible investment forwards. We look forward to making more progress together in the years ahead.

2018/19 IN NUMBERS



FIND OUT MORE

BOARD Meeting: 11/12/19
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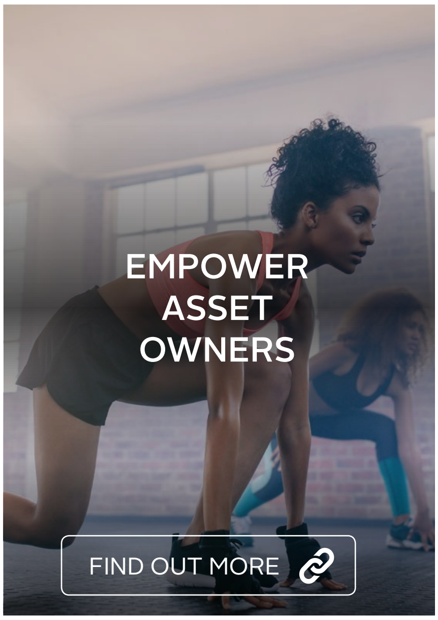
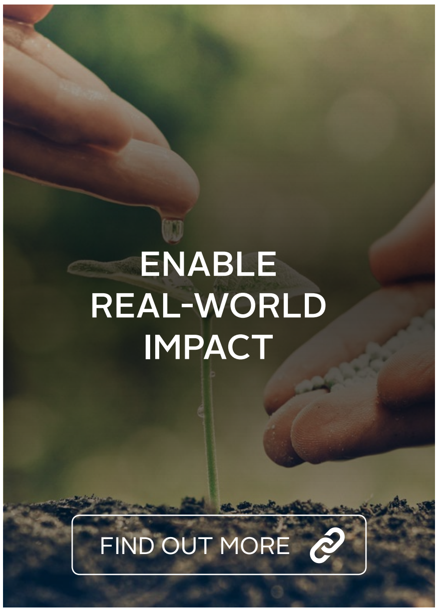
Attachment 2





BOARD Meeting: 11/12/19
Item VIII-C
Attachment 2

ENHANCE OUR DIGITAL CAPACITY

We launched a new website rebuilt from the ground up on a professional-grade publishing platform, to better drive content towards signatories and other stakeholders.

ENHANCE OUR GLOBAL FOOTPRINT

More experienced relationship managers and a tiered relationship management system are enabling better understanding of our signatory base, thus enhancing the service we can provide to signatories.

DEVELOP OUR STAFF

After more than 10 years in operation, the PRI is more mature in many areas – including as an employer. We are increasingly seen as a desirable place to work.

FINANCIAL STATEMENTS

BOARD REPORT

IN-HOUSE SUSTAINABILITY

NEW AND FORMER SIGNATORIES

BOARD Meeting: 11/12/19
Item VIII-C
Attachment 2

FOREWORD

From PRI Chair Martin Skancke and PRI CEO Fiona Reynolds

We have been tackling some major new projects this year to address some of the biggest challenges facing the world today.

On climate change, our Inevitable Policy Response programme will model – for investors, corporates and regulators – the abrupt, forceful and disruptive policy response that will come from governments around the world as they are forced to take action by climate change's effects on everything from food production to migration and national security. Momentum behind the FSB's Task Force on Climate-related Financial Disclosures (TCFD) continues to build, with the number of supporting organisations and volume of disclosure both growing. As PRI Chair, I have been pleased to sit on the task force as part of the PRI's contribution to the TCFD.

We have also been working with The Liechtenstein Initiative for a Financial Sector Commission on Modern Slavery and Human Trafficking. Over 40 million people were enslaved in 2016, and modern slavery and human trafficking touch the financial sector in a number of ways: through their transnational supply chains, through laundering illicit profits and through investments to businesses that engage in this form of exploitation. As PRI CEO, I have been honoured to chair the commission, which aims to put the financial sector at the heart of global efforts to end these practices.

As we continue to work across the areas identified in our 10-year Blueprint for responsible investment, much of our thinking this year has been underpinned by a particular focus on Action 7: "Drive meaningful data throughout markets". Reliable, timely information is needed for beneficiaries to understand and influence their investments, for asset owners to monitor their managers and for investment managers to accurately price assets and assess risk. We have been considering what makes data "meaningful", how we can work towards a system of global, comparable and integrated corporate sustainability data and how to standardise investment manager reporting to asset owners.

Just as with climate change and modern slavery, these data challenges are complex, market-spanning problems that will require collaborative, global solutions. National and regional partnerships of investors and policy makers are the best approach to exploring a more sustainable financial system, so we have worked with the European Commission's high-level and technical expert groups on sustainable finance, as well as equivalent groups in Canada and Australia.
We are proud to be part of bringing the investor voice to these important global developmental efforts.

QUALITY AND CONSISTENCY BREED USEFULNESS

One of the most prominent results from our consultation with asset owners last year was the desire for the PRI to do more to drive better ESG data, including through convergence of reporting standards. Sustainability reporting is a very crowded field, but we feel that over the past year we are starting to make progress in what will be a long process.

The main objective is to ensure that corporate ESG data allow investors to make informed investment and ownership decisions. There are many existing reporting standards (GRI, SASB, TCFD, CDP, ISO, IIRC and many others), which cover a number of investors' needs, but the market is calling for greater coherence and consistency between frameworks.

To make the data that's in markets more useful to investors, investors themselves need to be engaged in discussions around corporate reporting. To engage signatories in the topic, we have set up the Corporate Reporting Reference Group, and are working in collaboration with six other investor groups (CERES, CFA, GIIN, GSIA, ICGN and UNEP FI) to feed an investor perspective into the Corporate Reporting Dialogue.

Beyond corporate reporting, we need to consider how data is used throughout the investment chain – and how the PRI can most effectively contribute to progress. To make ESG reporting mainstream across the financial industry, should we focus on producing PRI guides – spreading informal standards, should we develop the PRI Reporting Framework towards being a formalised reporting standard or should we work to incorporate ESG considerations into existing mainstream financial reporting? These are important questions. They are not mutually exclusive, and as always signatories will be key to answering them. We have already been consulting with signatories on a review of the Reporting Framework – the first wholesale review of the framework since its launch in 2012.

Beneficiaries/savers/clients also want to know how their money is being invested, and with increasing individual choice due to market changes such as the rise of direct contribution schemes, many will need tools to help them make informed decisions. We must consider if the PRI also has a role to play here – in exploring how asset owners should report back to beneficiaries and clients on where their money is going.

IMPACT IN THE REAL WORLD

Beyond the need to improve how the financial relevance of ESG issues is captured throughout the market, asset owners and investment managers increasingly need to better demonstrate the impact that their investment decisions have in the real world.

A key part of our work here is our involvement in the Impact Management Project, which is working to build global consensus on how to measure, report, compare and improve impact performance. It seeks to define impact by looking at: what kind of impact is being achieved, who benefits, what is the scale and additionality of the impact and what risks/trade-offs does the impact come with. Including information on real-world impact has to be an important part of making sustainability data "meaningful"

The Sustainable Development Goals (SDGs) provide a globally agreed framework for considering these real-world impacts. While the majority of our work across ESG incorporation, active ownership and a sustainable financial system flows through to impact these issues, there has also been demand from signatories for the PRI to provide support on what the SDGs as an explicit framework mean for them. One part of our work to do this, following a successful trial in Brazil this year, will be a series of SDG investment forums, bringing together the private and public sector to better understand the investment opportunities that the SDGs present, and the wider developmental role investors can play by being a part of them.

A GROWING, GLOBAL NETWORK

It has been another year of healthy growth for the signatory base as a whole – indeed with a more than 20% rise in signatory numbers, 2018/19 saw the greatest increase in the signatory base since 2010/11. This included 69 new asset owner signatories, with growth particularly strong in the UK (12 new asset owners), the US (11), the Netherlands (eight) and across Southern Europe (eight).

There is also growing diversity in the signatory base, encompassing variety in location, size and type of investor – new areas of asset owner growth this year include increasing numbers of corporate pension funds, insurance providers, public treasuries and central banks.

Building our capacity to support this growing, divergent signatory base has been a priority this year. We have continued to expand the number of signatory relations staff that we have around the world, including establishing a presence in Southern Europe and Latin America (having expanded our coverage into China, Benelux and Australia the year before). We also continue to expand the range of languages in which our resources are available.

Growth in signatory numbers must be met with increasing focus on what it means to be a signatory. We have been pleased to see that in the first year since introducing minimum requirements for our investor signatories, 69% of the signatories that we engaged with for not meeting the new standards have met the minimum requirements this year. (As well as being crucial to our own accountability work, this is a promising example of a broader theme: engagement works. In the realm of investor-company engagement, an important part of our work next year will be moving beyond measuring quantity of engagement to examine its effectiveness in achieving real-world change.)

FORWARDS TOGETHER

The PRI will continue to guide, support and represent signatories to the six Principles, but as ever the real work is done by our signatories themselves. Through direct contributions to PRI projects, as well as in their own responsible investment work, this international community of forward-thinking investors continues to drive responsible investment forwards, and for that we thank you sincerely.

We look forward to making more progress together in the years ahead.

Martin Skancke, Chair **Fiona Reynolds, CEO**

Our signatories are extremely active in supporting the PRI's work – nearly 600 individuals are currently contributing to PRI work through advisory committees and working groups.

BROWSE ALL ADVISORY COMMITTEES AND WORKING GROUPS

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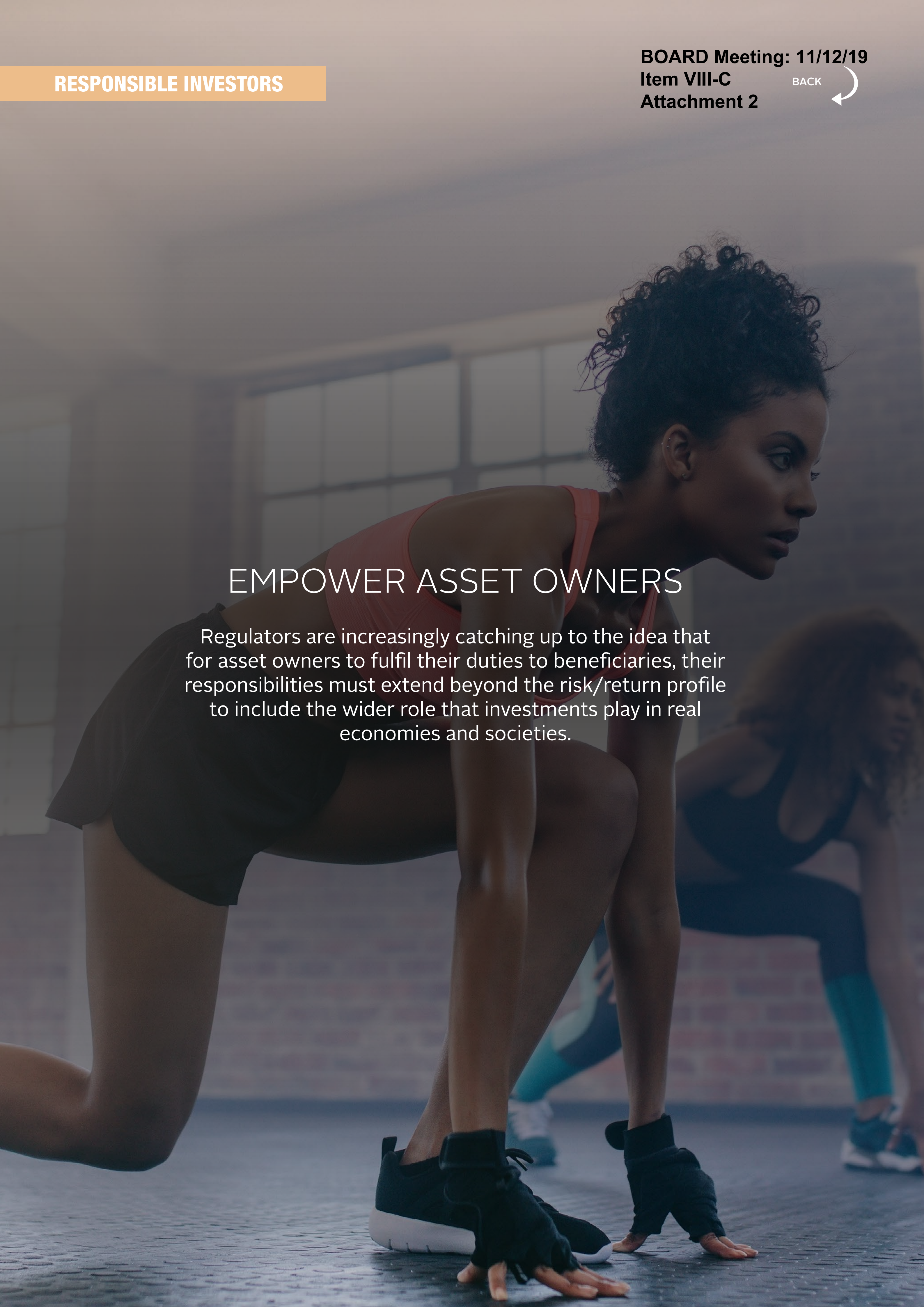

EMPOWER ASSET OWNERS

Regulators are increasingly catching up to the idea that for asset owners to fulfil their duties to beneficiaries, their responsibilities must extend beyond the risk/return profile to include the wider role that investments play in real economies and societies.

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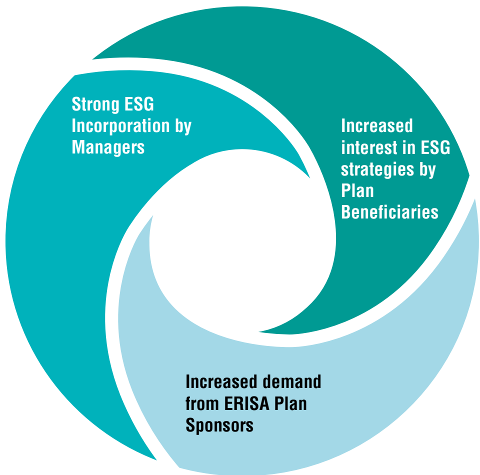
EMPOWER ASSET OWNERS

Heading the investment chain, asset owners wield enormous power and influence

Regulators are increasingly catching up to the idea that for asset owners to fulfil their duties to beneficiaries, their responsibilities must extend beyond the risk/return profile to include the wider role that investments play in the real economies and societies in which beneficiaries live. Moves from the European Union (EU), and at national level in the UK , are amongst the most high-profile examples of new requirements being put on pension funds to disclose how they are considering ESG issues.

In the US market, we have researched direct contribution schemes under ERISA, exploring ESG incorporation's ongoing shift from a marginal to mandatory practice, and providing recommendations for plan sponsors on how to fully integrate ESG factors into investment strategies.

ESG incorporation positive feedback loop (ERISA plans and ESG incorporation)



TOOLS

SUPPORTING MANAGER EVALUATION AND DIALOGUE

We've continued to expand our selection of tools for asset owners, most recently extending our range of due diligence questionnaires, which now cover private equity, hedge funds, infrastructure, private debt, farmland, forestry and real estate. These support asset owners in establishing how well-aligned an existing or prospective manager is to their responsible investment ambitions.

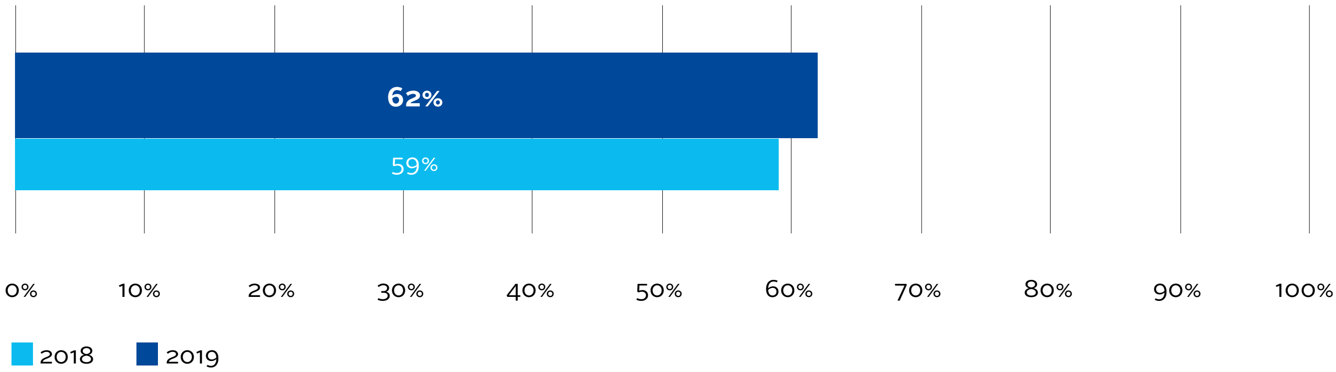
EXPLORE OUR RANGE OF *RESPONSIBLE INVESTMENT* DDQS

KEY TARGETS

Asset owner signatories incorporating ESG issues into all stages of the manager selection, appointment and monitoring processes: 62%
(PRI target: 75%)

Asset owner signatories typically implementing ESG requirements in contracts (e.g. RFPs, IMAs, LPAs): 69%
(PRI target: 50%)

Asset owner signatories* considering responsible investment at all stages of selecting, appointing and monitoring managers



*that use external managers

SUPPORTING BOARD-LEVEL STRATEGIC REVIEW

Throughout 2017/18 we've been piloting a new tool to help trustees to identify and discuss ESG issues. Despite setting an overall responsible investment policy, less than half of asset owner signatories include specific guidelines on environmental and social issues in their policies and, in many cases, investment mandates lack detail on explicit ESG expectations.

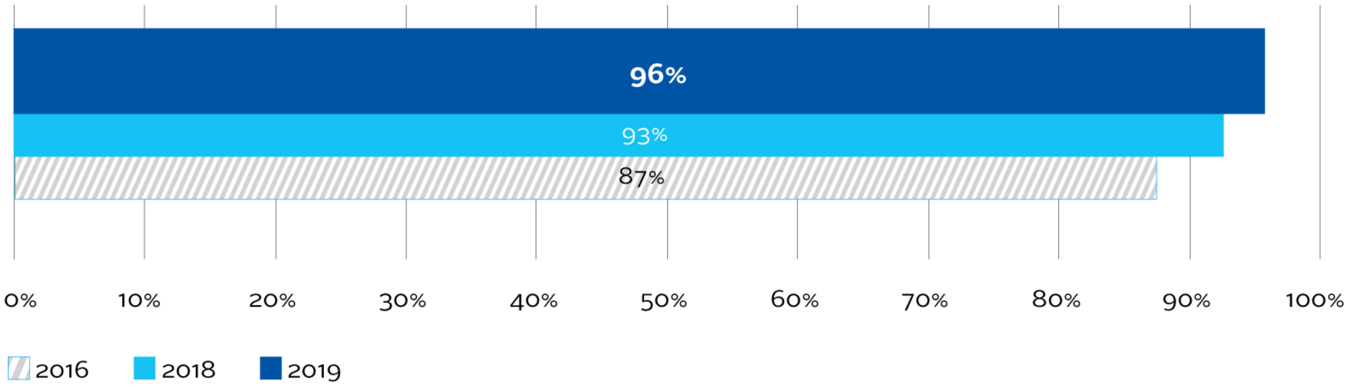
Our RI Review Tool includes an online survey that enables each board member to give their views before a board meeting on the significance of ESG issues and how their fund addresses them. This will generate a summary of responses to discuss, compare against current practice and identify actions to take. We will also offer the option of a PRI-led workshop to facilitate discussions.

READ MORE ABOUT THE *RI REVIEW TOOL*

KEY TARGETS

Asset owner signatories having a mission, strategy or investment policy referencing responsible investment (or a related concept) that covers the majority of their AUM: 96%
(PRI target: 85%)

Asset owner signatories having a mission, strategy or investment policy referencing responsible investment* that covers the majority of their AUM



*(or a related concept)

CLIMATE ACTION GUIDANCE

Asset owners need high-quality and timely data on climate-related risks to help guide them through the energy transition. The recommendations from the FSB's Taskforce on Climate-Related Financial Disclosures (TCFD) provides a global framework for translating non-financial climate information into financial metrics, but what would adopting the TCFD recommendations mean in practice for asset owners?

The PRI Asset owner guide to the TCFD recommendations provides:

- actions for asset owners;
- examples of peer's practice;
- questions to ask consultants or fund managers;
- climate scenarios.

READ *AN ASSET OWNER GUIDE TO THE TCFD RECOMMENDATIONS*

Read more about our work on climate change under: Action 8: Champion climate action

A GROWING, ACTIVE COMMUNITY

Providing resources is just one part of what we bring to asset owner signatories. Opportunities for asset owners to come together, to share experiences and resolve issues collaboratively, are equally valuable, so we have worked in the past year to ensure that our events calendar includes space for asset owner-exclusive discussion. Asset owner-only events at PRI in Person San Francisco, and a series on climate have been well attended and received.

Our asset owner community continues to grow. A further 69 asset owners signed the Principles in 2018/19, with growth particularly strong in the UK (12 new signatories), the US (11), the Netherlands (eight) and across Southern Europe (eight). Among the new joiners were LGPS Central and National Grid PS in the UK, AG2R (France), Novartis PF (Switzerland), PenSam (Denmark), City of Chicago and Illinois State Treasury in the US, AFP Cuprum (Chile), AFP Prima (Peru), GPF Thailand, AIA (Hong Kong), and Meiji Yasuda (Japan).

ASSET OWNERS TELL US THAT AMONGST THE THINGS THEY VALUE ABOUT THE PRI ARE:

- global nature
- work across environmental, social and governance
- work across asset classes
- involvement in global decision-making
- convening power
- UN link
- accountability (via PRI reporting)

All of our resources for asset owners can be found in a dedicated section of our website.

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SUPPORT INVESTORS INCORPORATING ESG ISSUES

Our biggest ESG incorporation projects in 2017/18 have been focused on driving ESG considerations out of the niche of self-identified responsible investors, and into the mainstream investment market.

SUPPORT INVESTORS INCORPORATING ESG ISSUES

Environmental, social and governance issues affect investment performance across companies, sectors, regions and asset classes

Achieving our Mission for an "economically efficient, sustainable global financial system [that] benefits the environment and society as a whole" relies on investors right across the industry taking account of ESG issues in their investments. In addition to continuing to deepen signatory practice on incorporating ESG issues into investment processes, our biggest ESG incorporation projects in 2017/18 – with CFA and on credit ratings – have been focused on driving ESG considerations out of the niche of self-identified responsible investors, and into the mainstream investment market.

READ GUIDANCE AND CASE STUDIES FOR ESG INTEGRATION: EQUITIES AND FIXED INCOME

Explore the regional reports:

EMEA | AMERICAS | ASIA PACIFIC

We have also collaborated with CFA, through expertise and endorsement, to integrate ESG into their accreditation programme.

WORKING WITH CFA

We collaborated with CFA Institute to host workshops that drew in investment professionals from CFA's extended network across 17 markets. Attendees came from right throughout the finance industry, well beyond the core ESG practitioner typical to most PRI events. The programme resulted in a suite of ESG integration guides for listed equity and fixed income investments, more than 30 case studies, and – vitally – new relationships between the PRI and local CFA societies. CFA also released a position statement saying that it believes ESG integration is consistent with fiduciary duty.

CFA Institute

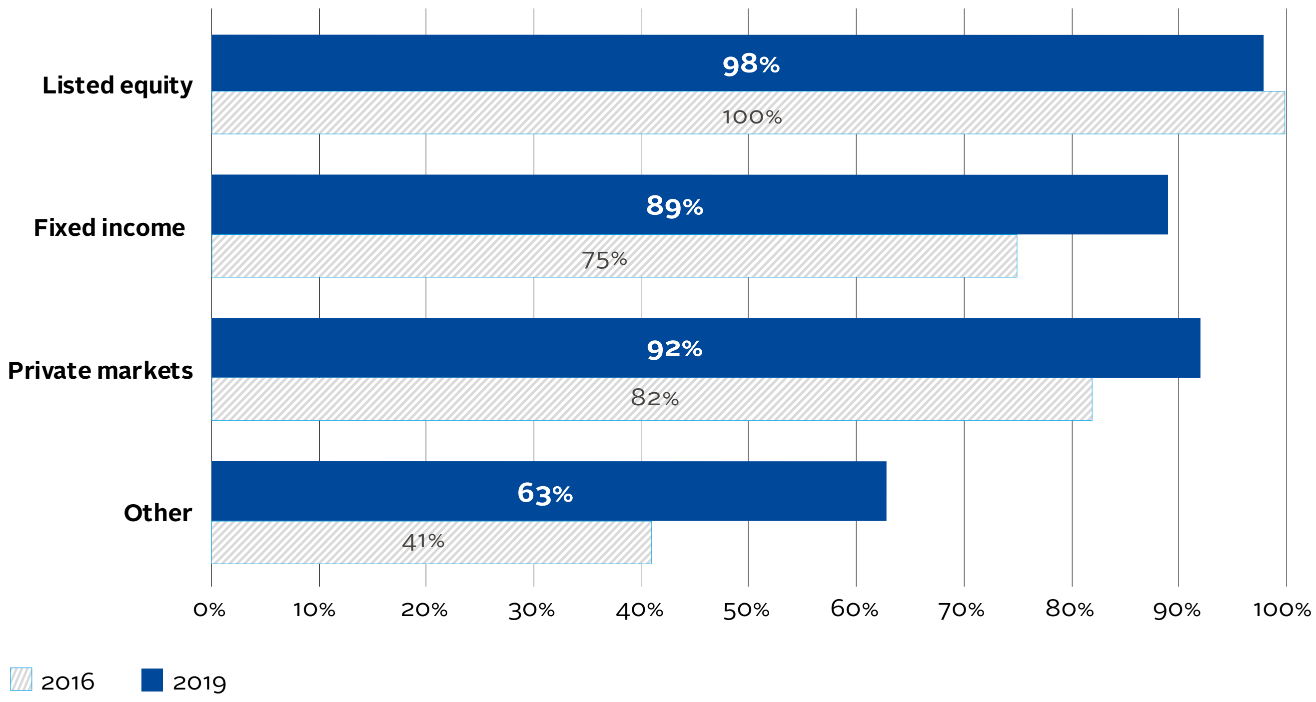
Read about our work on training for investment professionals under
Action 5: Convene and educate responsible investors

KEY TARGETS

Signatories incorporating ESG issues in listed equity investments: 96%
(PRI target: 100%)

Signatories incorporating ESG issues in other asset classes: 83%
(PRI target: 80%)

Signatories incorporating ESG issues (to any extent)



ESG IN CREDIT RATINGS

The ESG in Credit Ratings initiative goes from strength-to-strength. The statement committing to incorporate ESG into credit ratings and analysis in a systematic and transparent way has been signed by more than 150 institutional investors (representing US$30trn of AUM) and 19 credit rating agencies. Having started out as an exploratory project, it has now spurred the largest agencies into action in a dramatic way, and they are actively vying for industry leadership in the area.

We have convened 20 forums targeting credit analysts in 16 countries, and this year we completed our three-part series of reports by publishing ESG, credit risk and ratings: part 3 - from disconnects to action areas, which explores the emerging solutions to the areas of misalignment between investors and rating agencies identified by the previous reports.

MATERIALITY OF ESG FACTORS	CREDIT-RELEVANT TIME HORIZONS	ORGANISATIONAL APPROACHES TO ESG	TRANSPARENCY AND COMMUNICATION

Investor to rating agency disconnects identified at the start of the ESG in Credit Ratings initiative

EXPLORE THE *ESG IN CREDIT RATINGS INITIATIVE*

PRIVATE DEBT

Also in fixed income, we looked at how responsible investment can be applied to the emerging area of private debt, through an introductory report, several case studies and a due diligence questionnaire.

EXPLORE OUR PRIVATE DEBT RESOURCES

PRIVATE EQUITY

This year we published the monitoring portion of our three-part project to cover limited partners' selection, appointment and monitoring of general partners.

LP RESPONSIBLE INVESTMENT DDQ: AND HOW TO USE IT

INCORPORATING RESPONSIBLE INVESTMENT REQUIREMENTS INTO PRIVATE EQUITY FUND TERMS

ESG MONITORING, REPORTING AND DIALOGUE IN PRIVATE EQUITY

We have also worked extensively with partner organisations in private equity, including: endorsing French PE initiative ic20; working with ILPA on their Principles 3.0, model LPA document and PortCo Monitoring Template; and contributing to the G20 Sustainable Finance Study Group on the role of private equity and venture capital in catalysing sustainable investment.

EXPLORE OUR PRIVATE EQUITY RESOURCES

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FOSTER A COMMUNITY OF ACTIVE OWNERS

Our work on active ownership is increasingly about focusing on the quality of engagement, rather than just the quantity, and how we can support signatories to see real results from their active ownership activities.

FOSTER A COMMUNITY OF ACTIVE OWNERS

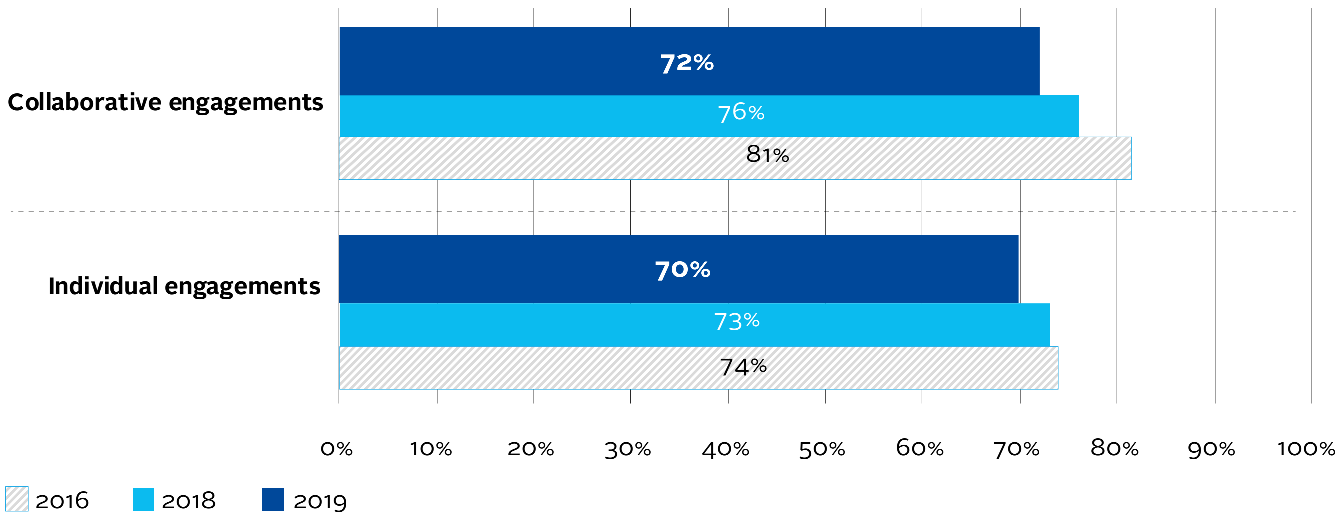
Engaging companies on ESG issues improves their sustainability, their management and their risk/return profiles

Effective engagement has clear objectives and milestones, focuses on the quality of dialogue and sees investors following through on their investment strategy and policies in their proxy voting. Our work on active ownership is increasingly about focusing on the quality of engagement, rather than just the quantity, and how we can support signatories to see real results from their active ownership activities, across all asset classes.

KEY TARGETS

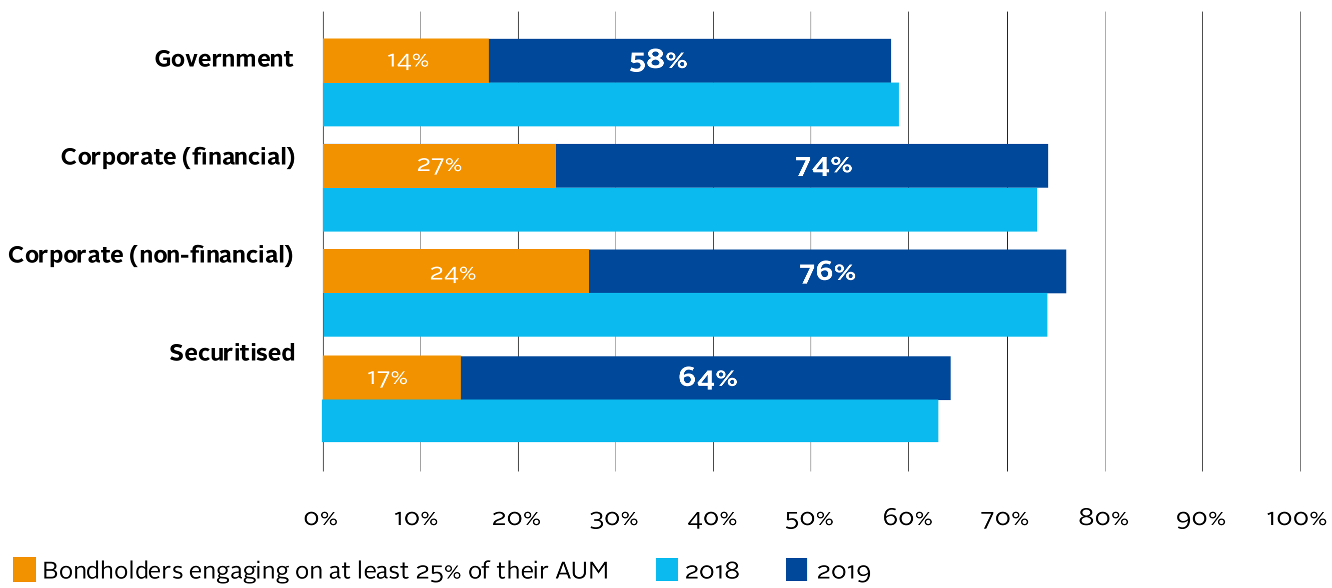
Signatories setting objectives for a majority of their (individual and collaborative) engagement activities: 71% (PRI target: 80%)

Signatories* setting objectives on the majority of their engagements



*that report engagement activities

Bondholders engaging with issuers



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PRI-COORDINATED ENGAGEMENTS

Using the convening power of our signatory network, we coordinate several in-depth, collaborative engagements between investors and companies on ESG topics that have been highlighted as priorities by signatories. Signatories can participate by leading conversations with assigned companies and reporting back to the group, or by joining calls, signing joint letters and sharing relevant info.

KEY TARGETS

Companies engaged with as part of a PRI-led engagement improving their overall performance against the initiative's objectives: 96% (PRI target: 85%)

TWO PRI-COORDINATED ENGAGEMENTS CLOSED IN 2018/19:

Corporate climate lobbying

100%

of companies engaged with improved their scores

Investors are increasingly scrutinising corporate engagement on climate policy, as it plays a critical role in helping governments create practical climate policy solutions.

However, corporate engagement on climate policy is a double-edged sword. Negative and resistant corporate interest, often undertaken through third-parties, can hinder policy action that aims to mitigate the impacts of climate change. This can cause a number of issues for investors including legal and reputational risks, and long-term portfolio volatility.

READ THE ENGAGEMENT GUIDE

Human rights in extractive industries

93%

of companies engaged with improved their scores

Companies operating in the extractives sector face a multitude of complex human rights issues.

Mining operations typically rely on large quantities of unskilled labour, which can pose human rights risks such as bonded labour, hazardous working conditions and lack of collective bargaining and freedom of association. Oil and gas companies often operate as joint ventures, and while the majors have found ways to impose standards on business partners, this can be challenging for smaller operators.

READ THE ENGAGEMENT GUIDE

The PRI continues to coordinate a number of collaborative engagements, including being a part of coordinating Climate Action 100+, the largest ever corporate engagement by investors.

Read more about Climate Action 100+ and the rest of our work on climate change under Action 8: Champion climate action

Other PRI-coordinated collaborative engagements include:

- Climate change transition for oil and gas
- Methane
- Water risks in agricultural supply chains (phase 2)
- Investor working group on sustainable palm oil
- PRI-Ceres Investor Initiative for Sustainable Forests
- Labour practices in agricultural supply chains (phase 2)
- Responsible sourcing of cobalt
- Corporate tax responsibility
- Cyber security

FOCUS ON: CYBER SECURITY (ONGOING ENGAGEMENT)

Cyber security risk is real and pervasive, as demonstrated by recent attacks that have shaken big banks, web service providers, the UK's National Health Service and even the US intelligence community. The business case to engage with companies on this topic is clear-cut: incidents can cripple business operations, become legal and regulatory risks and have adverse impacts on portfolio company valuation and earnings.

READ THE RESEARCH PAPER

PRI COLLABORATION PLATFORM

The PRI Collaboration Platform is a unique private forum that allows signatories to pool resources, share information and enhance their influence on ESG issues. It offers a range of global engagement initiatives that involve listed companies, policy makers and others.

Posts to the PRI Collaboration Platform include:

- invitations to sign joint letters to companies;
- proposals for in-depth ESG research and engagement;
- policy consultations and dialogue;
- requests for support on upcoming shareholder resolutions.

KEY TARGETS

Change in number of posts to the PRI Collaboration Platform: 17% decrease (PRI target: 14% increase)

We are finalising a brand new Collaboration Platform that will provide a secure, private space for investors to share information and organise engagements with companies on the issues that matter to them. New and improved features include: enhanced workspaces and discussion forums, better support across the full lifecycle of initiatives, user messaging, company tracking and a more intuitive, user-friendly navigation and design.

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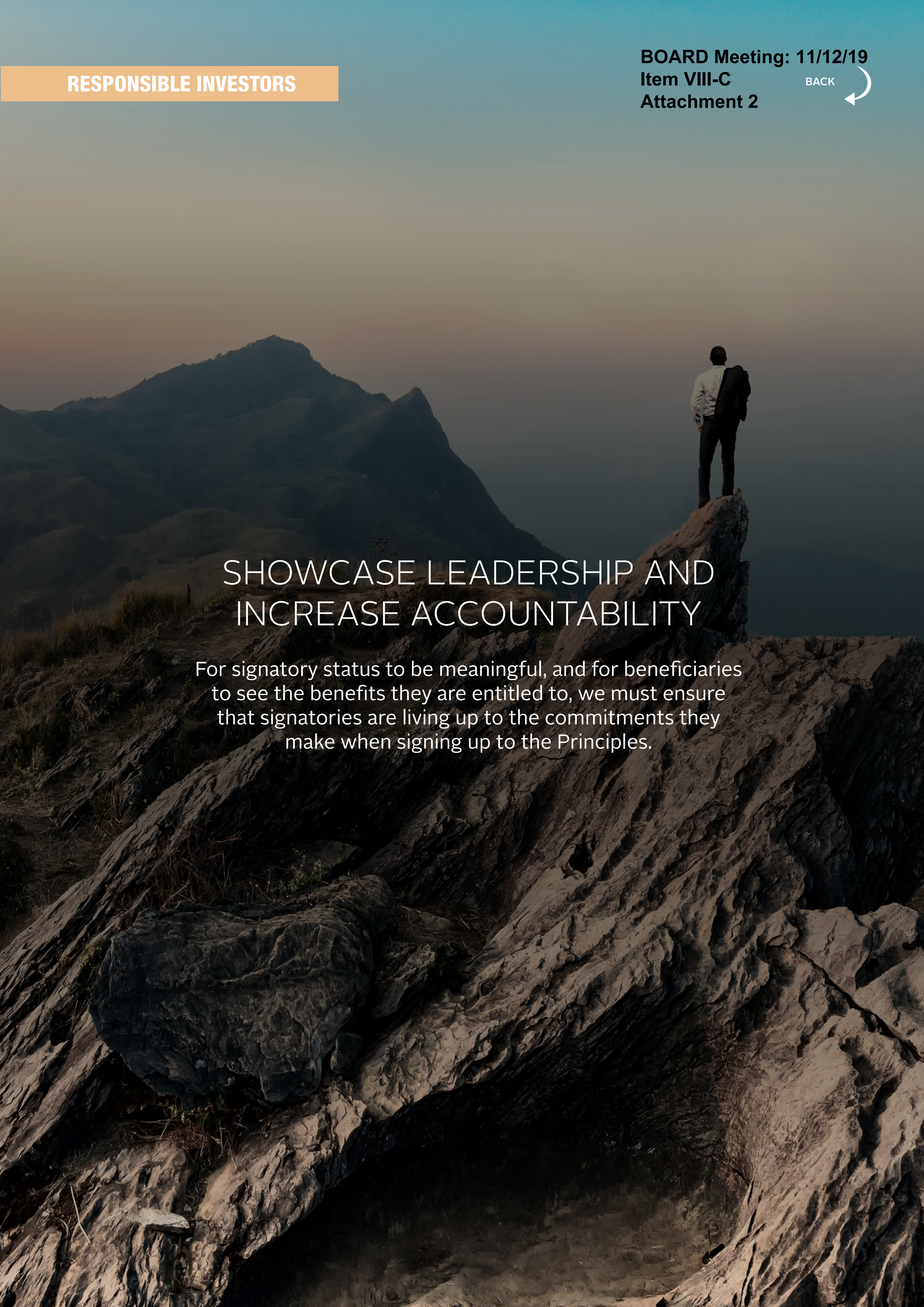


SHOWCASE LEADERSHIP AND INCREASE ACCOUNTABILITY

For signatory status to be meaningful, and for beneficiaries to see the benefits they are entitled to, we must ensure that signatories are living up to the commitments they make when signing up to the Principles.

SHOWCASE LEADERSHIP AND INCREASE ACCOUNTABILITY

A race to the top and a clear rulebook improve results

For signatory status to be meaningful, and for beneficiaries to see the benefits they are entitled to, we must ensure that signatories are living up to the commitments they make when signing up to the Principles. Ensuring that signatories are held accountable empowers us to recognise the leaders, and support those that are lagging behind.

INCREASING ACCOUNTABILITY

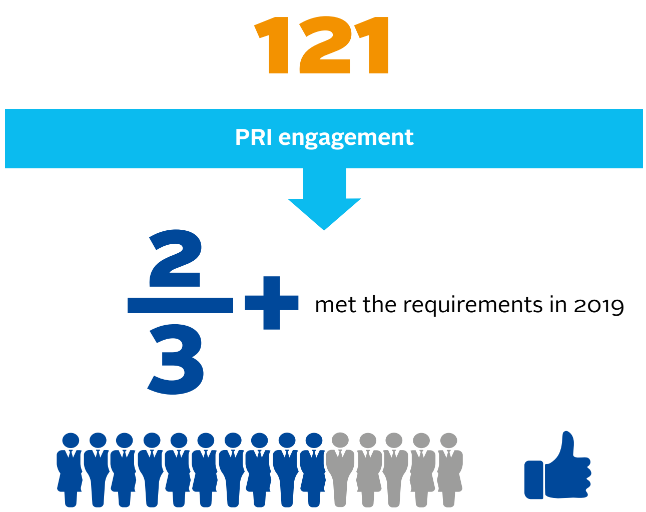
MINIMUM REQUIREMENTS

Following growing calls from across the signatory base for more stringent measures, 2017/18 was the first year since we introduced minimum requirements for our investor signatories.

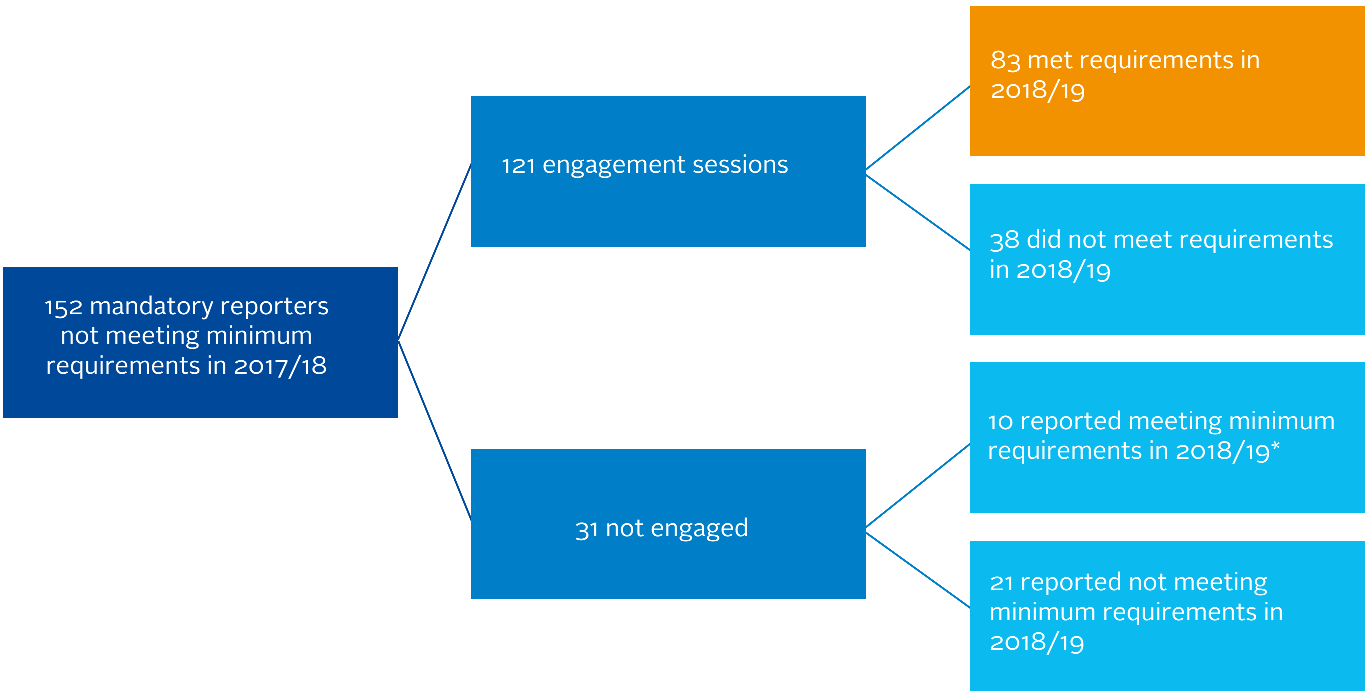
The new standards have been generally well received, both in principle from the signatory base as a whole, and in practice – as a useful mechanism through which to improve – from those that have needed support from the PRI to meet the standard required.

There are currently 69 signatories are on the watchlist for potential delisting.

Number of signatories that the PRI engaged with due to being below the minimum requirements in 2018



Minimum requirements flowchart



With minimum requirements introduced for the 2017/18 reporting cycle, 2019/20 is the first occasion that signatories may be delisted for failing to meet the new standards.

Reported data used to identify signatories not meeting the requirements

Progress evaluated (compared to 1st year of reporting)

1ST MANDATORY REPORTING YEAR

2ND MANDATORY REPORTING YEAR

3RD MANDATORY REPORTING YEAR

Signatories informed confidentially, engagement begins

Action plan and any required support delivered by the PRI

Delisted for not meeting minimum requirements - appeal process begins

SHOWCASING LEADERSHIP

LEADERS' GROUP

This year we developed the criteria for our inaugural Leaders' Group. The Leaders' Group will showcase signatories at the cutting edge of responsible investment, using scores taken from signatories' Assessment Reports to identify those that are leading the way on a specific aspect of responsible investment each year. It will be accompanied by a report sharing case studies of best practice.

- In 2019, the theme will be selection, appointment and monitoring of external managers.
- In 2020, the theme will be active ownership across asset classes.
- In 2021, the theme will be the SDGs and climate change.

READ MORE ABOUT *THE PRI LEADERS' GROUP*

PRI AWARDS

We have also prepared the first ever PRI Awards. Where the Leaders' Group will assess a signatories' complete activity across that year's theme, the PRI Awards will recognise individually excellent projects conducted by signatories of all sizes, specialisms and levels of development. They will be a great opportunity for all signatories to learn from each other's successes. All the winning and shortlisted case studies will be published on the PRI website, along with commentary from the judging panel on what impressed them most about each project after evaluating them for innovation and impact.

Signatories have been invited to nominate projects across four categories: ESG incorporation, active ownership, ESG research and real-world impact. We will also present an award to the best project submitted by a signatory headquartered in an emerging market.

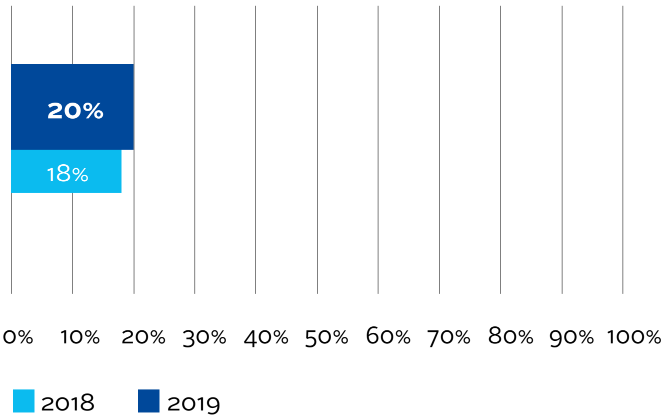
More than 100 nominations have been received, an independent panel of judges has been selected and the awards will be presented at PRI in Person in Paris in September 2019.

READ MORE ABOUT *THE PRI AWARDS*

VOLUNTARY DISCLOSURE

The willingness of signatories to disclose their responses to voluntary reporting questions is a useful indicator of how active signatories are in some of the more advanced practices covered by PRI reporting. Positively, the number has risen, although at 20% the overall proportion of voluntary indicators being disclosed remains low.

Percentage of voluntary reporting indicators that signatories chose to publicly disclose



KEY TARGETS

Increase in the percentage of voluntary indicators that signatories chose to publicly disclose: 11% (PRI target: 10%)

REVIEWING THE REPORTING FRAMEWORK

This year we started consulting signatories on a review of the Reporting Framework – the first wholesale review of the framework since its launch in 2012. The aim of the review is to ensure that PRI reporting and assessment is fit for purpose, remains relevant to evolving responsible investment practices and is useful for signatories and the responsible investment market as a whole.

The consultation started in February 2019 via surveys, workshops and webinars, and covers seven themes: reporting objectives; reporting outputs; assessment; learning and development; outcomes-based reporting and the SDGs; the wider ESG reporting landscape; and how to best support the reporting process.

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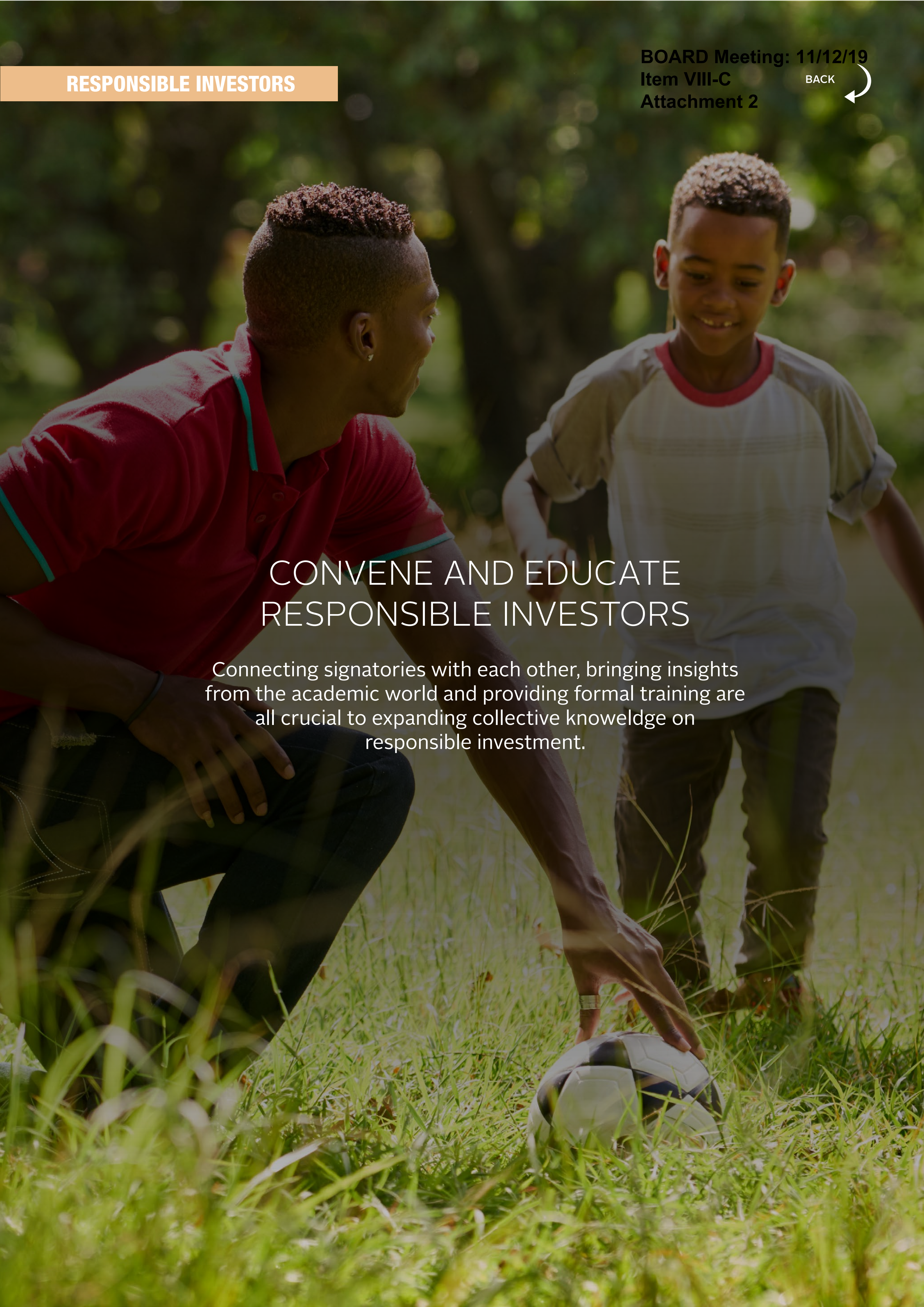

CONVENE AND EDUCATE RESPONSIBLE INVESTORS

Connecting signatories with each other, bringing insights from the academic world and providing formal training are all crucial to expanding collective knoweldge on responsible investment.

CONVENE AND EDUCATE RESPONSIBLE INVESTORS

Sharing knowledge, reaching new people and supporting development will benefit everyone

CONVENE

PRI IN PERSON

PRI in Person 2018 in San Francisco became the largest ever gathering of responsible investment professionals.

NEARLY **1,200** **DELEGATES**

FROM **37** **COUNTRIES**

MORE THAN **600** **ORGANISATIONS REPRESENTED**

Coinciding with the Global Climate Action Summit that was held simultaneously in the city, climate change was high on an agenda that also took in topics such as cyber security, the rights of indigenous people, overcoming barriers to ESG integration, how and where millennials will invest and many more.

"A great gathering of global thought leaders, pushing the agenda forward."

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Participants were particularly positive about the quality of speakers, which included:

- Al Gore, Former US Vice President and Co-Founder of Generation Investment Management;
- Paul Polman, Unilever CEO;
- Beth Richtman, Managing Investment Director, CalPERS;
- Betty Ye, California State Controller;
- John Chiang, California State Treasurer.
- Kurt Summers, Treasurer of the City of Chicago;
- Debbie McCoy, Managing Director and Head of Sustainable Investing, Systematic Active Equity, BlackRock;
- Catherine Howarth, CEO, ShareAction.

Many attendees also expressed a preference for smaller breakout sessions over large plenaries, however. Evening events were particularly well-received as opportunities to bring people together.

> "PRI in Person was a good place to extend my connections beyond my immediate peers in the industry."

KEY TARGETS

PRI in Person participants rating the conference as "good" or "excellent": 86%
(PRI target: 85%)

CLIMATE FORUM SERIES

More than 1,350 people attended our global series of PRI Climate Forums.

Read more about this and our other work on climate change under Action 8: Champion climate action

KEY TARGETS

Signatories attending at least one PRI event (excluding PRI in Person): 29%
(PRI target: 50%)

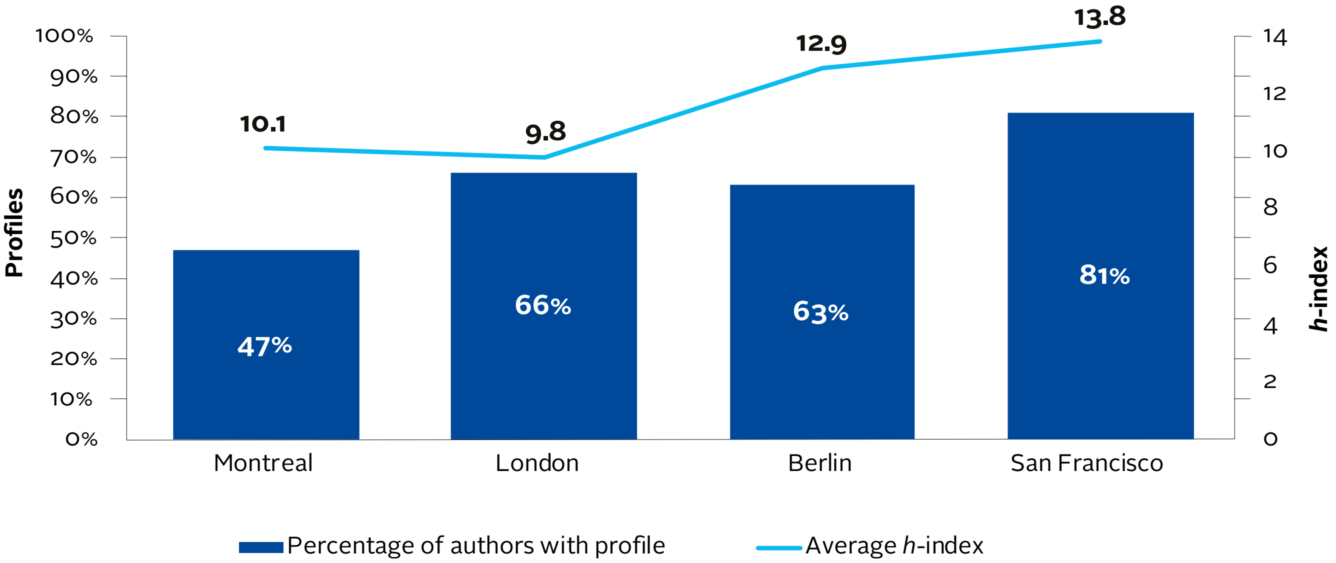
EDUCATE

ACADEMIC NETWORK

The PRI Academic Network aims to address investor challenges by collaborating with academic partners on getting usable practitioner insights from academic research. Academics are increasingly interested in collaborating with us, and with the valuable market insights held in PRI data.

We profiled 18 papers at the 2018 Academic Network Conference, out of 80 submissions to our annual call for papers. The call for papers is not only attracting wide interest, but also authors of increasingly high quality. Comparing across recent Academic Network Conferences shows a trend for authors being increasingly established, better published and more widely cited.

Authors with Google Scholar or Scopus profile, and average *h*-index



PRI-FUNDED RESEARCH PROJECTS

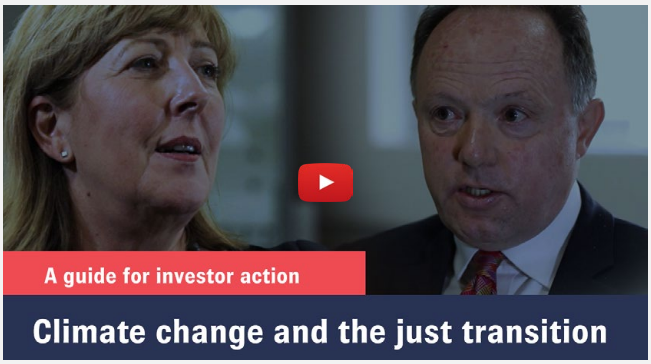
Why and how investors can respond to income inequality

Institutional investors are increasingly realising that income inequality – the gap in income and wealth between the very affluent and the rest of society – has become one of the most noteworthy socioeconomic issues of our time. It has the potential to negatively impact institutional investors' portfolios as a whole; increase financial and social system-level instability; damage output and reduce economic growth; and contribute to the rise of populism, extremism, isolationism and protectionism.

READ THE RESEARCH PAPER

Climate change and the just transition: a guide for investor action

The shift to a resilient, low-carbon economy will boost prosperity and be a net driver of job creation, but there will be transitional challenges – for workers, communities and countries. Yet there is increasing recognition that investors have so far given insufficient attention to the social consequences of climate change. As fiduciaries, investors can make an important contribution to achieving a just transition – as stewards of assets, allocators of capital, and as influential voices in public policy.



READ THE RESEARCH PAPER

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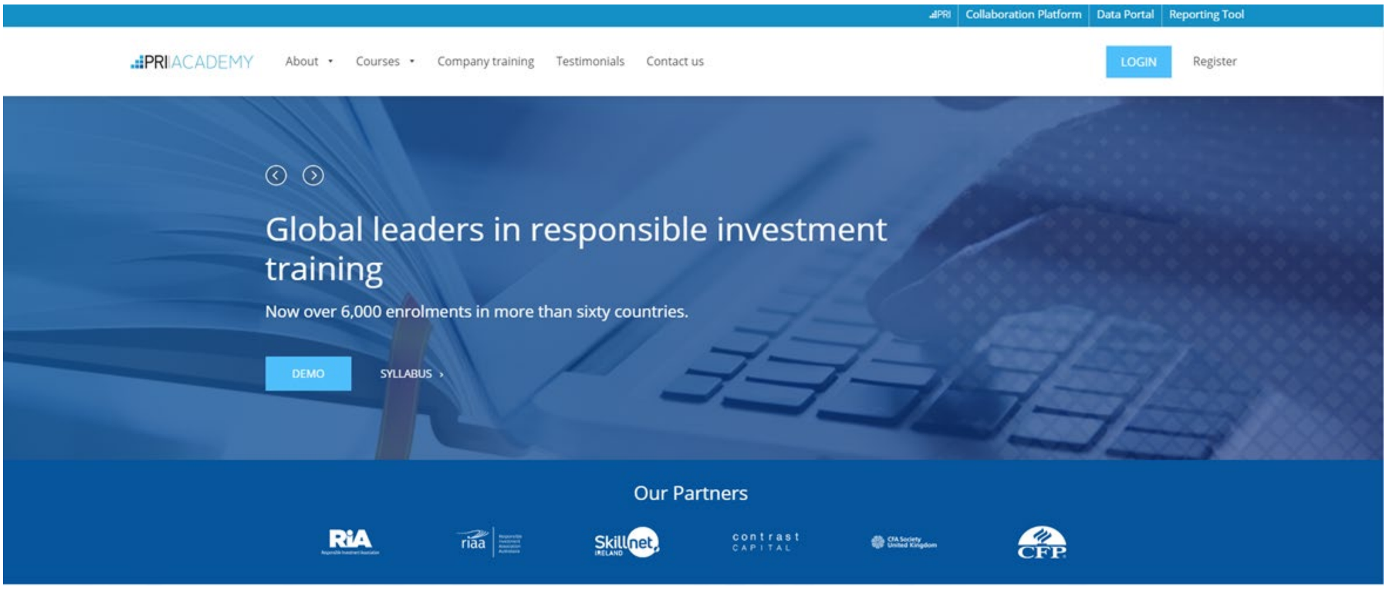
PRI ACADEMY

As beneficiary, client and regulatory demand for investors to address ESG factors has continued to grow, an increasing challenge for investors is to ensure that they have the requisite knowledge throughout their organisation to meet this demand.

Dedicated responsible investment training, designed for investment professionals, is a key part of this. This year we have comprehensively updated the PRI Academy courses, incorporating the latest best practice and adding case studies across the E, S and G spectrum – on BP, Facebook and Volkswagen.



Behind the scenes, platform enhancements mean that from now on course content will be able to updated more regularly, as changes can now be made without affecting existing users.

Enrolments in PRI Academy courses continue to increase, albeit only modestly this year at 6% growth over the record high seen in 2017/18 (of which more than 40% came from a single 800-strong group enrolment). Group enrolments (10 or more enrolments from one organisation) continue to be a significant source of trainees, accounting for 70% of all sales.

Large group enrolments also enable content to be customised to an organisation, adding value to enrolled organisations by integrating company-specific elements into the courses, and reflecting the courses in companies' internal learning and development libraries.

EXPLORE *PRI ACADEMY*

KEY TARGETS

Increase in PRI Academy enrolments: 6%
(PRI target: 20%)

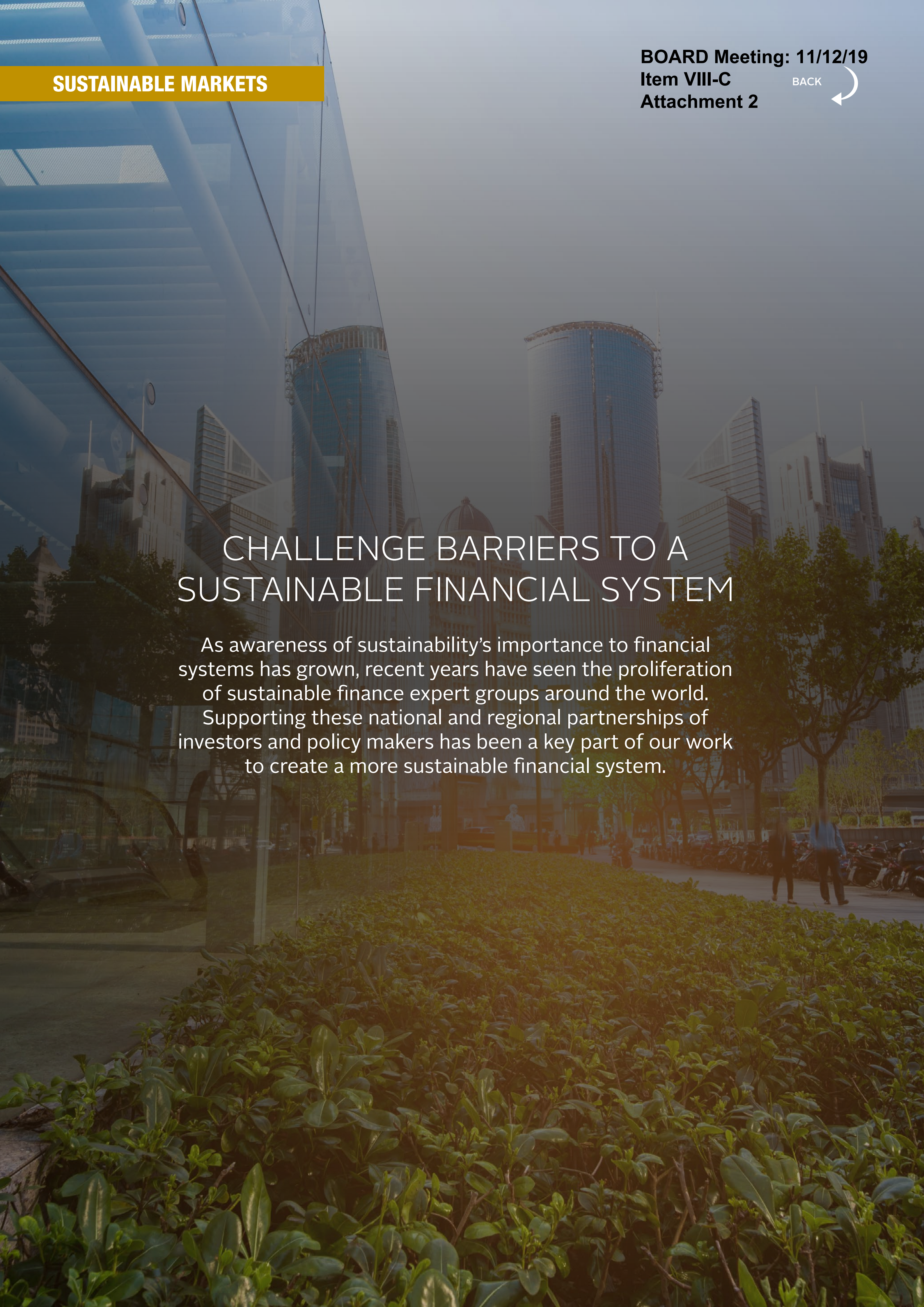
Satisfaction rating for PRI Academy courses: 78%
(PRI target: 85%)

COLLABORATING WITH CFA

The PRI Academy also collaborated with CFA UK to help them launch their *Certificate in ESG Investing*. The Certificate will be the first formal qualification on ESG investing available sector-wide to investment professionals in the UK. Collaborating with CFA UK on this qualification promotes responsible investment across the mainstream investment industry, and allows for aligned messaging and consistent terminology, helping to standardise responsible investment in the work of investment professionals.

READ MORE ABOUT CFA'S *CERTIFICATE IN ESG INVESTING*

BACK



SUSTAINABLE MARKETS

CHALLENGE BARRIERS TO A SUSTAINABLE FINANCIAL SYSTEM

As awareness of sustainability's importance to financial systems has grown, recent years have seen the proliferation of sustainable finance expert groups around the world. Supporting these national and regional partnerships of investors and policy makers has been a key part of our work to create a more sustainable financial system.

CHALLENGE BARRIERS TO A SUSTAINABLE FINANCIAL SYSTEM

Creating long-term value requires a sustainable global financial system

As awareness of sustainability's importance to financial systems has grown, recent years have seen the proliferation of sustainable finance expert groups around the world. Supporting these national and regional partnerships of investors and policy makers has been a key part of our work to create a more sustainable financial system.

EXPERT PARTNERSHIPS

The best known of these initiatives is the European Commission's. Having been an international observer to the High-Level Expert Group (HLEG) on sustainable finance, which delivered its recommendations in January 2018, we have been working as a key member of its successor, the Technical Expert Group (TEG) tasked with developing: a taxonomy for whether an economic activity is environmentally sustainable, a green bond standard, methodologies for climate benchmarks and guidance to improve corporate disclosure.

READ MORE ABOUT THE *EU ACTION PLAN FOR FINANCING SUSTAINABLE GROWTH*

In January 2019, we responded to a consultation from the Canadian Expert Panel on Sustainable Finance, and supported the research process with a survey of PRI signatories. In Australia, we have provided climate and policy expertise to the Australasian Sustainable Finance Initiative since its formation in March 2019.

SHAREHOLDER RIGHTS IN THE US

Our US policy priority is to protect investors' rights to engage the companies they own on ESG matters through the shareholder proposal process. Rule changes under consideration would dramatically increase the value of shares investors must own to be eligible to submit a proposal, or the portion of the vote a proposal must win to be resubmitted in subsequent years. Further changes under consideration by the SEC would impose onerous regulations on proxy advisory firms.

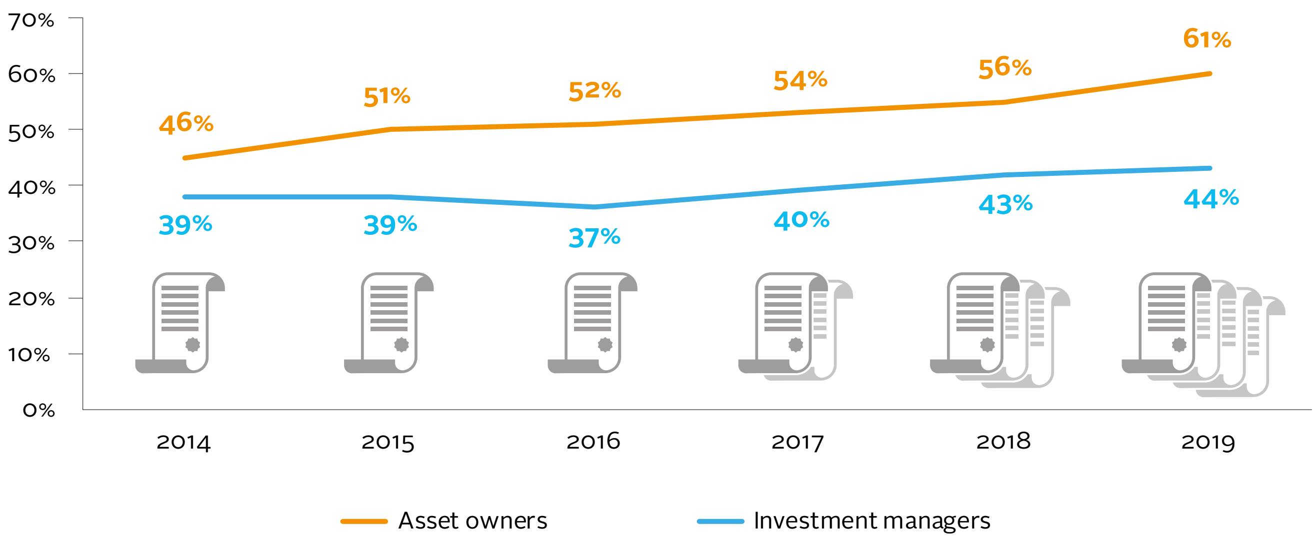
In October 2018, we supported an SEC petition from a group of institutional investors (managing more than US$5 trillion) and professors, urging the Commission to develop a comprehensive framework requiring issuers to disclose identified ESG aspects of each public-reporting company's operations.

GLOBAL POLICY ENGAGEMENT PROGRAMME

We continues to engage with policy makers around the world, with a particular focus in the last year on the US, European Union, China and the UK.

KEEP UP-TO-DATE WITH OUR CONSULTATION WORK

Signatories engaging with policy makers



BACK

DRIVE MEANINGFUL DATA THROUGHOUT MARKETS

Reliable, timely information is needed for beneficiaries to understand and influence their investments, for asset owners to monitor their managers and for investment managers to accurately price assets and assess risk.

DRIVE MEANINGFUL DATA THROUGHOUT MARKETS

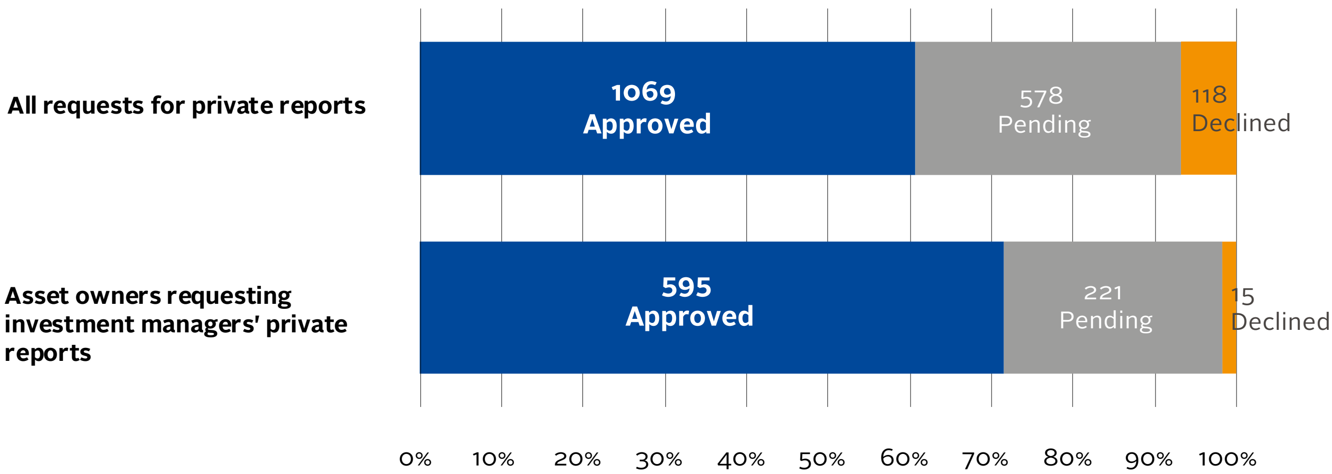
Good decisions need good data

DRIVING PRI DATA

The PRI Data Portal is our key tool for driving our own data through markets. Now an established platform following its launch in 2017, we have done a lot of work this year on increasing signatories' use, including webinars and tutorials on how to use it, tailored emails to signatories and demonstrations at PRI in Person.

All of this has seen a significant increase in activity, with the number of requests from asset owners to see investment managers' reports rising to 831 in 2018/19 (from 475 in 2017/18), and, crucially, the proportion of requests being approved rising to 72% from 56%.

Requests to view private reports on the PRI Data Portal



There is clearly room for improvement in the breadth of usage, however. While three-quarters of signatories have had their publicly available reports viewed by another signatory on the PRI Data Portal (and public reports are also available on the PRI website), looking at a more targeted use of the data we see that amongst asset owners that use external managers, only 17% have requested private reports from any investment manager signatories.

Signatories whose public reports have been viewed by other signatories*

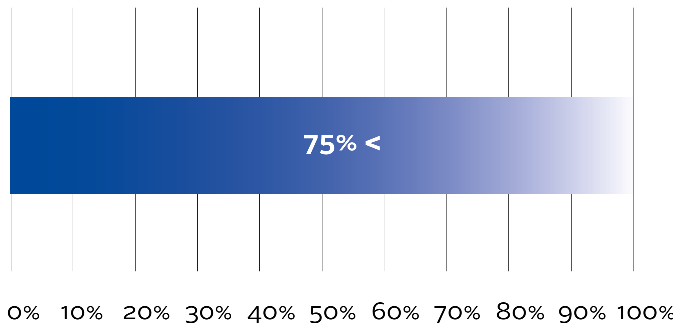
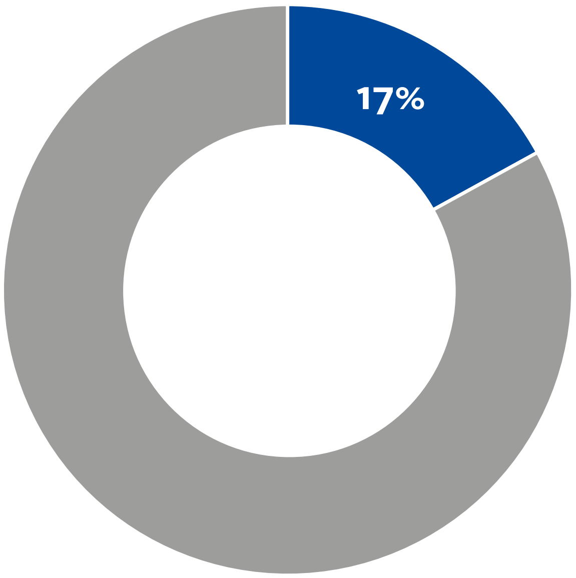


*Figure relates to views on the PRI Data Portal, but public reports are also available on the PRI website.

Asset owner signatories* requesting private reports from investment manager signatories



*that use external managers

LEARN MORE ABOUT THE *PRI DATA PORTAL*

DRIVING CONVERGENCE OF STANDARDS

Increasing the amount of quality data that's available is just one part of enabling data to be used effectively. Another key aspect is to work towards standardisation of reporting, including convergence of the plethora of existing standards.

We have set up the Corporate Reporting Reference Group to bring signatory voices to our efforts to:

- improve the quality of corporate ESG reporting;
- stimulate convergence of corporate reporting standards;
- contribute to the development of a standard for SDG/impact measurement and reporting;
- support innovations in how ESG issues are incorporated into financial accounting;
- engage with policy makers and regulators.

CORPORATE REPORTING DIALOGUE

The Corporate Reporting Dialogue (CRD) is an initiative designed to respond to market calls for greater coherence, consistency and comparability between corporate reporting frameworks, standards and related requirements. Its Participants are: CDP, CDSB, FASB, GRI, IASB, IIRC, ISO and SASB.

We are part of an ongoing collaboration with six other investor groups (CERES, CFA, GIIN, GSIA, ICGN and UNEP FI) to feed in an investor perspective. The group has published a discussion paper, which has been well received by the CRD, as well as by the European Commission (as part of the preparation for the review of the Non-Financial Reporting Directive) and regulators in China and Turkey.

LEARN MORE ABOUT THE *CORPORATE REPORTING DIALOGUE*

IMPACT MANAGEMENT PROJECT

We are also part of the Impact Management Project (alongside UNDP, UNEP FI, UN Global Compact, OECD, IFC, GIIN, GRI, SASB and others), which is working to build global consensus on how to measure, report, compare and improve impact performance.

The Impact Management Project seeks to define impact by looking at:

- what kind of impact is being achieved;
- who benefits;
- the scale and additionality of the impact;
- what risks/trade-offs the impact comes with.

LEARN MORE ABOUT THE *IMPACT MANAGEMENT PROJECT*

SUSTAINABLE STOCK EXCHANGES (SSE)

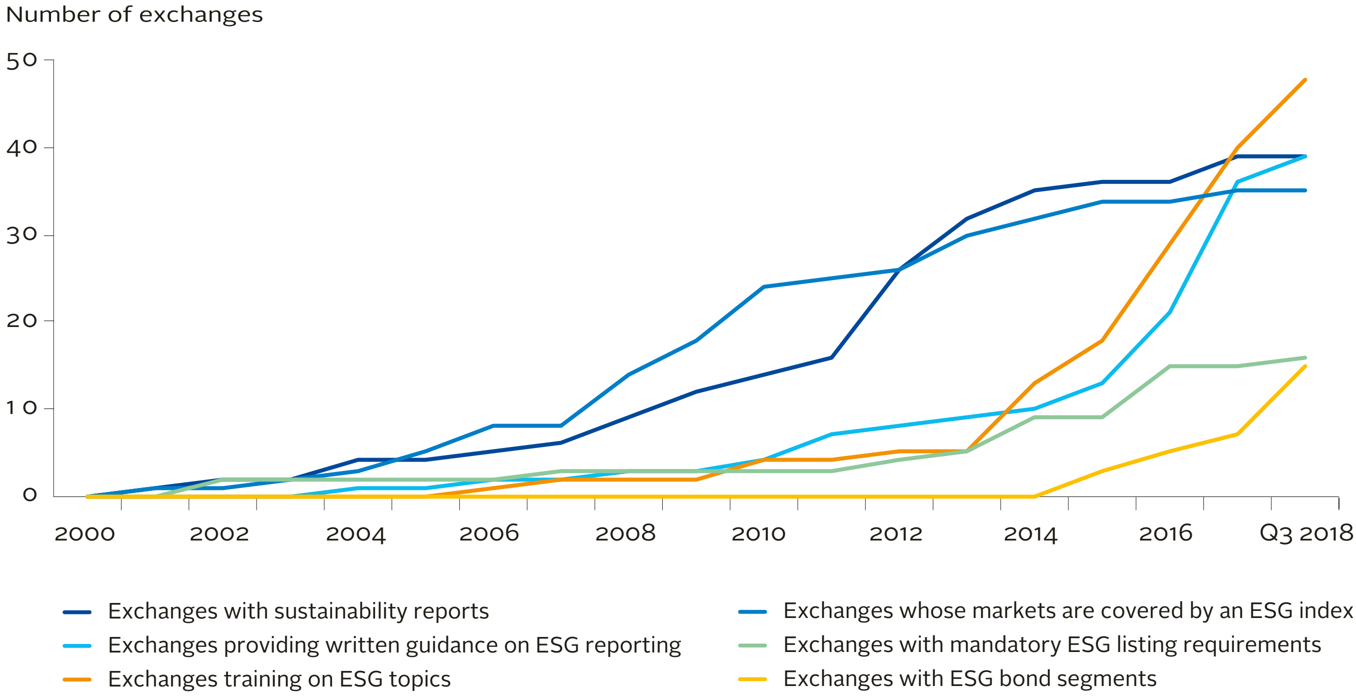
We continue to support work on how stock exchanges can enhance corporate transparency on ESG issues through the Sustainable Stock Exchanges (SSE) initiative (alongside UNCTAD, UN Global Compact and UNEP FI).

Of the SSE's 90 partner exchanges, 43 now provide formal guidance to issuers on reporting ESG information, representing over 35,000 listed companies. In 2015, when the initiative launched its global campaign and published a guidance document to encourage and help exchanges to provide guidance on reporting ESG information to investors, just 13 did so.

ESG information is also increasingly being incorporated into exchanges' listing rules, either by the exchanges themselves or by securities regulators: there are 17 stock exchanges with mandatory ESG reporting requirements on four continents, with the majority in Asia. The SSE has produced guidance for regulators examining how, within their existing mandates, they can act on sustainability-related risks and opportunities.

Nearly 50 exchanges are also hosting training, online courses and other educational or awareness-raising events for their listed companies, investors or other key stakeholders (eight in Latin America, four in Africa, 18 in Europe, 17 in Asia, and one in North America).B

Stock exchange sustainability activities experience strong growth. Source: SSE database.



LEARN MORE ABOUT THE *SUSTAINABLE STOCK EXCHANGES* INITIATIVE

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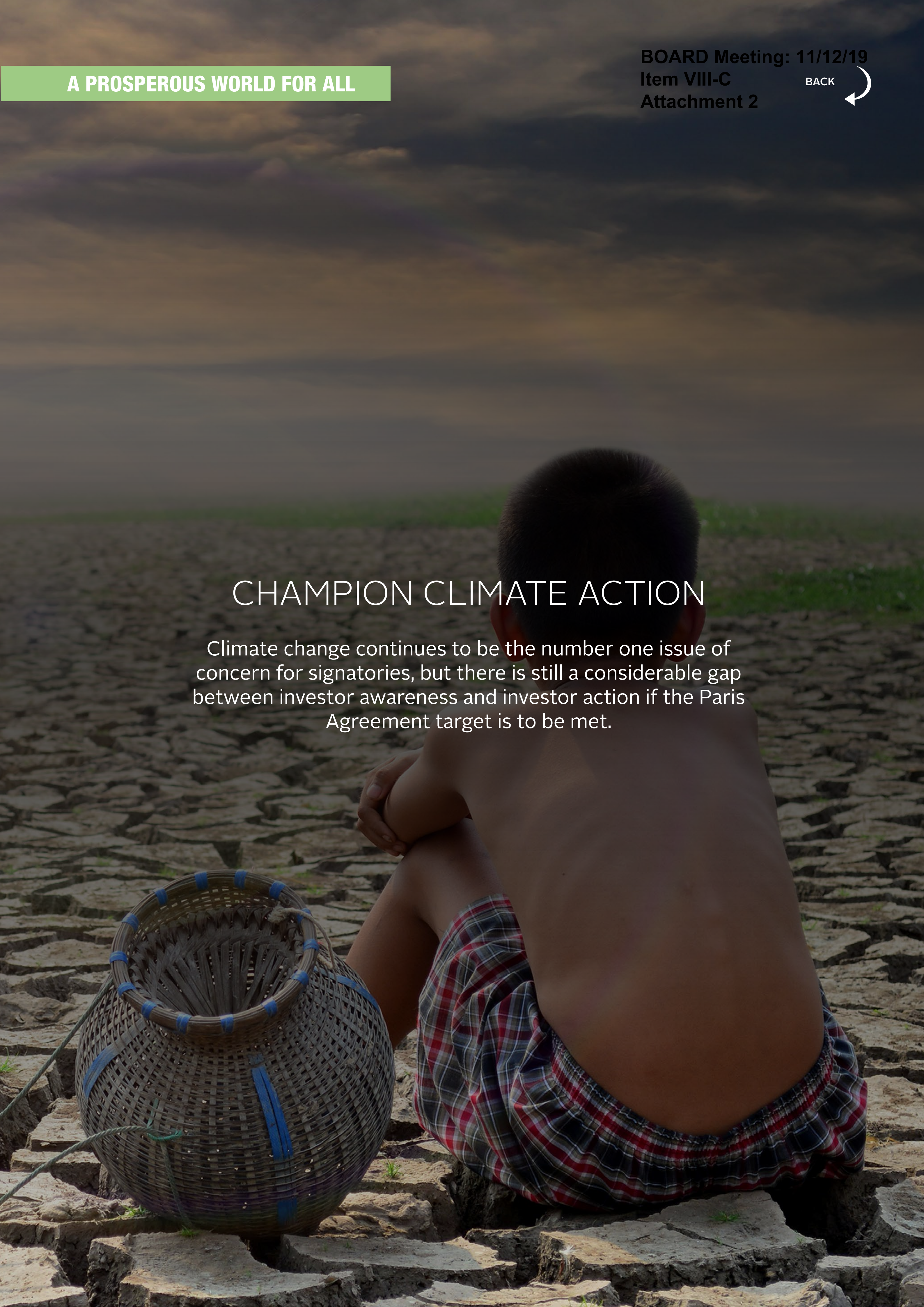


CHAMPION CLIMATE ACTION

Climate change continues to be the number one issue of concern for signatories, but there is still a considerable gap between investor awareness and investor action if the Paris Agreement target is to be met.

CHAMPION CLIMATE ACTION

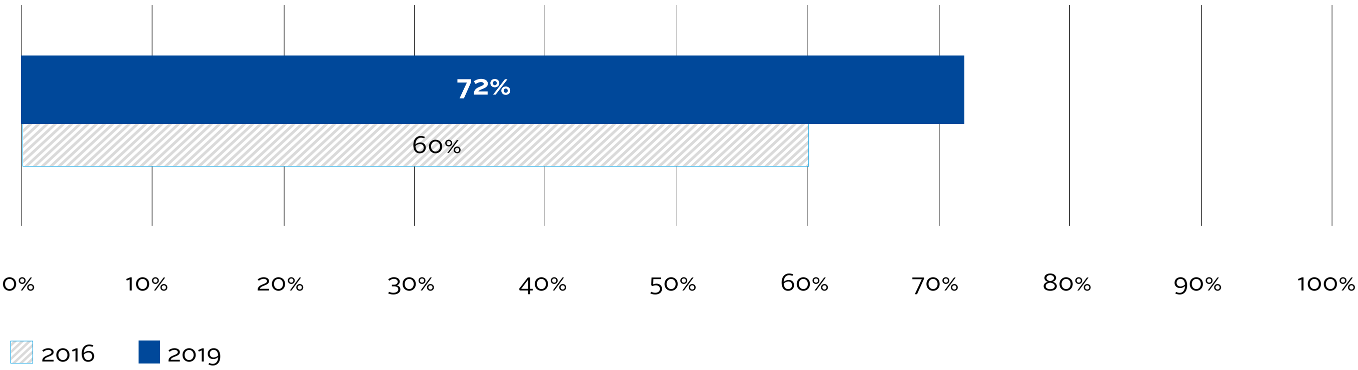
Climate change is the highest priority ESG issue facing investors

Climate change continues to be the number one issue of concern for signatories, and the number of signatories reporting that they take specific climate-related actions in their work is growing. There is still a considerable gap, however, between investor awareness and investor action, if the Paris goal to keep temperatures well within 2o C of pre-industrial levels is to be met.

KEY TARGETS

Signatories explicitly factoring climate-related risks and opportunities into investment strategies or products: 72%
(PRI target: 75%)

Signatories specifying actions taken to address climate-related risks and opportunities



Read more about our work on the EU Action Plan for Financing Sustainable Growth under
Action 6: Challenge barriers to a sustainable financial system

CLIMATE FORUMS

The PRI's 14 Climate Forums, held across 10 countries, engaged more than 1,350 investors to discuss:

- the inevitable policy response;
- how to ready portfolios for a low-carbon economy;
- the Task Force on Climate-related Financial Disclosures (TCFD) and scenario analysis;
- active ownership and the Climate Action 100+.

SUPPORTING PORTFOLIO TRANSITION

INEVITABLE POLICY RESPONSE

In September 2018 we launched our Inevitable Policy Response initiative, highlighting that as current global policies are a long way from achieving the Paris Agreement targets, a forceful policy response to climate change is likely by the mid-2020s.

Our initial exploratory paper set out why a forceful response to climate change is inevitable, when it is likely, potential policy scenarios, and potential implications for strategic asset allocation and portfolio construction. It will be followed by detailed modelling examining how an inevitable policy response will affect the economy, which asset classes will be impacted and which sectors are most at risk.

KEEP UP-TO-DATE WITH THE LATEST FROM THE *INEVITABLE POLICY RESPONSE PROGRAMME*

TOOLS AND GUIDANCE

Investing in the low-carbon economy (crop)

How to invest in the low-carbon economy highlights the approaches available to investors in their efforts to align portfolios with a lower carbon, more climate-resilient economy. The multi-asset class guide focuses on:

- low-carbon, climate-aligned investment opportunities;
- integrating climate-related risks and opportunities into investment processes;
- phasing out investments in thermal coal.

READ *HOW TO INVEST IN THE LOW-CARBON ECONOMY*

The Paris Agreement Capital Transition Assessment (PACTA) tool is a climate scenario analysis tool developed by the 2° Investing Initiative, and supported by the PRI. It analyses exposure to transition risk in equity and fixed income portfolios over multiple scenarios, including allowing investors to see the gap between their existing portfolio and 2°C benchmarks.

As of March 2019, the PACTA tool has been used by 674 institutions, with a total of 2,600 portfolio tests undertaken across 68 countries.

LEARN MORE ABOUT *THE PACTA TOOL*

CORPORATE ENGAGEMENT

We convene a number of our own climate-related corporate engagements, as well as joining AIGCC, Ceres, IGCC and IIGCC in coordinating Climate Action 100+ – a global collaborative engagement targeting a selection of the world's largest corporate greenhouse gas emitters.

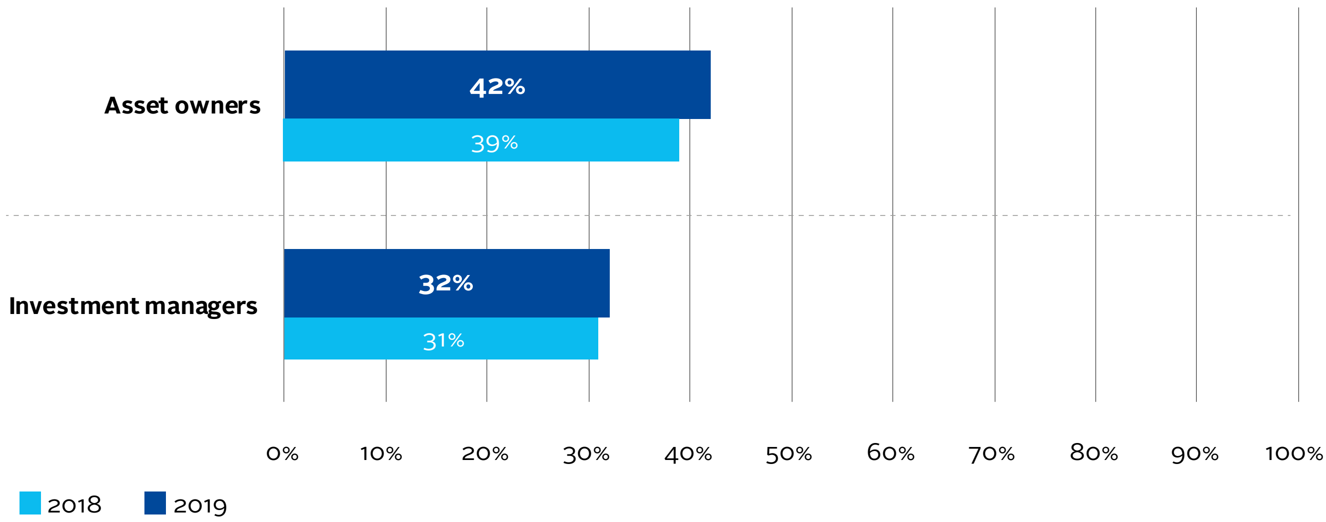
INVESTOR DISCLOSURE

Having launched pilot PRI reporting on TCFD-aligned questions in 2017/18, this year we released data and analysis from that pilot to support signatories reporting in 2018/19. The number of signatories choosing to answer these voluntary indicators increased slightly year-on-year. In 2020, the strategy and governance indicators will become mandatory.

KEY TARGETS

Signatories reporting on the TCFD framework via PRI reporting: 35%
(PRI target: 50%)

Signatories choosing to answer optional TCFD-aligned questions on climate change



Read more about our guidance on the TCFD recommendations under Action 1: Empower asset owners

We also convened a UK and Chinese government-backed pilot on climate-related and environmental risk disclosure. The pilot group has established a platform for peer exchange and capacity-building, developed a three-year action plan and published 11 case studies.

ENABLE REAL-WORLD IMPACT

Beyond the need to improve how ESG issues' financial relevance is captured throughout the market, investors increasingly need to better demonstrate the impact that their investment decisions have in the real world.

ENABLE REAL-WORLD IMPACT

Driving sustainable development in line with the UN SDGs will create a more prosperous world, to live in today and to pass on tomorrow

IMPACT INVESTING MARKET MAP

Over the last decade, impact investing has shifted from being a disruptive concept to a complex and rich investment ecosystem. With this in mind, the PRI launched the Impact investing market map.

Based around ten thematic areas, it aims to bring clarity over how to identify mainstream impact investing companies and thematic investments.

- Energy efficiency
- Green buildings
- Renewable energy
- Sustainable agriculture
- Sustainable forestry
- Water
- Affordable housing
- Education
- Health
- Inclusive finance

READ THE *IMPACT INVESTING MARKET MAP*

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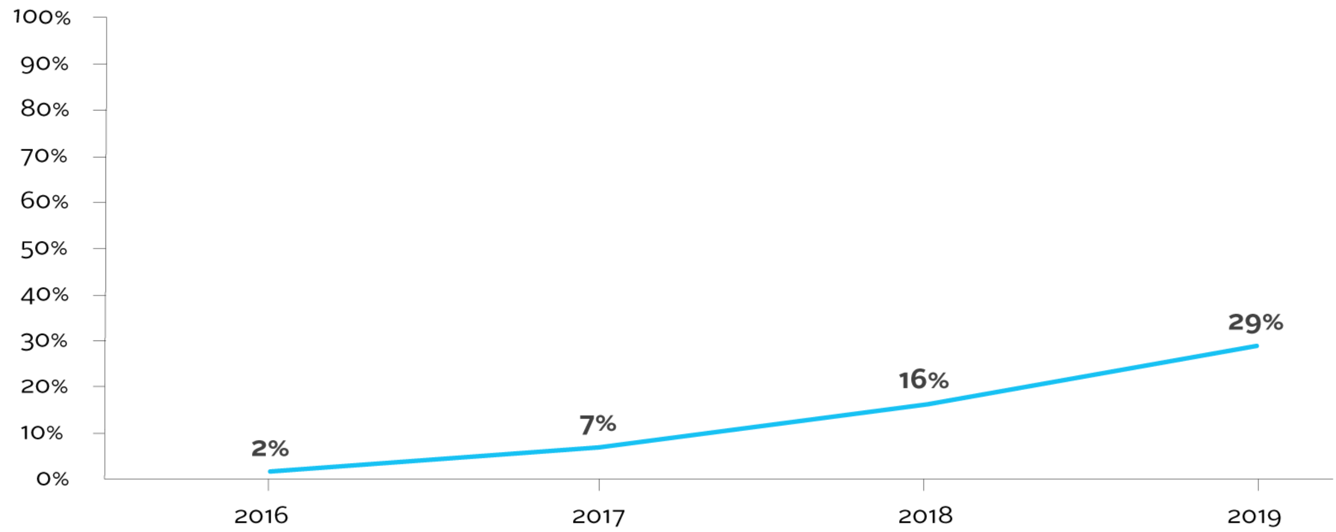
SUSTAINABLE DEVELOPMENT GOALS (SDGS)

There has been demand from signatories for the PRI to provide guidance and leadership on what the SDGs mean for them. Demand varies between a small number of very active signatories, wanting to be part of agenda-setting work on contributing to the Goals, and a large majority who want to better understand the Goals' relevance to them, what their sphere of influence is and where they can start

Signatories mentioning the SDGs during their PRI reporting



We held a US events series *Addressing Systemic Risk: The SDGs* bringing signatories together in New York, Washington and San Francisco to discuss the value of the Sustainable Development Goals as a tool to assist fiduciary investors contribute to a resilient financial system and address systemic risk in their investment processes.

In Brazil we trialled, in partnership with UN Global Compact, the first in what will become a series of SDG investment forums. These forums will help to ensure that the private sector is aware of SDG investment opportunities, and understand the wider developmental role they can play by taking advantage of them. The forums will also bring in representatives from governments so that they can better understand the challenges companies and investors face when aligning their strategies with the SDGs. The Brazil forum brought together nearly 200 participants from both the public and private sector alongside representatives from the UN, civil society and academia.

KEEP UP-TO-DATE WITH ALL OUR WORK ON THE SDGS

BACK

ENHANCE OUR DIGITAL CAPACITY

UNPRI.ORG - A MODERN ONLINE HOME FOR THE PRI

We launched a new website rebuilt from the ground up on a professional-grade publishing platform, to better drive content towards signatories and other stakeholders.

The new platform equips us with the tools to more readily use a much wider variety of content – including short articles, blog posts, videos and podcasts – as well breaking down our long-form content so users can isolate specific topics, case studies and more from within longer reports.

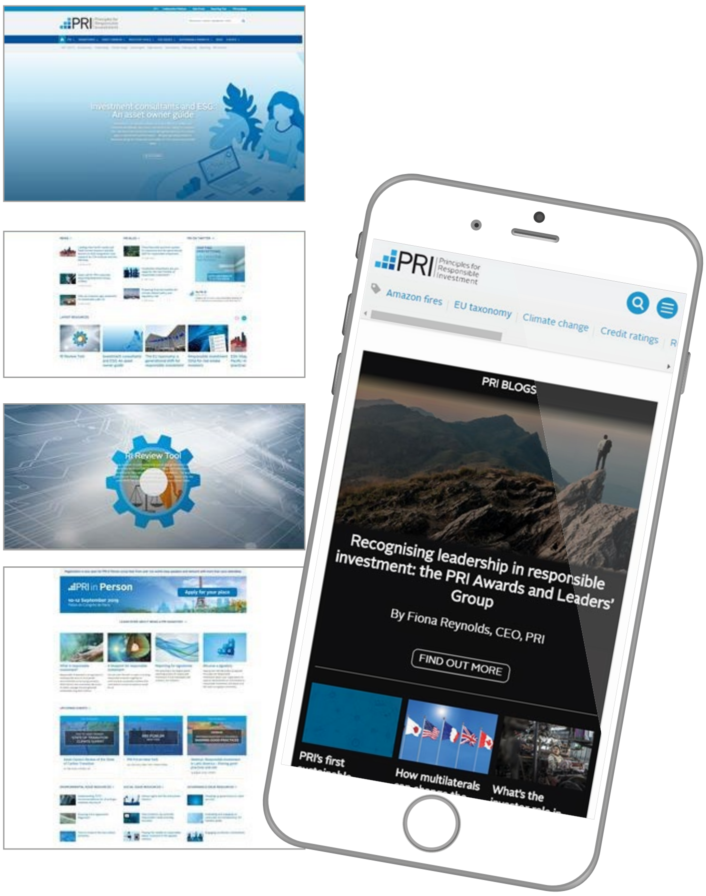
> "Much easier to use – great access to all the available resources and topics."

For users, content discoverability is greatly improved. The site is browsable by topic area to better reflect the way users want to consume it, rather than from which part of the PRI it was produced. A single search box yields results from across the platform, including our resource library, events list and signatory directory.

> "Navigation has very much improved – I could easily find topics of interest, the signatory database, reports."

The platform also enables deep analysis of content performance, for us to understand not only which content readers are engaging with, but which specific parts are of most interest, and to identify trends and themes – all of which can feed back into our plans for future work, enabling us to better serve signatories with the content that matters to them, in the formats that suit them best.

> "Attracts our attention – I can easily find lots of materials I am interested in."



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The platform is continually evolving and primed to bring users more new features in the months ahead – key amongst which will be options to put users in control over what information they're most interested in seeing.

Usage of the new site has jumped dramatically. An annual figure of 430,000 users for the website platform alone in 2017/18 is 58% higher than the 2016/17 figure for the previous platform, which combined traffic from the website and the PRI Collaboration Platform.

USERS
429,621
↑ 58.0%

PAGEVIEWS
1,929,173
↑ 34.1%

KEY TARGETS

Increase in users of the PRI website: >58%
(PRI target: 20%)

EXPLORE WWW.UNPRI.ORG

SOCIAL MEDIA

The PRI's social media presence has grown across all channels. Our largest audiences are on our priority platforms of Twitter (16,500 followers) and LinkedIn (12,000 followers).

We enjoyed particular success around PRI in Person in San Francisco, where #PRIinPerson trended strongly, not only amongst investment and sustainability audiences, but peaking at the second highest trend across the city during the conference's opening day.

KEY TARGETS

Increase in followers across social media channels: 25%
(PRI target: 20%)

20MIL
IMPRESSIONS GENERATED BY THE #PRIINPERSON HASHTAG
+150% compared to 2017

PAGEVIEWS
1,929,173
↑ 34.1%

Follow us:

EXTERNAL MEDIA

In 2018/19, the PRI received substantive coverage in 142 articles, featured in seven broadcast interviews and placed 18 by-lined articles. Key topics were climate change, diversity, executive remuneration and tax, while priority projects were the PRI's ESG in Credit Ratings initiative and the EU Sustainable Action Plan.

KEY TARGETS

Increase in number of articles with substantive PRI mention: 3%
(PRI target: 30%)

Increase in number of broadcast interviews: 17%
(PRI target: 20%)

Increase in the number of by-lined articles: 5% decrease
(PRI target: 20% increase)

ENHANCE OUR GLOBAL FOOTPRINT

The signatory network has continued to expand, making it important for us to continue to focus on how to better support not only an ever-growing number of signatories, but an ever-growing variety. More experienced relationship managers and a tiered relationship management system are enabling better understanding of our signatory base, thus enhancing the service we can provide to signatories. Asset owners remain the primary target for our recruitment efforts.

KEY TARGETS

Signatories receiving signatory review meetings: 40%
(PRI target: 33%)

Asset owners receiving signatory review meetings: 87%
(PRI target: 80%)

EXPANDING OUR LOCAL PRESENCE

We have continued to expand the number of signatory relations staff that we have around the world dealing directly with signatories in their local markets. As well as the number of on-the-ground relationship managers rising, a restructure providing regional directors and additional operational staff is allowing relationship managers to focus more on directly servicing signatories.

At the same time, however, signatory growth has been strong, resulting in the global average of signatories per relationship manager rising. The most over-subscribed markets are the Nordics, France, UK & Ireland, Benelux and Australasia – making them priorities for additional relationship manager support in future.

KEY TARGETS

Signatories per relationship manager: 112
(PRI target: 100)

This year we established a presence in Southern Europe and Latin America, having expanded our coverage into China, Benelux and Australia the year before. Locations are selected based on the size of the market, its strategic importance and expectations of growth. In the case of Latin America, additional factors were low historical coverage and the opportunity to merge with the Latin SIF. In all markets where a presence has been established, both the growth rate and the service provided to existing signatories has increased.

We've also hired locally focused policy and engagement staff in the US, France and China.

Proportion of PRI staff based outside London:

26%	15%
2019	2016

MULTI-LINGUAL RESOURCES

We are always working to expand the range of languages in which our resources are available. Through 2017/18 we translated 16 publications into languages including French, Spanish, Portuguese, Japanese and Chinese. We are also boosting the number of PRI events and broader communications that occur in a wider range of languages, including across social media, newsletters and blog posts.

SEE ALL PUBLICATIONS AVAILABLE IN MULTIPLE LANGUAGES

A GROWING NETWORK

The 2017/18 signatory growth rate was, at 22%, the highest since the 2010/11.

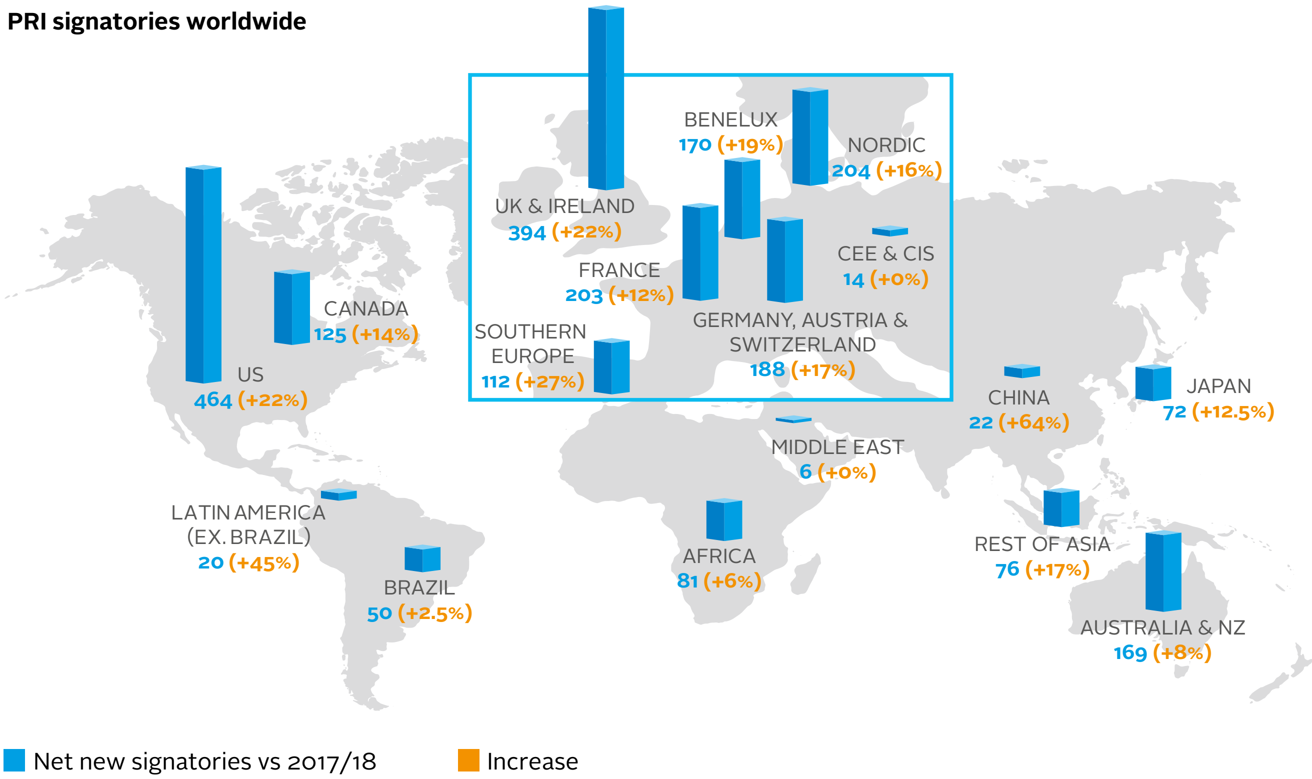
We recruited 69 asset owners in 2018/19, of which 27 were strategic targets, with growth particularly strong in the UK (12 new asset owners), the US (11), the Netherlands (eight) and across Southern Europe (eight). Beyond the traditional public pension funds, new areas of asset owner growth include increasing numbers of corporate pension funds, insurance providers, public treasuries and central banks.

Among the new joiners were LGPS Central and National Grid PS in the UK, AG2R (France), Novartis PF (Switzerland), PenSam (Denmark), City of Chicago and Illinois State Treasury in the US, AFP Cuprum (Chile), AFP Prima (Peru), GPF Thailand, AIA (Hong Kong), and Meiji Yasuda (Japan).

Search for signatories by name, signatory category, location or join date in the:

SIGNATORY DIRECTORY

PRI signatories worldwide



KEY TARGETS

Signatory share among large asset owners: 33%
(PRI target: 35%)

Signatory share among US asset owners: 11%
(PRI target: 35%)

Signatory share among Asia Pacific asset owners: 43%
(PRI target: 35%)

DEVELOP OUR STAFF

After more than 10 years in operation, the PRI is more mature in many areas – including as an employer. We are increasingly recognised as a desirable place to work, and are benefiting from being able to attract growing pools of candidates for roles at both the senior and junior level.

KEY TARGETS

Staff engagement score: 75%
(PRI target: 75%)

GETTING THE BEST PEOPLE

We have received good results from using the Applied recruitment tool, which brings a more data-driven, more collaborative and more objective approach to screening candidates.

- Setting candidates representative questions helps us to more practically asses people's ability to do the job in question than by screening CVs.
- Anonymising answers helps to avoid unconscious biases from erroneously diverting attention to/from particular candidates based on factors relating to identity/background, such as geography, race, gender or socioeconomics.
- Isolating a candidates' responses from each other helps to remove the halo/horn effect of strength/weakness in one area unduly affecting the impression of other areas.

KEY TARGETS

Staff gender ratio: 59:41 (F:M)
(PRI target: 50:50)

ORGANISING OURSELVES TO DELIVER MAXIMUM SIGNATORY VALUE

As part of our 2018-21 strategy, we committed to conduct an organisational review once we had grown to more than 100 employees. The review conducted last year included:

- scoping how our geographical coverage will evolve as the signatory base grows;
- developing new business/project planning process and systems;
- mapping typical signatory journeys;
- evaluating the management structure and realigning decision-making.

As such, 2018/19 has been an important year for laying new foundations for the PRI, and we must now focus on embedding those changes and assessing whether they are delivering the value expected.

THE UK'S STATUS WITHIN THE EUROPEAN UNION

Risks for existing staff associated with the UK's planned exit from the European Union (EU) is diminished following the EU Settlement Scheme, which opened for applications in March 2019. We are supporting relevant staff (EU, EEA or Swiss citizens without indefinite leave to remain in the UK) in applying to this scheme, and to date almost half have been confirmed with settled or pre-settled status.

The longer term implications on the ability of the PRI's London headquarters to attract and retain the right staff are difficult to predict, particularly without knowing under what terms, if any, the UK's exit will be negotiated. Approximately 25% of recruitment over the past two years has been from the EU.

FINANCIAL STATEMENTS

FINANCIAL REPORT

INCOME

Between 1 April 2018 and 31 March 2019, total income grew to £13.2 million, up from £10.4 million in 2017/18.

	ACTUAL 2017/18 (£000S)	ACTUAL 2018/19 (£000S)	BUDGET 2019/20 (£000S)
Membership fee - renewal	8,414	10,150	11,951
Membership fee - new	690	1,227	775
Grants, donations, other*	462	1,138	1,581
PRI in Person income surplus	597	107	1,011
PRI Academy	285	533	575
Total income	**10,448**	**13,154**	**15,892**

*Projects funded through grants, donationa and other income included: Transition Pathway Initiative, Inveitable Policy Response: Act Now, ClimateWorks Foundation, Investor Initiative for Sustainable Forests with Ceres, Climate Action 100+ and the ESG in Credit Ratings initiative.

SIGNATORY FEES

All signatories pay annual fees, based on their total assets under management or, for service providers, number of employees. In 2018/19, income from new and existing signatories came to £11.4 million, up from £9.1 million in 2017/18.

FEE DISCOUNTS

Asset owners headquartered in a country classified by the IMF as an emerging market or developing economy are entitled[1] to apply for a fee discount. The PRI will bill service providers based on only their investment staff, where that service provider has distinct divisions that provide distinct services. If one of those divisions provides a service that is not relevant to investors (and therefore the principles), this division will be excluded from the fee calculation.

Account Name	HQ COUNTRY	SIGNATORY CATEGORY
Old Mutual	South Africa	Asset Owner
Funcef	Brazil	Asset Owner
FUNCESP	Brazil	Asset Owner
Government Employees Pension Fund of South Africa	South Africa	Asset Owner
GRUPO FINANCIERO BANORTE S A B DE C V	Mexico	Asset Owner
Infraprev	Brazil	Asset Owner
Khazanah Nasional Berhad	Malaysia	Asset Owner
Economus	Brazil	Asset Owner
LA Retirement Fund	South Africa	Asset Owner
MMI Group Limited	South Africa	Asset Owner
Petros - Fundação Petrobras de Seguridade Social	Brazil	Asset Owner
PREVI - Caixa de Previdência dos Funcionários do Banco do Brasil	Brazil	Asset Owner
Real Grandeza	Brazil	Asset Owner
Retirement Fund (Incorporated) (KWAP)	Malaysia	Asset Owner
Sanlam Limited	South Africa	Asset Owner
Valia	Brazil	Asset Owner
Brasilprev Seguros e Previdência	Brazil	Asset Owner
The Consolidated Retirement Fund for Local Government	South Africa	Asset Owner
Normandin Beaudry	Canada	Service Provider
PBI Actuarial Consultants Ltd.	Canada	Service Provider

1 See IMF's World Economic Outlook 2016 (Statistical Appendix, p.209) for a full list of eligible countries.

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EXPENDITURE

Between 1 April 2018 and 31 March 2019, total expenditure excluding PRI in Person grew to £12.5 million, up from £10.2 million in 2017/18.

	ACTUAL 2017/18 (£000S)	ACTUAL 2018/19 (£000S)	BUDGET 2019/20 (£000S)
Staff Costs (incl networks, recruitment, training & development)	6,441	7,755	9,342
Bought-in services, consulting and research**	1,171	1,863	2,254
Travel expenses	787	970	1,083
Premises costs	435	564	635
IT costs and telephone	593	665	741
Events, meetings conferences & hospitality	220	297	368
Legal & professional services	124	115	113
Subscriptions, reports & printing	100	139	219
Academy commissions & marketing	69	57	0
Other expenditure (Insurance, postage, office supplies,bank charges)	240	116	251
Total (PRI in Person expenditure not included)	**10,181**	**12,541**	**15,008**

**Significant bought-in services, consulting and research include: Energy Transition Advisors (Climate Transition Work Programme); London School of Economics (Investing in Just Transition); London School of Economics (TPI); Regnan (Environmental Issues); Vivid Economics (IPR Funding); Danyelle Guyatt (Implications for Strategic Asset Allocation); Freshfields (EU Sustainable Finance Action Plan); Clean Returns Pty Ltd (IPR Implementation Guidance).

EXPENDITURE BY AREA

	ACTUAL 2017/18 (£000S)	ACTUAL 2018/19 (£000S)	BUDGET 2019/20 (£000S)
Management and Operations	2,305	2,582	2,958
Global Outreach and Networks	2,210	2,720	3,123
Communications & Events	886	957	1,319
Policy, Research & Climate	1,228	1,220	837
Content team			563
Investment Practices & SDGs	856	1,033	1,118
ESG Engagements & Stewardship	642	641	893
Reporting and Assessment	690	825	793
Premises costs	434	492	633
Grants, other	394	994	1,581
PRI Academy	377	453	418
Partnerships	157	214	209
Consulting and research (separated in 2018/19)		410	565
Total	**10,181**	**12,541**	**15,008**

NUMBER OF STAFF BY DEPARTMENT

	MARCH 2019	FORECAST MARCH 2020
Reporting & Assessment, Investment Practices, SDGs, ESG Engagements	28	38
Global Outreach and Networks	29	33
Management & Operations, HR, Partnerships & PRI Academy	23	25
Communications & Events	10	14
Policy, Research & Climate	9	10
Content team	5	5
Executive	2	3
Grants	6	10
Total	**112**	**138**

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CASH RESERVES

Cash increased to £6.1 million at the end of the year, up from £4.6 million at the end of 2017/18. This included receiving both sponsorship and delegate fees for PRI in Person Paris.

RESERVE POLICY

The amount of cash designated as a minimum level is regularly reviewed by the board. This has varied over the years. At present it is deemed to be equivalent to four months of payroll.

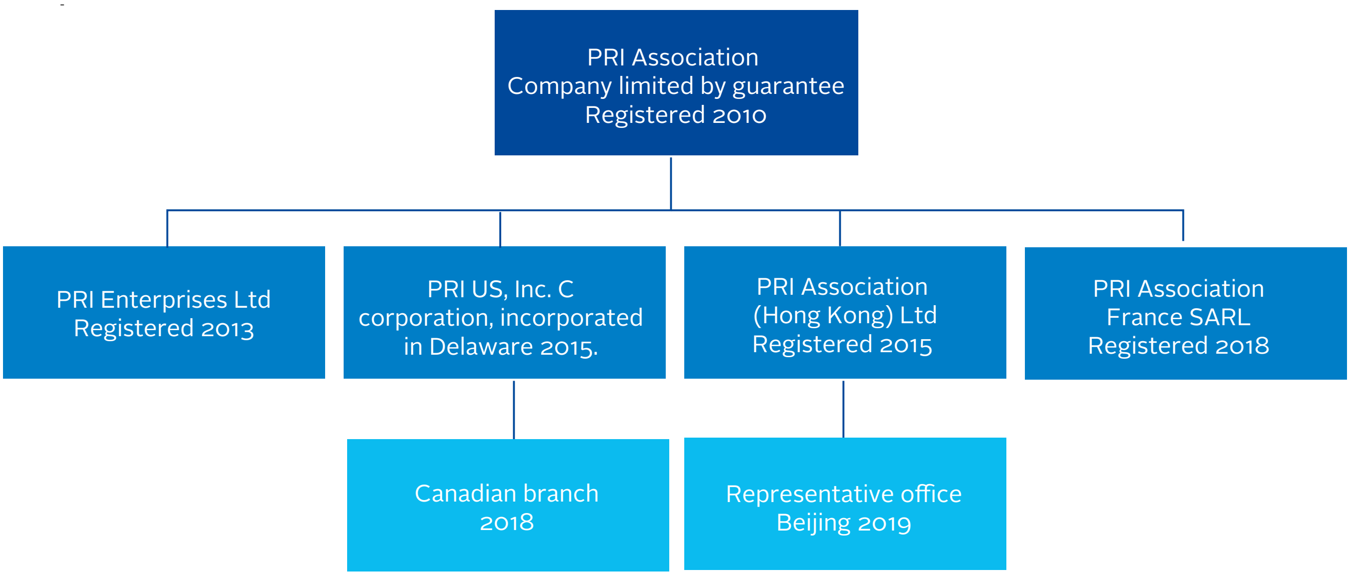
OPERATING SURPLUS

After taking into account interest receivable, depreciation and tax, the PRI achieved a surplus of £554,140 for 2018/19, up from £193,185 for 2017/18.

CORPORATE STRUCTURE

The PRI group comprises seven entities, with PRI Association being the ultimate holding company. Signatory fees are collected by PRI Association and disbursed across the group. Entities are established where there is a specific operating or regulatory requirement.

PRI Enterprises Ltd is the home of the PRI Academy and is primarily funded by course fees.



PARTNERSHIPS

KEY TARGETS

Staff engagement score: 75%
(PRI target: 75%)

Organisations can partner with the PRI by:

- sponsoring or exhibiting at PRI in Person and other events
- working with the PRI on research or a publication;
- hosting a signatory event;
- supporting the PRI Network in their region;
- collaborating with the PRI Academy, Academic Network and Research Forum.

The PRI thanks the following organisations for providing financial or in-kind support during the year, such as providing complementary access to research and data, and sponsoring or hosting PRI events and publications.

OUR PARTNERS THIS YEAR

PRI in Person 2018

- **Lead:** MFS Investment Management
- **Gold:** Bloomberg, DWS, Hermes Investment Management, RBC Global Asset Management
- **Silver:** Comgest, ClearBridge Investments, ISS-ESG, MSCI, Neuberger Berman, Russell Investments, UBS
- **Bronze:** Barrow, Hanley, Mewhinney & Strauss, LLC, Beyond Ratings, East Capital, Four Twenty Seven, FTSE Russell, HSBC Global Asset Management, Martin Currie Investment Management, PIMCO, Prosperity Capitla Management, Wellington Management Company LLC

Academic Network Conference 2018

Bursary: S&P Global

GRANTS

The PRI wishes to acknowledge the following organisations for their support:

Bloomberg Philanthropies, Ceres, ClimateWorks Foundation, Department for Business, Energy and Industrial Strategy, European Climate Foundation, Generation Foundation, Gordon & Betty Moore Foundation, KR Foundation, the William and Flora Hewlett Foundation

IN-KIND DONATIONS

The PRI also wishes to thank the following organisations for proving in-kind access to data:

- FTSE Russell, MSCI, RepRisk, Vigeo Eiris

PRIA FINANCIAL STATEMENTS
YEAR ENDED 31.03.2019

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BOARD REPORT

PRI BOARD

CHAIR

Martin Skancke
Independent
Appointed until 2020

DIRECTORS ELECTED BY ASSET OWNERS

Angela Emslie
HESTA (Australia)
Term limit: 2021

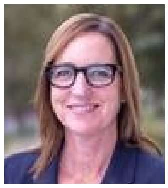
Eva Halvarsson
AP2 (Sweden)
Term limit: 2019

Hiromichi Mizuno
GPIF (Japan)
Term limit: 2019

Renosi Mokate
GEPF (South Africa)
Term limit: 2020

Laetitia Tankwe
Ircantec (France)
Term limit: 2021

Xander den Uyl
ABP (Netherlands)
Term limit: 2021



Sharon Hendricks
CalSTRS (USA)
Term limit: 2021

DIRECTORS ELECTED BY NON ASSET OWNERS

Wendy Cromwell
Wellington (USA)
Term limit: 2021

Tycho Sneyers
LGT (Switzerland)
Term limit: 2020

Peter Webster
Vigeo Eiris (France)
Term limit: 2019

PERMANENT UN ADVISORS

Lise Kingo
UN Global Compact

Eric Usher
UNEP FI

LEARN MORE ABOUT THE PRI BOARD

INTRODUCTION FROM THE CHAIR

The board remains focused on realising the ambitions of the PRI's Blueprint for responsible investment and providing value to all signatories.

The board's discussions are guided by the nine Blueprint priorities. The board has a high-level agenda for the 2019-21 strategy cycle that has scheduled discussions of all the Blueprint priorities, to ensure that the board systematically discusses and reviews each priority in depth. Also, at the regular June meeting the executive presents to the board an overview of progress against the nine priorities. Over the past year the board has discussed in depth:

- Action 1: Empower asset owners
- Action 4: Showcase leadership and increase accountability
- Action 7: Drive meaningful data throughout markets
- Action 8: Climate action
- Action 9: Enable real-world impact aligned with the SDGs

At the 2018 Signatory General Meeting I spoke about bringing the PRI closer to its signatories. Since 2017 we have set up a physical presence in Australia, Benelux, China, Latin America and Southern Europe. We have also added expertise and support to existing networks, including France, the UK and Ireland, and the US. Together with this increased physical presence we have translated selected core PRI materials into French, Spanish, Portuguese, Japanese and Chinese. The board has been encouraged by the signatory growth over the past year, especially the strong relative growth in China, Latin America and Southern Europe.

At our December 2018 meeting the board discussed the Reporting Framework, the theory of change for the Framework and the elements to be considered during the review. 580+ signatories (24%) participated in the review consultation, and the results indicate that signatories receive significant value from undertaking the Reporting Framework. It is valuable for learning and literally provides a framework for reflecting upon, structuring and reporting on responsible investment activities. Signatories also recognised the need for accountability for their responsible investment actions to the PRI and other stakeholders. Signatory feedback was constructive, identifying many ways in which reporting, assessment and the various outputs could be improved. The board will discuss further the proposed Reporting Framework reform at our September and December meetings.

Martin Skancke,
Chair, PRI

The board puts considerable effort into improving its effectiveness. The PRI's Articles mandate that the board conducts a periodic external assessment of its effectiveness. In April 2018 the PRI retained Nestor Advisors to facilitate the review. The reviewers concluded that the PRI has a well-functioning board with committed and engaged board members. However, board members felt that they can perform better as PRI ambassadors, with better support from the executive. To maintain engagement and quality of discussion the board agreed to meet more frequently, raising the commitment from three to four in person meetings annually. The review also identified recommendations on how the board committees and executive can more effectively support the board.

Several directors departed the board during the year: Sandra Carlisle (HSBC), Marcus Madureira (PREVI) and Priya Mathur (CalPERS). I would like to thank them for their valuable input during their respective terms. The PRI hopes to continue to benefit from the expertise of the departing board directors.

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This year we welcomed three newly elected and two re-elected directors that will bring their perspectives, skills and knowledge to the board:

- Wendy Cromwell, Vice chair, Wellington Management (newly elected in January 2019)
- Angela Emslie, Independent Member, Impact Fund, HESTA (re-elected for a second term in January 2019)
- Sharon Hendricks, Chair of the Board, CalSTRS (newly elected in April 2019)
- Laetitia Tankwe, Advisor to the president of the board of trustees, Ircantec (newly elected in January 2019)
- Xander den Uyl, Trustee, ABP (re-elected for a second term in January 2019)

During the year there was also a change in representative from our partner initiative, the UN Global Compact. Lise Kingo, CEO and Executive Director, replaced Gavin Power.

In the 2019 PRI Board annual elections there are two asset owner positions and one service provider position up for election. Skills, experience and diversity are critical to a high-performing board. The board is encouraging all candidates with leadership and governance experience. Candidates will also be asked to elaborate in their statements on their demonstrated leadership within responsible investment, ESG expertise and other experience relevant to the long-term success of the PRI.

Signatory participation in the signatory voting in October and November is important. The PRI is a membership organisation and to continue to thrive we need to engage signatories with relevant work and activities, and signatories need to keep engaged and active in our governance. The PRI will be asking signatories to elect three new directors, approve the SGM minutes and vote for the PRI Annual Report and Accounts.

I encourage you to read the full board report. It is an overview of the work undertaken by the board over the past year, including how we work together and with the executive. The report includes our focus on: organisational purpose; the leadership of the board; integrity measures; decision-making processes, risks and controls; actions to improve our effectiveness; how we are thinking about board diversity and communicating this to signatories; and our efforts to be open and accountable to signatories.

If you would like to discuss any aspect of the PRI's governance with me, please feel free to email me at governance@unpri.org.

Martin Skancke

READ THE FULL BOARD REPORT

SIGNATORY GENERAL MEETING

The 2019 Signatory General Meeting (SGM) will be at 09:00 – 10:30 on Tuesday 10 September 2019 in the Palais des Congrès de Paris, as part of PRI in Person.

AGENDA

1. **Welcome address and PRI Board report**
   Martin Skancke, Chair
   09:00 – 09:15
2. **Management and financial report**
   Fiona Reynolds, CEO
   09:15 – 09:45
3. **Q&A**
   Martin Skancke, Chair and Fiona Reynolds, CEO
   09:45 – 10:15
4. **Board director elections**
   Martin Skancke, Chair
   10:15 – 10:30

The PRI wants to encourage an active dialogue between signatories and the board. The SGM, the annual general meeting of signatories, is an important forum for communication between the board and signatories. The board encourages signatory participation, either in person, via webcast or for those outside the time zone by submitting questions in advance. The SGM is an opportunity for the board to report to signatories on the PRI's strategy and its implementation, the work undertaken by the board and its committees, forthcoming board elections, formal consultations and any other business.

The SGM will be webcast for signatories that cannot attend in person. For more information on how to participate by webcast and submit questions in advance, click here.

The PRI sought input from signatories on the Signatory General Meeting (SGM) draft agenda in July 2019 and invited signatories to contribute agenda items and resolutions to be put to a vote. No agenda items or resolutions were received by the deadline of 9 August. However, time has been set aside for signatories to ask questions. If you have detailed financial or legal questions, please submit these by 9 September to governance@unpri.org.

BACK

IN-HOUSE SUSTAINABILITY

Most of the PRI's impact is positive and happens indirectly via the work that we do to help our 2,500 signatories implement the Principles.

We have an impact on:

- our investor signatories – by encouraging them to be more transparent in their investment activities;
- companies – by improving their practices through investor engagements;
- markets – through ventures such as the Sustainable Stock Exchanges initiative.

Beyond these positive, indirect impacts, we recognise that the way we choose to operate as an organisation can have direct impacts, and we try to manage these wherever possible.

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ENVIRONMENTAL

The PRI has been certified as compliant with ISO 14001, the international standard for environmental management systems. As part of this certification, we will continue to monitor, manage and reduce our impact on the environment through transport, waste, consumption of natural resources, energy use and procurement.

We strive to make sure our events are as green as possible. For example, we acknowledge that PRI in Person has the potential to impact the environment and that it is our duty to proactively manage this. As always, we took various measures at PRI in Person 2018 to ensure that the event was delivered as sustainably as possible. For example:

- The San Francisco Marriott Marquis is the #1 recycling hotel in San Francisco: it recycles cardboard, cans, bottles, glass, paper and plastic, and composts food waste.
- All light bulbs are energy-efficient and all hotel guest rooms feature water-saving low-flow toilets and water-saving shower heads.
- PRI in Person strives to use as little paper as possible: there was no paper delegate pack and exhibitors were discouraged from distributing hard copies of their own literature.
- Through a partnership, we offset the emissions for delegates' travel and for all official venues: over 3,400 tonnes of GHG emissions in total.
- All banners, carpets and furniture were reusable or recyclable; lanyards, badge holders, conference pens and delegate bags were all made from recycled, sustainable materials.
- Unused food was donated to Food Runners and Chefs to End Hunger, two local organisations redistributing food to the hungry that would otherwise go to waste.
- All catering during the lunches and refreshment breaks was fully vegetarian and all tea and coffee was Fairtrade-certified.
- Our caterers sourced ingredients from local suppliers where possible, with a focus on sustainable, seasonal produce.

SOCIAL

Our employees have the right to work in an environment of dignity and respect. We are accredited as a Living Wage Employer, whereby we ensure that our staff are paid a salary that will ensure a good standard of life.

We are also against unpaid internships and ensure that interns are paid a decent and fair salary.

We invest in the training and development of our staff, and have set up staff committees on employee engagement and human rights.

GOVERNANCE

Good governance at the PRI includes annual signatory elections, term length limits for board directors, publishing board meeting attendance and clear separation between the roles of the CEO and chair. The PRI has a board diversity policy in the belief that diversity contributes to high performance.

We are committed to ensuring a fair, transparent, cost-effective and accountable process in the purchasing and provision of goods and services to our signatories and other stakeholders. We have a procurement policy in place to provide direction to staff in relation to tendering, contracting and procurement activity. The policy aims to establish a framework that will, among other things, appropriately manage risk, ensure the efficient, effective and responsible use of resources, and deliver best value for money.

Our public communications policy ensures we advocate for the uptake of the six Principles and responsible investment, but that we don't speak on behalf of our signatories.

BACK

NEW AND FORMER SIGNATORIES

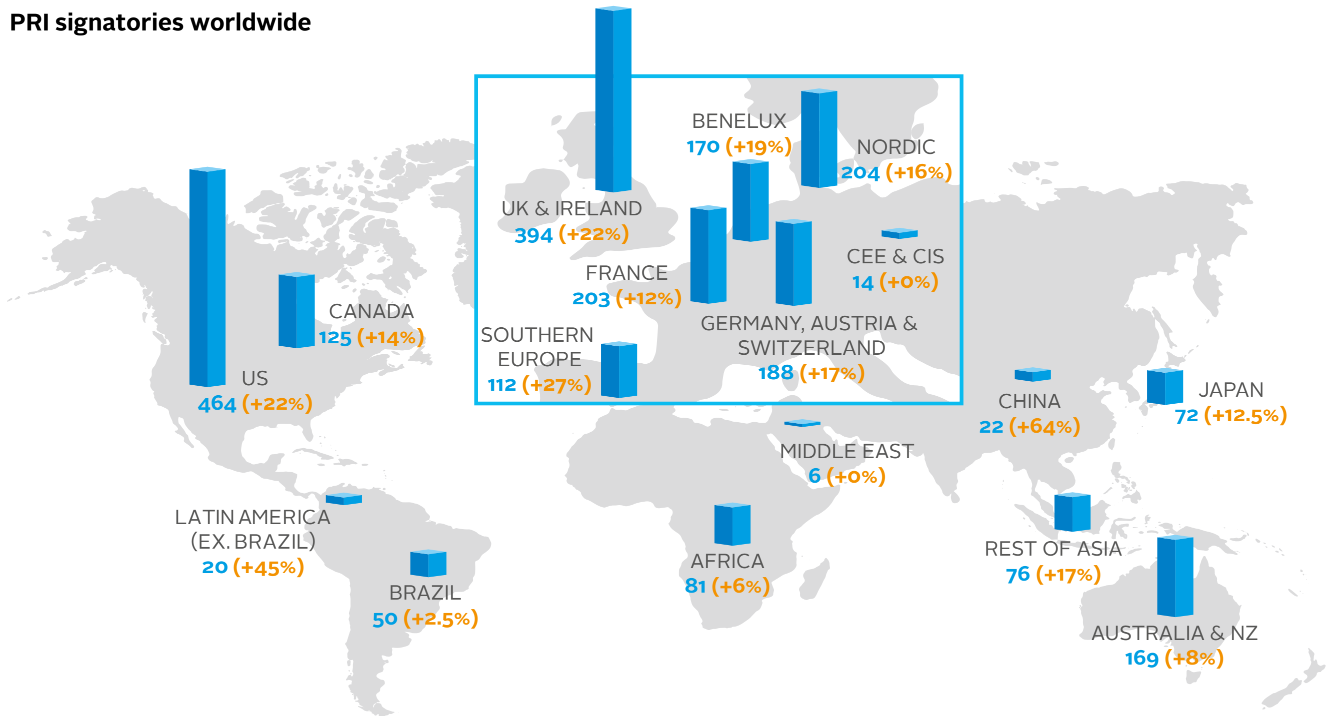
NEW SIGNATORIES

We were delighted to welcome more than 500 new signatories to the Principles for Responsible Investment in 2018/19. Proportional growth was particularly strong in China (64%), Latin America (excl. Brazil) (45%) and Southern Europe (27%). Mature markets such as the US and the UK continued to see significant numbers of new joiners.

Search for signatories by name, signatory category, location or join date in the:

SIGNATORY DIRECTORY

PRI signatories worldwide



Increase shown is net new signatories, which therefore may differ from the number of new signatories listed below, due to signatories also leaving during 2018/19.

NEW SIGNATORIES IN 2018/19

AFRICA

- Adenia Partners
- Aleyo Capital
- Baobab Capital (Pty) Ltd
- Differential Capital (Pty) Ltd
- FEDGROUP VENTURES
- IBIS Consulting
- Laurium Capital
- Madison India Capital Management LLC
- Northstar Asset Management
- PowerHouse Africa Asset Management (Provisional Signatory)
- SPEAR Capital Pty Ltd
- Summit Africa

AUSTRALIA AND NEW ZEALAND

- AGNITIO REI
- Allan Gray Australia
- Allegra Wealth Pty Ltd
- Aoris Investment Manager
- Artesian Capital Management Pty Ltd
- ASB Group Investments Limited
- Avoca Investment Management Pty Ltd
- Bentham Asset Management Pty Ltd
- Ellerston Capital Limited
- Generate Investment Management Ltd
- Intrinsic Investment Management Pty Ltd
- Lighthouse Infrastructure
- Nanuk Asset Management
- Rest
- Spheria Asset Management
- The Impact Fund
- Trust Management
- Victoria University of Wellington Foundation

BENELUX

- Adara Ventures
- AG Insurance
- Ageas
- AMC GP Sarl
- Amethis Investment Fund Manager S.A
- Amvest Investment Management
- Bank Nagelmackers nv
- BBGI SICAV S.A.
- Belfius Investment Partners
- Bouwinvest
- Carlisle Management Company
- CEECAT Capital
- De Nederlandsche Bank NV
- Diepensteyn NV
- Dynamic Credit Partners Europe B.V.
- E-Capital Equity Management
- Equinox AIFM S.A.
- Federatie Nederlandse Vakbeweging (FNV)
- Freo Group
- Groupe Bruxelles Lambert SA
- HLD Associés Europe
- ING Groep N.V.
- Innovation Industries
- InsingerGilissen Bankiers N.V.
- KJK Management SA
- Newion
- OAKK B.V.
- Ortec Finance
- Pemberton Asset Management S.A.
- Pensioenfonds Tandartsen en Tandarts-specialisten
- Söderberg & Partners Asset Management S.A.
- Sofina Group
- Spring Associates
- Stichting Bedrijfstakpensioenfonds voor het Schoonmaak- en Glazenwassersbedrijf
- Stichting Pensioenfonds Horeca & Catering
- Stichting Pensioenfonds Vliegend Personeel KLM
- Transtrend B.V.
- Vendis Capital
- Vesteda
- XENON AIFM S.A.

BRAZIL

- APEX CAPITAL
- Brasil Capital
- BREI
- CRESCERA INVESTIMENTOS
- Integral Investimentos
- Integral Trust
- Quatá Gestão de Recursos LTDA

CANADA

- AQTIS (Alliance québécoise des techniciens et techniciennes de l'image et du son)
- Atkinson Foundation
- Central 1 Credit Union
- Foresters Asset Management
- Galibier Capital Management Ltd.
- Galliant Advisors LP
- Grafton Asset Management
- iA Gestion de placements
- InstarAGF Asset Management Inc.
- La Fondation de l'Université de Sherbrooke
- LIONGUARD CAPITAL MANAGEMENT INC.
- Longview Asset Management Ltd.
- Mount Allison University

- National Bank Investments
- Nova Scotia Public Service Superannuation Trustee Inc.
- Quinn & Partners Inc.
- RP Investment Advisors LP
- Scheer, Rowlett & Associates Investment Management Ltd.
- Scotia Global Asset Management
- Sionna Investment Managers
- Sprott
- Stonebridge Financial Corporation
- Triasima Portfolio Management Inc.

CHINA

- Beijing Huakong Investments Limited
- BOSERA FUNDS
- China Life Asset Management Company Limited
- China Southern Asset Management
- EverBloom
- Hua Xia Bank Asset Management
- Hwabao WP Fund Management Co., Ltd
- Penghua Fund Management Co., Ltd.
- QuantData Information Technology
- Share Capital
- Sichuan United Environment Exchange
- Starquest Capital
- YRD Institute of Green Investment
- ZD Proxy

FRANCE

- Actis Asset Management
- AG2R La Mondiale
- AGRICA GROUP
- Alliance Entreprendre
- AMIRAL GESTION
- ArchiMed SAS
- Arkéa Capital
- Atlante Gestion
- Capital Fund Management S.A.
- COGEFI Gestion
- FINALTIS
- GARANCE
- GENERIS CAPITAL PARTNERS
- GINJER AM
- Hexagone Conseil
- Hexagone Finance
- Horizon Asset Management
- HOTEL INVESTISSEMENT CAPITAL
- HUGAU GESTION
- IDAM
- Indép'AM
- INFRAVIA CAPITAL PARTNERS
- INOCAP Gestion
- Keys Asset Management
- Mansartis
- Mata Capital
- MONETA ASSET MANAGEMENT
- PRUDENTIA CAPITAL
- Schelcher Prince Gestion
- Seeyond
- Suravenir

GERMANY, AUSTRIA & SWITZERLAND

- ACATIS Investment Kapitalverwaltungsgesellschaft mbH
- Altrafin Group
- Aquila Capital
- AVADIS Anlagestiftung
- AVADIS Anlagestiftung 2
- B Capital Partners AG
- Baloise Asset Management
- Berner Kantonalbank
- BONUS Pensionskassen Aktiengesellschaft
- BW Equity GmbH
- Caisse de retraite du groupe Pictet
- caplantic GmbH
- Carnot Capital AG
- CEE Group
- CORESTATE Capital Group
- DJE Kapital AG
- Dominicé
- Empira
- ESG Portfolio Management
- FiNet Asset Management AG
- Finreon Ltd.
- Flossbach von Storch AG
- GET Capital AG
- Hérens Quality Asset Management AG
- Joh. Berenberg, Gossler & Co. KG
- KGAL GmbH & Co. KG
- LIQID Asset Management GmbH
- Loyal Finance AG
- Novartis Pension Fund
- Patrimonium Asset Management AG
- Perpetual Investors GmbH
- Pinova Capital
- Pittet Associates
- Quantica Capital AG
- ruvercap group AG
- Shareholder Value Management AG
- SMN Investment Services
- Solactive AG
- Sustainability Intelligence
- Swiss Life AG
- Swiss Life Asset Managers
- TECTA Invest GmbH

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JAPAN

- Fukuoka Realty Co., Ltd.
- Grid & Finance Advisors
- Japan Real Estate Asset Management Co., Ltd.
- Japan REIT Advisors Co., Ltd.
- Meiji Yasuda Life Insurance Company
- Mizuho Real Estate Management Co., Ltd.
- Nextshift Co., Ltd
- Sekisui House Asset Management, Ltd.
- Sumitomo Mitsui Trust Bank, Limited

LATIN AMERICA (EX. BRAZIL)

- Acumen Latam Capital Partners, LLC
- BBVA Bancomer, Fondos de Pensiones
- CKD Infraestructura México
- Cuprum afp
- FIX SCR S.A.
- LarrainVial Asset Management
- Mesoamerica
- Moneda Asset Management
- Nexxus
- PRIMA AFP

NORDIC

- A.P. Møller Capital P/S
- Aktieinvest Fonder AB
- AP Pension
- AS Trigon Asset Management
- Asia Growth Capital Management
- Brunswick Real Estate AB
- Capital Four
- Certior Capital
- Eligo Asset Management AB
- Fokus Asset Management A/S
- Fondsfinans Kapitalforvaltning AS
- Gjensidigestiftelsen
- Holberg Fondsforvaltning AS
- ICECAPITAL REAM Ltd.
- Indecap
- Investerum
- ISP Pension
- Korkia Asset Management Oy
- Monyx Asset Management AB
- NorthPeak Governance LP
- Nysnø Climate Investments
- Pareto Alternative Investments AS
- Peak AM Alternative Investments AB
- PenSam
- Proxy P Management AB
- Saminvest
- Sensor Fonder AB
- StockRate Asset Management
- Storebrand Asset Management
- Storm Capital Management
- Strukturinvest Fondkommission
- Tellus Fonder
- Worthwhile Capital Partners
- Zenith Group

REST OF ASIA

- AIA Group Limited
- AvantFaire Investment Management Limited (Provisional Signatory)
- Constant Energy Group Holding Limited
- EASTvine Capital (Provisional Signatory)
- Essence Asset Management (Hong Kong) Limited
- Government Pension Fund of Thailand
- HI Asset Management
- Kotak Mahindra Asset Management
- Panarchy Partners
- SBI Funds Management Private Limited
- Spot Energy
- STONEHORN GLOBAL PARTNERS
- Triple P Capital
- VinaCapital Investment Management Ltd
- Wingspan Funds Advisors LLP (Provisional Signatory)

SOUTHERN EUROPE

- ANESVAD FOUNDATION
- Alantra
- Alpha Asset Management
- Alternative Capital Partners SGR S.p.A.
- Anima Sgr
- BancoPosta Fondi SGR
- Black Toro Capital
- Bridgestone Hispana Pension, F P
- Cassa di Previdenza Monte dei Paschi di Siena
- CREST CAPITAL PARTNERS
- DeA Capital Alternative Funds s.g.r.
- DeA Capital Real Estate SGR S.p.A.
- DiverInvest Corporate Family Office
- ENPAP - Ente Naz. Prev. e Ass. Psicologi
- EUROBANK ASSET MANAGEMENT MFMC
- Explorer Investments
- F2i - Fondi Italiani per le Infrastrutture SGR S.p.A.
- FONDAPI
- Fondo Italiano d'Investimento SGR S.p.A
- Fondo Pensione Monte dei Paschi di Siena
- Fondo Pensione per il Personale delle Aziende del Gruppo Unicredit
- Fundeen
- Gala Capital
- Meridia Capital
- Ocidental Pensões
- Piraeus Asset Management M.F.M.C.
- Poste Vita S.p.A.

- Pramerica SGR S.p.A.
- Principia SGR SPA
- PROA CAPITAL
- Sandman Capital Advisors EAFI
- Seed&Click
- Sherpa Capital
- TAGES CAPITAL

UK & IRELAND

- Absolute Return Partners LLP
- Adelphi Capital LLP
- Advisors & Partners LLP
- AKO Capital LLP
- Alcentra
- Alder Capital Investment Management
- Alpcot Capital Management Ltd
- Amati Global Investors
- Amyma Capital
- AnaCap Financial Partners
- Ancala Partners
- Architas Limited
- Arkadiko Partners LLP
- Aspect Capital Limited
- ATLAS Infrastructure
- Atomico (UK) Partners LLP
- B&CE
- Banor Capital Ltd.
- Beechbrook Capital LLP
- Bidwells LLP
- Bowmark Capital
- Brewin Dolphin
- Cairn Capital Group Limited
- Cantab Asset Management
- Capital and Asset Management Group LLP
- Capital D
- Carne Global Fund Managers (Ireland) Limited
- Causeway Capital
- Chelsfield
- City of London Corporation
- Coupland Cardiff Asset Management LLP
- COUTTS & COMPANY
- CRUX Asset Management
- Daymer Bay Capital
- ECO Advisors (Provisional Signatory)
- Equistone Partners Europe
- EVENLODE INVESTMENT
- Exergy Capital Management LLP (Provisional Signatory)
- Exponent LLP
- Fidra
- Findlay Park Partners
- Force Over Mass Capital LLP
- Fundamentum Property Limited
- G Squared Capital LLP ("G2")
- Gemcorp Capital LLP
- GIB UK
- GK Investor Services
- Gravis Capital Management Ltd
- Hadron Capital LLP
- Hayfin
- INDOS Financial
- International Asset Management Limited
- Iona Capital Limited
- JLT Investment Solutions
- John Lewis Partnership Trust for Pensions
- Just Group Plc
- Kimura Capital LLP
- Kintbury Capital LLP
- Leadenhall Capital Partners
- LGPS Central
- Liontrust Investment Partners LLP
- Local Pensions Partnership
- London CIV
- LumX Group Limited
- MainStreet Partners
- Marathon Asset Management LLP
- Merian Global Investors
- Minerva Money Management Limited
- Mineworkers' Pension Scheme
- MML CAPITAL PARTNERS
- National Grid UK Pension Scheme
- Nestor Advisors
- Nutmeg Saving and Investment
- NVM Private Equity LLP
- Octopus
- OLIM Investment Managers
- Orchard Street Investment Management LLP
- Pallinghurst GP Limited
- Palm Capital Advisors Limited
- Polar Capital
- Prime Advocates
- Quilter plc
- Record Currency Management
- Rede Partners LLP
- Resco Asset Management
- RM Funds
- SCIO Capital LLP
- Seilern Investment Management
- Smith & Williamson Investment Management LLP
- Somerset Capital Management LLP
- Spire Partners LLP
- Stirling Square Capital Partners
- Sustainable Income Advisors Limited (Provisional Signatory)
- SVM Asset Management Limited
- Temporis Capital Ltd
- The River and Mercantile Group (R&M)

- Three Hills Capital Partners LLP
- Tosca Debt Capital LLP
- Tufton Oceanic Ltd
- Tyndaris LLP
- University College Cork
- University of Manchester
- Vantage Infrastructure
- Veritas Investment Management

US

- 1Sharpe Capital LLC
- Advent Capital Management, LLC
- Aetos Alternatives Management, LP
- AJF Financial Services, Inc.
- Aksia
- American Century Investment Management, Inc.
- Angeleno Group
- Aperture Investors (Provisional Signatory)
- ARGA Investment Management, LP
- Arnerich Massena
- ARP Investments
- Artisan Partners
- Atlanta Consulting Group
- AVAIO Capital (Provisional Signatory)
- Bailard Inc.
- Berkeley Partners
- Blackcrane Capital, LLC
- Bond&Devick Wealth Partners
- Calamos Investments LLC
- Callan
- Canterbury Consulting
- CDC Deposits Corp.
- CenterSquare Investment Management LLC
- Church Investment Group
- City of Chicago (City Treasurer's Office)
- Cohen & Company
- Compass Group
- Corsair Infrastructure Partners, L.P.
- Covenant Capital Group, LLC
- CSE - Center for Sustainability and Excellence
- Decatur Capital Management Inc.
- Duff & Phelps Investment Management Company
- EagleTree Capital
- Employees' Retirement System of the State of Hawaii
- Epoch Investment Partners, Inc
- ESG FORCE LLC
- Fairpointe Capital, LLC
- FFL Partners
- Fitch Group, Inc
- Friends Fiduciary Corporation
- G Squared Equity Management, L.P.
- Gavion, LLC
- GI Partners
- Glenmede
- Global Thematic Partners
- Granahan Investment Management, Inc.
- Greenspring Associates, Inc.
- Harris Associates L.P.
- IMPACT Community Capital
- Inherent Group, LP
- Jackson Square Partners
- Jantz Management LLC
- Kairos Investment Management Company
- Kandeo Asset Management
- Karner Blue Capital, LLC (Provisional Signatory)
- Kayne Anderson Rudnick Investment Management, LLC
- Kennedy Capital Management, Inc.
- Kopernik Global Investors, LLC
- KraneShares
- Kuramo Capital Management
- L Catterton
- LibreMax Capital, LLC
- LM Capital Group, LLC
- LMCG Investments, LLC
- Lyrical Asset Management LP
- Martingale Asset Management, L.P.
- Maryland Capital Management, LLC ("MCM")
- MBC Strategic
- Mercatus, Inc.
- Mercy Investment Services, Inc.
- Merganser Capital Management, LLC
- MetLife Investment Management
- Minnesota State Board of Investment - Combined Funds
- Mosaic Real Estate Investors
- New Energy Capital Partners, LLC
- New Mountain Capital
- Nuveen, a TIAA Company
- Oak Hill Advisors
- Oberweis Asset Management
- Office of the Illinois State Treasurer
- Orion Energy Partners
- P. Schoenfeld Asset Management LP
- Parametric Portfolio Associates
- PERKINS INVESTMENT MANAGEMENT LLC
- Pier Capital, LLC
- PIPV Capital
- Polen Capital Management, LLC
- PPM America, Inc.
- QS Investors
- Ranger Investment Management, LP
- Reams Asset Management, a Division of Scout Investments
- Reinsurance Group of America, Incorporated
- Ridgewood Energy
- Ridgewood Infrastructure

- Riverbridge
- Roha Group Inc
- Ryan Labs Asset Management Inc.
- Seasons of Advice Wealth Management, LLC.
- SEI Investments Company
- Snow Capital Management L.P.
- Tangency Capital Ltd.
- The Forestland Group LLC
- The TCW Group, Inc.
- The Vistria Group
- THL Credit
- Thomas Schumann Capital LLC
- Tiedemann Wealth Management
- Tortoise Investments, LLC
- Tremblant Capital
- Unison Investment Management, LLC
- Unitarian Universalist Common Endowment Fund, LLC
- University of New Hampshire Foundation
- Vermont Pension Investment Committee (VPIC)
- Verto Management, LLC
- WCM Investment Management
- Westwood Holdings Group
- WisdomTree Investments, Inc.
- ZEBRA CAPITAL MANAGEMENT, LLC

FORMER SIGNATORIES

Between April 2018 and March 2019, 89 organisations ceased to be signatories. This includes organisations choosing to relinquish signatory status (53), membership changes due to mergers and acquisitions involving other signatories (22) and organisations that ceased to exist (3). Ten signatories were delisted by the PRI for failing to participate in the reporting and assessment process.

CHOSE TO LEAVE

- Altere Securitizadora
- amLeague
- ARC Fiduciary
- Arrow G Capital
- Astra Investimentos
- Audley Mineral Resources Management LLP
- Banque Bonhôte & Cie SA
- Bravia Impact Assets
- Cadiz Holdings
- Cardano Development
- City of Espoo
- Coding Ant GmbH
- CoPower
- Coppin Collings Ltd
- Daruma Capital Management, LLC
- Element Partners
- Fonds 1818
- Fortuna Asset Management Communications
- Frontier Impact Capital
- Global Footprint Network
- Grameen Crédit Agricole Microfinance Foundation
- Helliot Vermogensbeheer NV
- Highland Capital Management
- Hub Culture / Ven Currency
- IMPACT Partenaires
- Innovacom Gestion
- ISAM
- JLens Investor Network
- Kaeté Investimentos Ltda
- KEY Associados
- Korea Corporate Governance Service (KCGS)
- Le Mouvement d’éducation et de défense des actionnaires (MÉDAC)
- LimeVest Partners
- MVision Private Equity Advisers
- Novaster
- Origami Consultoria em Gestão de Negócios Sustentáveis ltda
- Pampa Capital Management LLP
- Pennam Partners
- Qube Investment Management Inc.
- Radce Consultoria e Participações Ltda
- River Hollow Partners
- Santro Invest AG

- Sciteb Ltd
- SDS Int'l Group
- Spudy Family Office GmbH
- Swell Asset Management
- The Abraaj Group
- Thomson Reuters
- Tiber Capital LLP
- Unity Incorporation
- Value Adviser Associates
- VaR Capital
- Varainhallinta Tresor Oy

DELISTED FOR FAILING TO REPORT

- BA Desarrollo
- Ciloger
- COMANCO
- Empirical Asset Management, LLC
- FINANCE-SA
- IDF Capital
- Juniata College
- NewWorld Capital Group, LLC
- Oquendo Management Sarl
- Tomorrow's Company

MERGED/SPLIT MEMBERSHIPS (INCLUDING DUE TO M&A BETWEEN SIGNATORIES)

- ACG Capital
- Alantra Asset Management SGIIC SA
- Alexander Forbes Asset Consultants
- Aquila Capital Green Assets GmbH
- Fiera Capital (UK) Limited
- Fiera Comox Partners Inc.
- First Investments BV
- ING Groenbank N.V.
- Lancashire County Pension Fund
- Liontrust Investments Limited
- London Pensions Fund Authority (LPFA)
- N+1 Private Equity
- OceanRock Investments Inc.
- ODDO BHF Asset Management GmbH
- oekom research AG
- Pax World
- Pioneer Global Asset Management S.p.A
- Standard Life Investments
- Standish Mellon Asset Management
- SYZ Asset Management (Switzerland) SA
- The Boston Company Asset Management, LLC
- Think ETF Asset Management

MERGED WITH OR TAKEN OVER BY NON-SIGNATORY

- IDFC

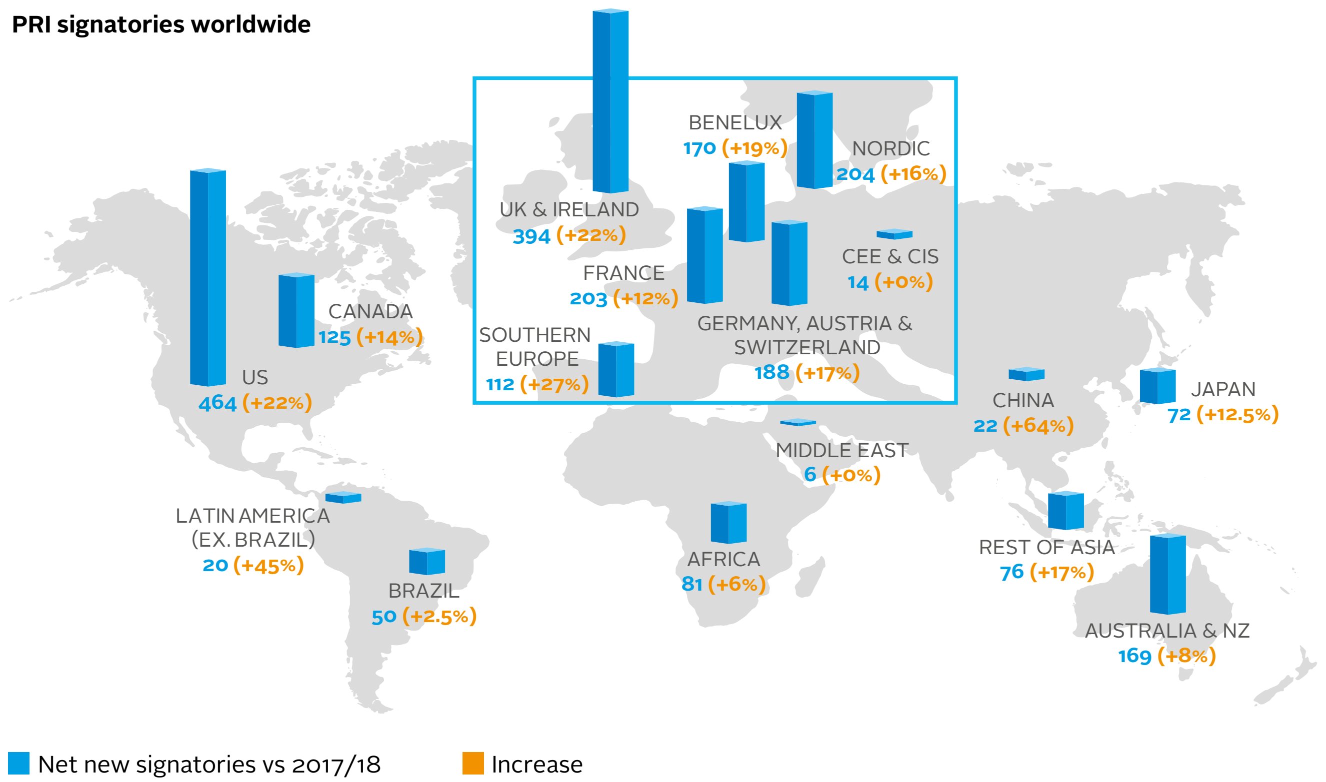
CEASED TO OPERATE

- Hastings Funds Management Limited
- METAFORM INVESTMENTS INC.
- Quotient Investors

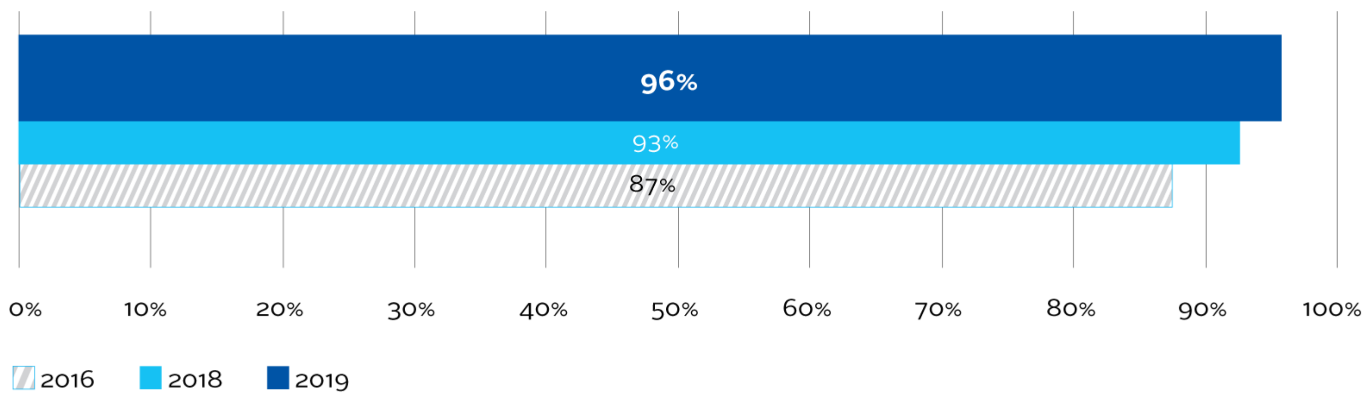
BACK

2018/19 IN NUMBERS

PRI signatories worldwide

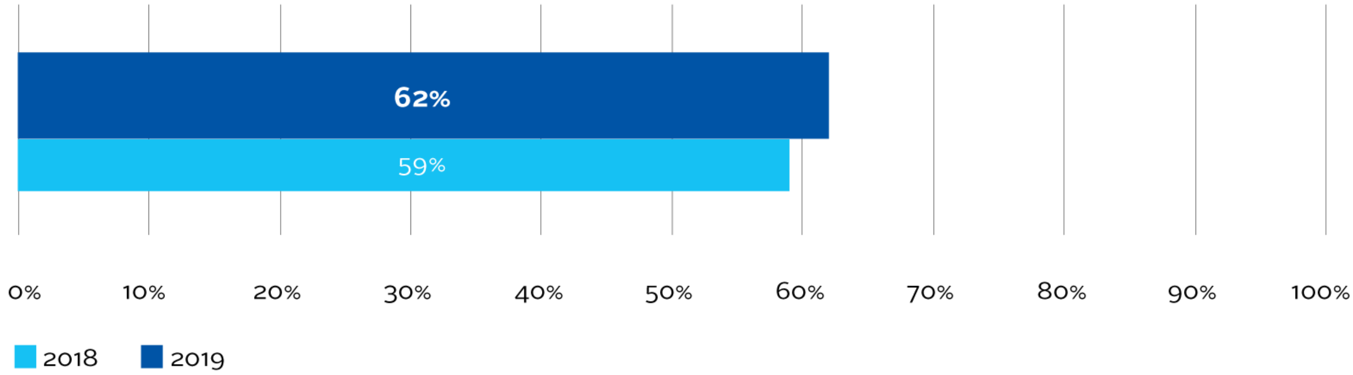


Asset owner signatories having a mission, strategy or investment policy referencing responsible investment* that covers the majority of their AUM



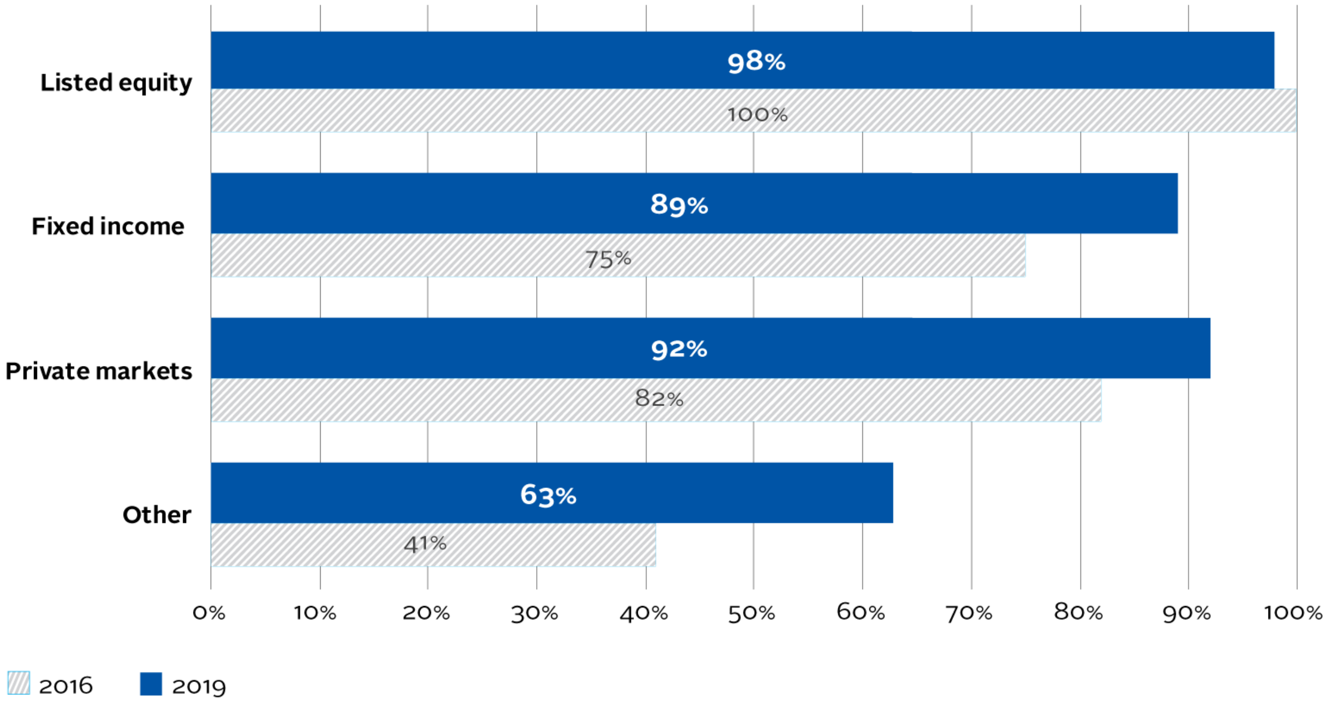
*(or a related concept)

Asset owner signatories* considering responsible investment at all stages of selecting, appointing and monitoring managers

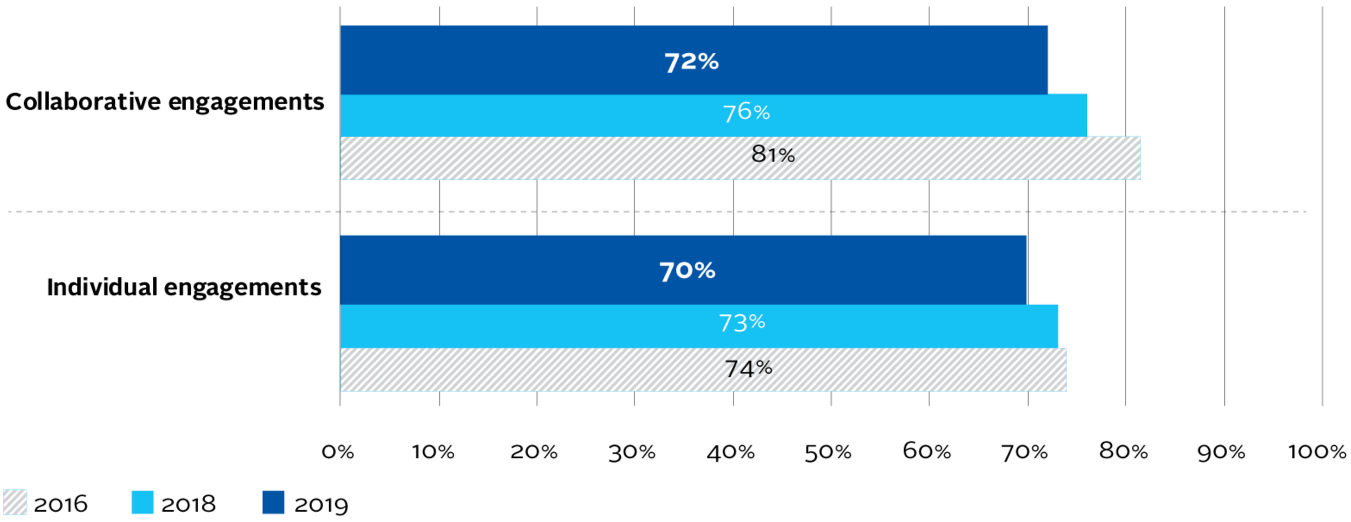


*that use external managers

Signatories incorporating ESG issues (to any extent)

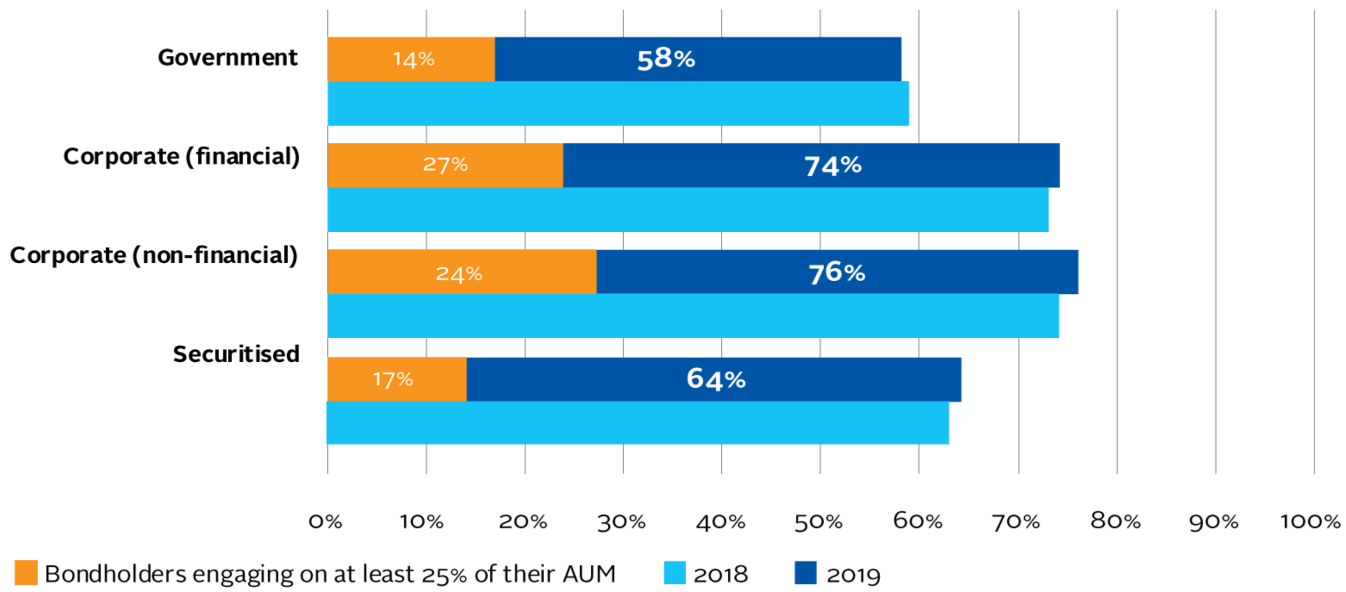


Signatories* setting objectives on the majority of their engagements



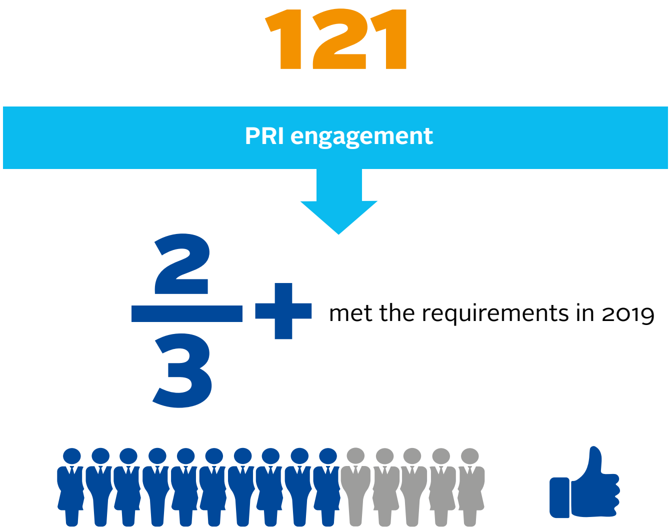
*that report engagement activities

Bondholders engaging with issuers

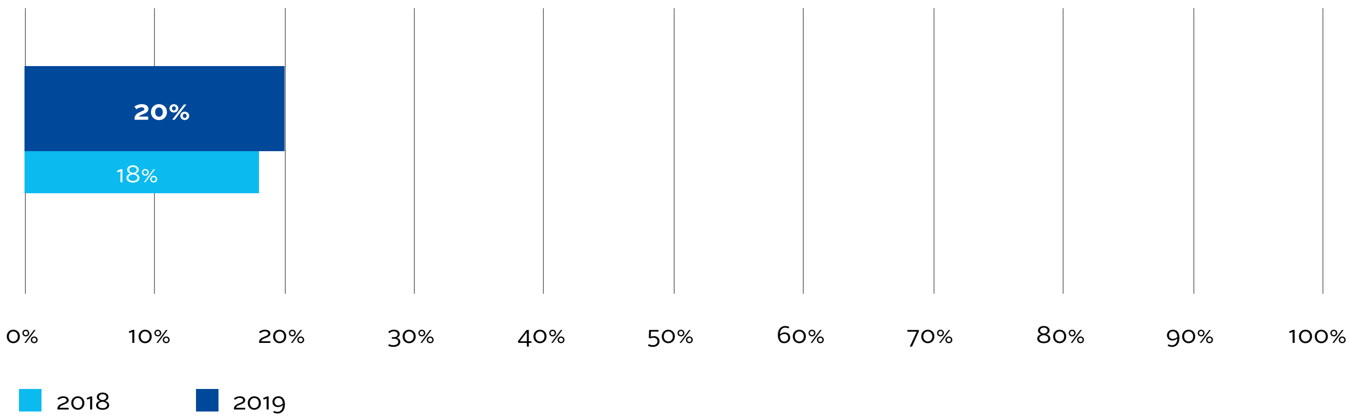


BOARD Meeting: 11/12/19
Item VIII-C
Attachment 2

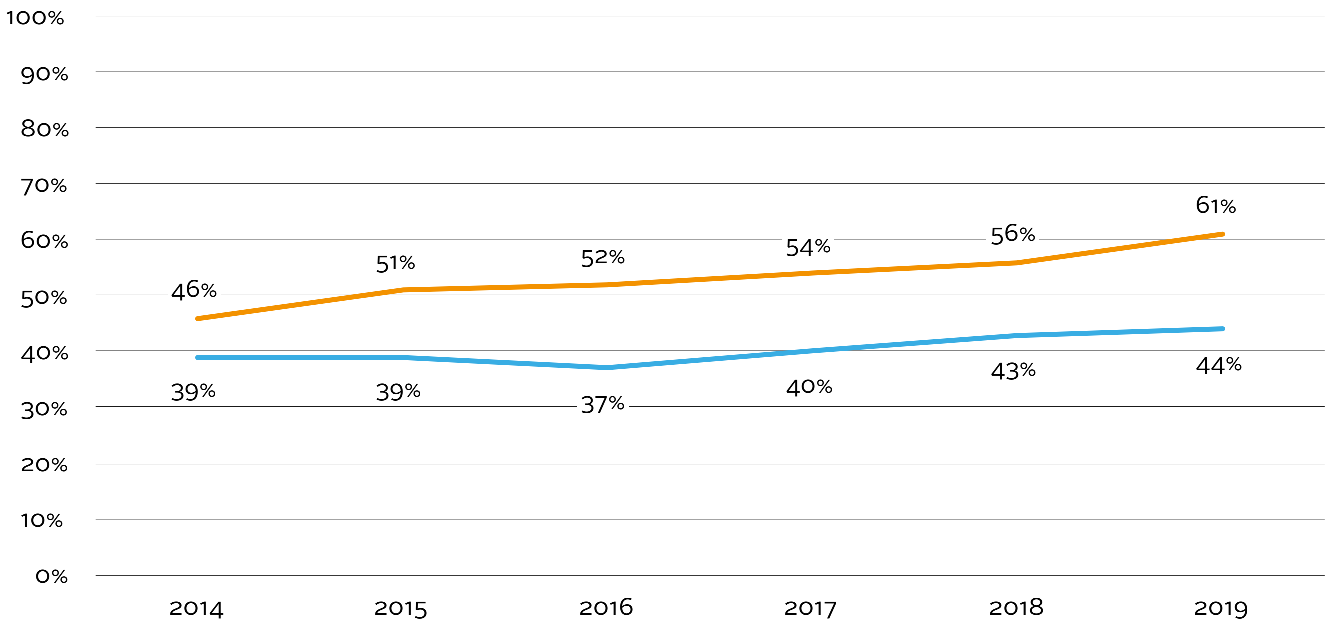
Number of signatories that the PRI engaged with due to being below the minimum requirements in 2018



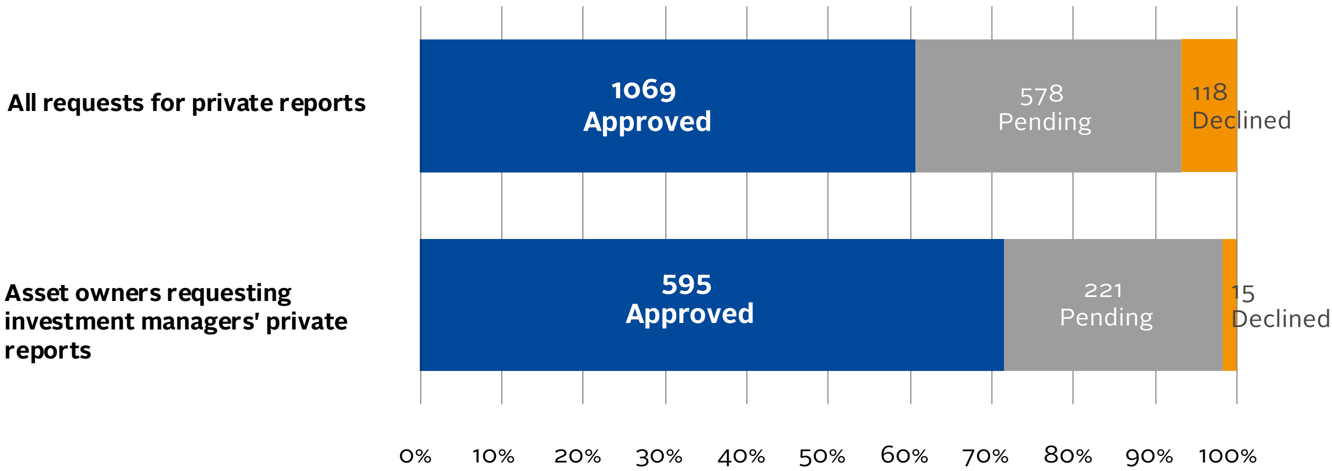
Percentage of voluntary reporting indicators that signatories chose to publicly disclose



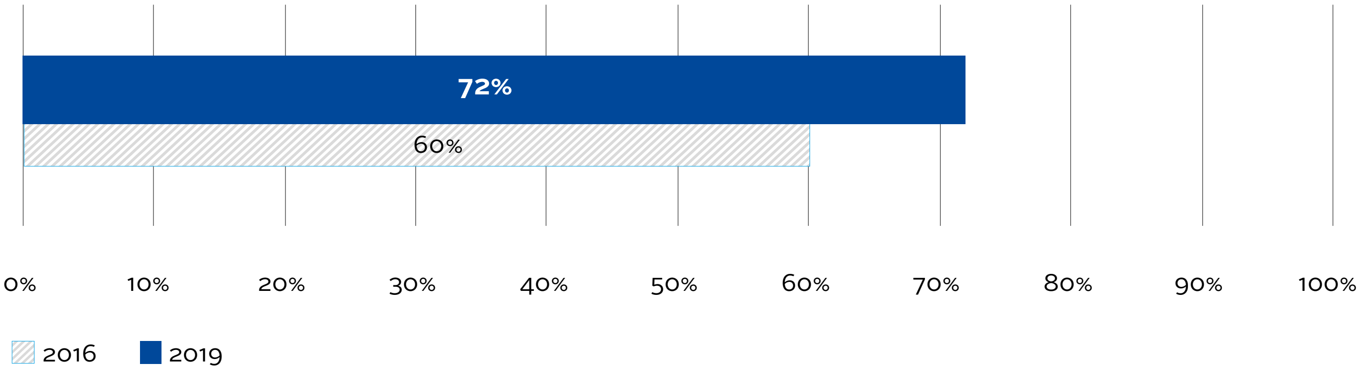
Signatories engaging with policy makers



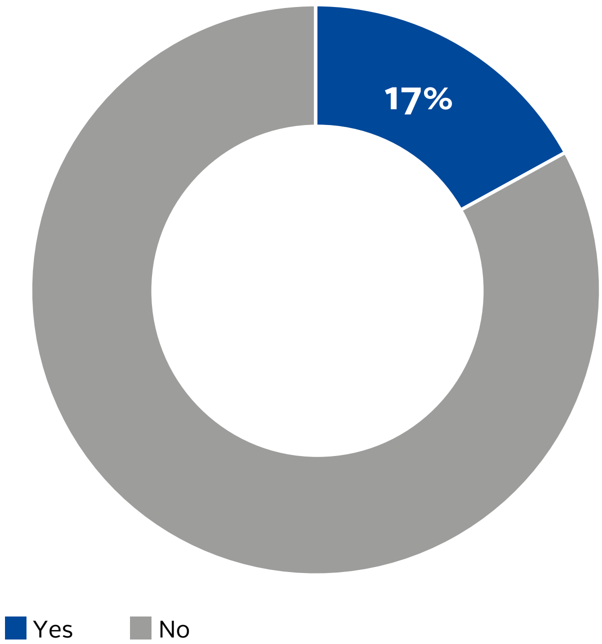
Requests to view private reports on the PRI Data Portal



Signatories specifying actions taken to address climate-related risks and opportunities



Asset owner signatories* requesting private reports from investment manager signatories



*that use external managers

Signatories whose public reports have been viewed by other signatories*

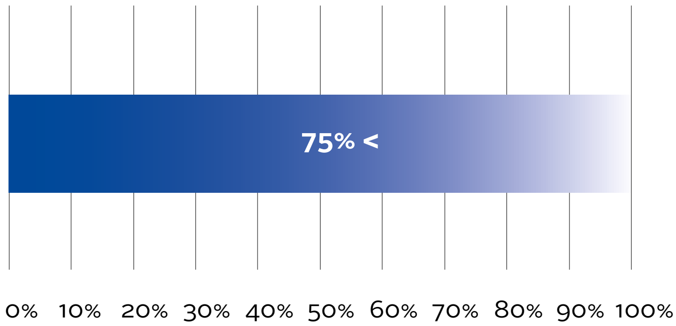
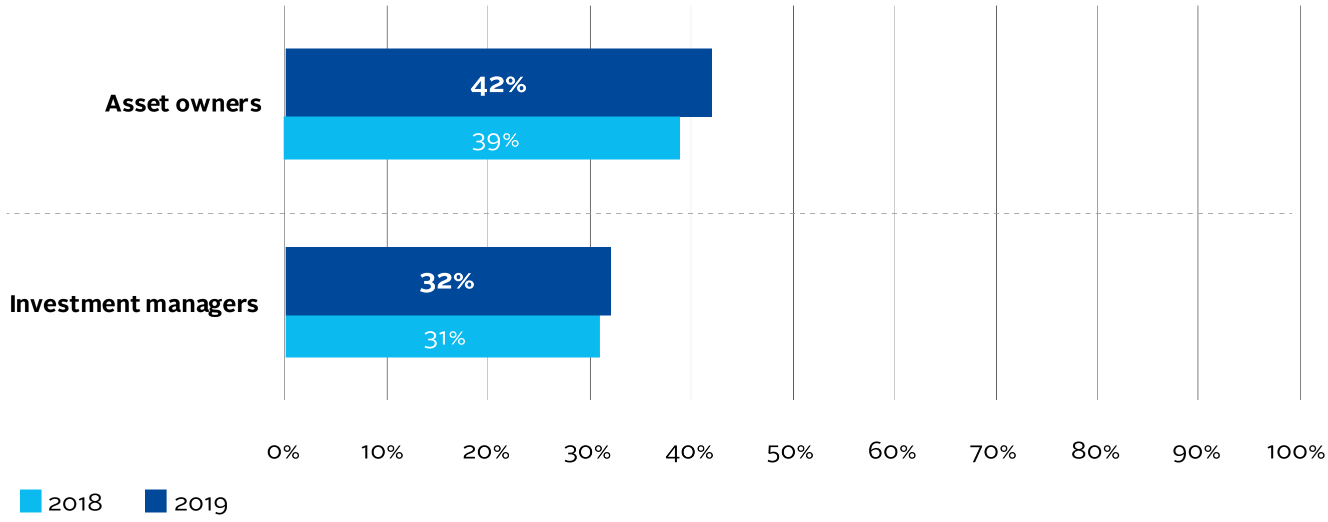
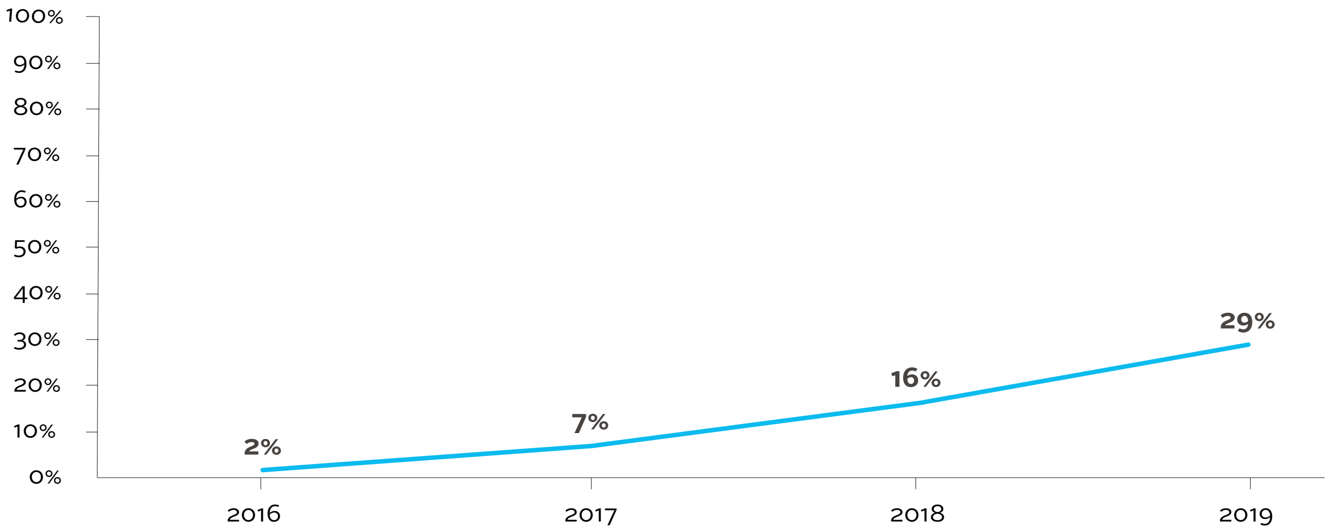


*Figure relates to views on the PRI Data Portal, but public reports are also available on the PRI website.

Signatories choosing to answer optional TCFD-aligned questions on climate change



Signatories mentioning the SDGs during their PRI reporting



The Principles for Responsible Investment (PRI)

The PRI works with its international network of signatories to put the six Principles for Responsible Investment into practice. Its goals are to understand the investment implications of environmental, social and governance (ESG) issues and to support signatories in integrating these issues into investment and ownership decisions. The PRI acts in the long-term interests of its signatories, of the financial markets and economies in which they operate and ultimately of the environment and society as a whole.

The six Principles for Responsible Investment are a voluntary and aspirational set of investment principles that offer a menu of possible actions for incorporating ESG issues into investment practice. The Principles were developed by investors, for investors. In implementing them, signatories contribute to developing a more sustainable global financial system.

More information:www.unpri.org

PRI Principles for Responsible Investment

The PRI is an investor initiative in partnership with UNEP Finance Initiative and the UN Global Compact.

United Nations Environment Programme Finance Initiative (UNEP FI)

UNEP FI is a unique partnership between the United Nations Environment Programme (UNEP) and the global financial sector. UNEP FI works closely with over 200 financial institutions that are signatories to the UNEP FI Statement on Sustainable Development, and a range of partner organisations, to develop and promote linkages between sustainability and financial performance. Through peer-to-peer networks, research and training, UNEP FI carries out its mission to identify, promote, and realise the adoption of best environmental and sustainability practice at all levels of financial institution operations.

More information: www.unepfi.org

UNEP FINANCE INITIATIVE

UN Global Compact

The United Nations Global Compact is a call to companies everywhere to align their operations and strategies with ten universally accepted principles in the areas of human rights, labour, environment and anti-corruption, and to take action in support of UN goals and issues embodied in the Sustainable Development Goals. The UN Global Compact is a leadership platform for the development, implementation and disclosure of responsible corporate practices. Launched in 2000, it is the largest corporate sustainability initiative in the world, with more than 9,500 companies and 3,000 non-business signatories based in over 160 countries, and more than 70 Local Networks.

More information: www.unepfi.org

United Nations Global Compact

PRI Principles for Responsible Investment

PRINCIPLES FOR RESPONSIBLE INVESTMENT 2019 SIGNATORY GENERAL MEETING MINUTES

10 SEPTEMBER 2019, 09:00-10:30

Palais de Congrès de Paris

The PRI sought input from signatories on the Signatory General Meeting (SGM) draft agenda and invited signatories to contribute agenda items and resolutions to be put to a vote. No agenda items or resolutions were received. All signatories were sent the SGM papers[1] and the PRI's 2019 Annual Report[2] in advance of the meeting.

In attendance:

- Fiona Reynolds, PRI CEO
- Martin Skancke, PRI Board Chair (meeting Chair)
- PRI Board members: Wendy Cromwell, Angela Emslie, Eva Halvarsson, Sharon Hendricks, Hiro Mizuno, Renosi Mokate, Tycho Sneyers, Laetitia Tankwe, Eric Usher, Xander den Uyl and Peter Webster.
- 500+ in-person signatory representatives

Materials:

- SGM presentation

MESSAGE FROM THE CHAIR

The PRI Chair, Martin Skancke, welcomed everyone to the SGM, those attending in person and via live streaming. The Chair briefed the audience on the SGM agenda and introduced the assembled PRI Board members to the audience.

The Chair stressed that the PRI's activities are guided by the PRI's Blueprint for Responsible Investment[3]. The Blueprint is a 10-year strategy for the PRI, with nine priority areas. The PRI Board is constantly monitoring the PRI's ambition and progress against the nine areas. We feel that we are making good progress and it is a pleasure to report back to signatories. Over the past year the board has spent considerable time on two of the priority areas: *Enable real-world impact aligned with the SDGS*; and *Drive meaningful data throughout markets*.

The PRI has been very encouraged by the investor response to the Sustainable Development Goals (SDGs). It is also clear that the PRI must do more to support signatories on the SDGs. The PRI has published a number of guidance documents and case studies. Feedback from

[1] https://www.unpri.org/Uploads/n/l/s/pri_sgm_boardreport_2019_96277.pdf
[2] https://www.unpri.org/pri/about-the-pri/annual-report
[3] https://www.unpri.org/pri/a-blueprint-for-responsible-investment

signatories has been encouraging, but there is more work to follow and there will be more information in the management report.

With regards to driving meaningful data throughout markets. The PRI has been actively involved in the Taskforce on Climate-related Financial Disclosures (TCFD), an important area of work. But, investors need good sustainability reporting beyond just climate. Investors are demanding more convergence of existing reporting frameworks and the PRI is exploring how to take that work forward. A related issue is the future of the PRI's Reporting Framework. The PRI has listened to feedback from signatories. To summarise, there has developed an imbalance. Signatories feel that they put more into reporting than they receive back. The board is committed to a major overhaul of the framework, based on signatory feedback. The PRI will consult further on the details of the reform.

It is encouraging that the PRI is increasing its global footprint. The PRI is growing not only in traditional core areas for the PRI, but growing in areas where our footprint was previously very small. The PRI has had significant signatory growth, from a small base, in China, Latin America and Southern Europe. Therefore, the signatory base is growing even more diverse and this is a welcome challenge for the PRI. The PRI needs to make sure that there is a diversity of services to serve an increasingly diverse signatory base. Obviously that means that not all activities will be relevant for every signatory, but the sum of what we do has to be relevant to the signatory base.

At the 2018 SGM the PRI promised to do more to bring the organisation closer to signatories. The PRI is improving our digital and communication capabilities, employing more people on the ground to service local groups of signatories, and devoting more resources to translating PRI materials. The PRI hopes that by increasing our local presence we will be able to engage more with our ever growing signatory base.

In 2020 the board will start to develop the 2021-24 PRI strategy. The strategy will be built on signatory input. The PRI would like to use this opportunity to remind you to complete the current signatory survey. This is an opportunity for signatories to give their input on the value and future activities of the PRI and the survey results will inform the board's discussions on the strategy.

The chair thanked the PRI staff and signatories for the work undertaken over the past year. Being a signatory is a commitment, not just paying the annual fee. Signatories spend considerable time in working groups, advisory committees and other engagements with the PRI. An important role for the PRI is collecting best practices from across the globe and sharing them with the signatory base. The work done by signatories is very valuable and at the heart of the PRI mission.

MANAGEMENT AND FINANCIAL REPORT

Fiona Reynolds presented the management and financial report for the 2018-19 financial year.

Fiona Reynolds also welcomed signatories to the SGM and PRI in Person. With over 1600 delegates this is the largest ever PRI in Person and significantly the largest ever responsible investment conference globally.

The PRI has established an office in France, headed up by Marie Luchet, Director of Continental Europe. There are more than 200 signatories in France, including 24 asset owners, many of whom are attending the conference. Over the next three days the PRI is looking forward to sharing with signatories some of the key pieces of work that the PRI is undertaking, often with signatories. The PRI is also looking forward to hearing from signatories about the work they are undertaking to drive responsible investment. Thank you to signatories for contributing to the PRI in a variety of ways, from joining working groups and advisory committees, to taking part in investor engagements, providing input into guidance documents and generally collaborating on what is a rapidly growing movement. Thank you to the PRI Board. the board is elected and voluntary, and board members put in a lot of time and effort to the PRI.

Today, the presentation will highlight some of the work that has been undertaken over the past twelve months. More details are in the annual report and will feature at the conference. The PRI has grown significantly over the past year. The signatory base grew at a net rate of over 22%, including 433 new signatories, the largest ever increase in a year. Growth has been healthy in both developed and emerging markets, such as China where we have recently welcomed our first asset owner signatory.

PRI signatories represent a significant portion of all the institutional money being managed globally. As the PRI's scale and presence has increased, so too has our impact as investors. One focus this year has been engaging with signatories in emerging markets where the PRI has been representing investor views at the highest level. Stock Exchanges are a key partner for the PRI. Earlier this year Fiona Reynolds had the opportunity to ring the bell for responsible investment at the Santiago Stock Exchange alongside the Chilean Finance Minister. It is a relatively new market to responsible investment and having the finance minister present sent a clear message about the importance of responsible investment. Ministers at a high level, including Bruno Le Maire, the French Minister for the Economy and Finance, who will be speaking at the conference are recognising that the future for finance is sustainable finance.

As the signatory base has grown, so too has the PRI, to ensure that the organisation can support you in local markets. The PRI welcomed forty new staff over the past year, taking the organisation to 128 staff globally. Fiona Reynolds was proud to say that 59% of the staff are female. Fiona Reynolds thanked the PRI staff for their effort, passion, enthusiasm and professionalism.

As the signatory base and staff have grown, so too have the finances. The financial statements are in the annual report. The headline figures are that: total income grew to £13.2m, up from £10.4m in 2017/18; total expenditure grew to £12.5m, up from £10.2m in 2017/18; and there was a surplus of just over £550k. The PRI is in a good financial position and it is the current policy to operate with a minimum reserve of three months full operating expenses. Given the good position, and subject to 'Brexit' (given that the PRI's headquarters are in the UK) and other unknown factors, the plan is to not increase signatory fees in 2020.

The PRI's corporate structure has also evolved over the years to enable our global growth, comprising of seven entities with PRI Association in the UK as the ultimate holding company. PRI Enterprises is the home of the PRI Academy. The Academy doubled its income in the past year, generating a surplus for the first time, following a comprehensive update of the courses and platform. During the year there were nearly 1,800 enrolments.

The headline figures are growth in signatories, growth in staff, growth in revenue and growth in the importance of responsible investment. With regards to progress against the Blueprint for Responsible Investment, the aim over the next ten years is to create responsible investors, working in sustainable markets that contribute to a more prosperous world for all.

The PRI has eight current 'flagship' projects:

- European Technical Expert Group on Sustainable Finance – Taxonomy;
- Inevitable Policy Response: Act Now;
- Financial Sector Commission on Modern Slavery and Human Trafficking;
- Manager Selection, Appointment and Monitoring;
- Normative position on Human Rights;
- ESG in Credit Risk and Ratings;
- Climate Action 100+; and
- Sustainable Development Goals

A lot of these projects will feature at the conference. Fiona Reynolds is chairing the Financial Sector Commission on Modern Slavery and Human Trafficking, focusing on the finance sector's role in combatting what is a growing global human tragedy.

Over the year the PRI has worked with signatories to identify key ESG issues, and developed tools and publications for asset owners and investment managers. The PRI guidance for ESG integration was created jointly with the CFA Institute[4] and together the two organisations hosted workshops across 17 markets. The programme resulted in a suite of ESG integration guides for listed equity and fixed income, with more than thirty case studies. One of the PRI's most significant projects has been the ESG in Credit Ratings initiative[5] and this year the PRI completed the third in a series of reports. In addition, the PRI's range of ESG issues guides continued to expand, including insights into human rights in the extractive industries, the just transition, and cyber-security.

The PRI coordinates and participates in many engagements. One engagement to highlight is Climate Action 100+[6] (CA100+), the largest ever investor engagement, which the PRI convenes with a number of other organisations (AIGCC, Ceres, IGCC, and IIGCC). 360 investors, with US$34 trillion AUM, have signed up to the engagement. As well as the scale of the engagement, there has been unprecedented engagement momentum, including in regions such as Asia where investor-company engagement is still rarely new. CA100+ has also seen some significant wins, with ambitious company commitments. For example, Shell has committed to its first three year reduction target. The Investor Agenda[7] is also another industry wide collaboration that will feature on the conference agenda. The PRI encourages all signatories to consider joining, if you haven't already, CA100+ and the Investor Agenda.

[4] https://www.unpri.org/investor-tools/guidance-and-case-studies-for-esg-integration-equities-and-fixed-income/3622.article
[5] https://www.unpri.org/credit-ratings
[6] http://www.climateaction100.org/
[7] https://theinvestoragenda.org/

The PRI continues to facilitate engagements on a number of issues, from water risk to cobalt, and continue to seek more signatory participation in these critical topics. One engagement of note is the engagement on deforestation, linked to soy and cattle production, in collaboration with Ceres. Given the ongoing fires in the Amazon, maintaining investor pressure on companies with exposure to these commodities is a really critical part of the investor response to ecosystem destruction.

Active ownership and stewardship play a critical role for responsible investors. The PRI welcomes your feedback, to take the strategy in this area to a new level. The PRI wants to re-focus effort on outcomes. To enable more active ownership, particularly as the signatory base grows in size and reach around the world, the PRI is pleased to announce the launch of the PRI's new and improved Collaboration Platform[8].

Climate remains a focus area for signatories, where signatories are seeking more guidance from the PRI. In September 2018 the PRI launched the Inevitable Policy Response (IPR) initiative[9]. The belief is that a forceful policy response to climate change is not priced into today's markets, yet it is inevitable that governments will be forced to act more decisively that they have done to date, leaving investor portfolios at significant risk. The longer the delay the more disorderly, disruptive and abrupt the PRI believes this policy intervention will be. At the conference the PRI is releasing the next phase of the IPR research. The programme of work forecasts eight policy areas for intervention and the PRI is developing further tools and scenario analysis. The PRI believes that this is arguably one of the most important pieces of work that the organisation has undertaken and encourages signatories to engage with the work.

TCFD-based reporting was introduced to the PRI's Reporting Framework in 2018. Almost 600 signatories report against these indicators. The PRI views the TCFD as the best available framework for the systematically assessing and managing climate change issues. Reporting on the TCFD-based governance and strategy indicators will become mandatory for all signatories from 2020. The PRI has just released a new climate snapshot report[10], based on 2019 reporting. The evidence shows that there is momentum behind TCFD within the global investor community. The PRI is encouraging signatories that have yet to report against these indicators to read the snapshot, and access more than 200 other climate reports from signatories to benefit from peer-to-peer learning, before the 2020 reporting cycle.

The number of signatories talking about the SDGs in the Reporting Framework responses has increased each year, now up to 29%. When the PRI developed the Blueprint, signatories told us that achieving the SDGs was integral to achieving prosperity for all. The PRI's programme of work on the SDGs[11] includes an SDG flagship paper, a series of case studies, including the SDGs in infrastructure, and also a legal framework for impact.

More signatories are engaging with policy makers globally than ever before, including 61% of asset owners, and 44% of investment managers. The PRI's current policy priorities are in the US,

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[8] https://collaborate.unpri.org/

[9] https://www.unpri.org/inevitable-policy-response/what-is-the-inevitable-policy-response/4787.article

[10] https://www.unpri.org/climate-change/pri-climate-snapshot-2019/4788.article

[11] https://www.unpri.org/sdgs

EU and China. In Europe the responsible investment story is positive, with political agreement on the first dedicated sustainable finance regulations originating in the EU Action Plan. The PRI's Nathan Fabian has been acting as a rapporteur for the EU Taxonomy working group. In China the PRI has welcomed AMAC's green investment guidelines and the PRI has had the opportunity to significantly support ESG disclosure regulation. The PRI's top priority in the US is protecting shareholder rights and the PRI has taken multiple steps to communicate to policy makers the importance of maintaining regulations that ensure that investor voices are heard in the proxy process.

The Reporting Framework is a cornerstone of the PRI's work and the organisation is committed to a comprehensive review of the framework. The aim of the review is to ensure that the reporting is fit for purpose, that it is keeping up with current practices. The PRI has undertaken a major consultation to understand signatory views on reporting and assessment, including any possible trade-offs in the reform. The PRI was pleased to find, during the consultation process, that there was a high level of signatory support for reporting. Signatories told us that it was helpful for developing internal processes and policies, for benchmarking against peers, and an accountability tool that meets Principle 6. However, signatories complained that the current framework is too long and complex, and the tools and the outputs are not user-friendly. The PRI aims to design a shorter, more streamlined and user-friendly framework. While it will be shorter, the aim will also be to make the attainment of the highest scores more difficult, helping with accountability and to showcase real leadership. The reform is still in development and the PRI plans to consult with signatories further.

In 2018 the PRI introduced minimum requirements for signatories, with a view to raising standards. 152 signatories, that had to undertake the annual reporting, did not meet the minimum requirements in 2018. The PRI has engaged with 80% of these signatories, of which 83 signatories have met the requirements in 2019. This year there are 145 signatories on the engagement list. Any signatory that has still not met the minimum requirements after the third reporting cycle will be delisted. Signatories that are not meeting the minimum requirements should engage with the PRI. In 2020 the PRI will review the minimum requirements, to determine if the bar needs to be raised further.

As the PRI seeks to raise accountability the organisation is also committed to showcasing signatory leadership. After the SGM the first annual responsible investment awards will be presented. The short list includes both asset owners and investment managers. The PRI is also launching the first leaders' group, which aims to recognise leaders that are already implementing best practice. Each year the PRI will recognise a leaders' group, focusing on a topic from the Blueprint. The topics will change every year. This year the focus is on asset owners, and the selection, appointment and monitoring of external managers in listed and or private equity. The leadership group comprises the top 10% of signatories in this category. The PRI has also produced a report on the leaders' group[12], including the methodology and leaders' best practices. I am delighted to reveal the 2019 leaders' group. Anyone in the room who works for a signatory in the leaders' group please stand up. Congratulations to those in the leaders' group and thank you for the spirit of sharing best practices.

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[12] https://www.unpri.org/signatories/showcasing-leadership/leaders-group-2019

Growth, lots of productivity and fantastic leadership, a good story. However, to take a step back it is clear that we will need many more leaders. Despite strong growth in responsible investment practices, policy engagement and active ownership, there is a need to consider the story in the real world. On the social side of the ledger, in the real world, today over 40 million people are in modern slavery, 1 in 185 people, of which 71% are woman and girls. The top 10% of households own 85% of global wealth. The global gender pay gap at the current rate will take 202 years to close. There is currently no sector that pays women more than they pay men.

Moving on to global governance. Corruption is costing the global economy US$3.6 trillion every year. Tax base erosion and profit shifting cost countries up to US$240 billion in lost revenue annually. The pay disparity between workers and senior management is notable, particularly in countries like the US where last year CEOs made 287 times more money than their average workers. There is also political uncertainty, from Brexit, to trade wars between the US and China, to ongoing protests in Hong Kong.

On the environment, in 2018 there was a 2.7% increase in global emissions. Humanity is nowhere near to limiting global warming to 1.5°C. 129 million hectares of forest were lost between 1990 and 2015. 2.2 billion people in the world lack safe drinking water. There has also just been the loss of life and destruction from Hurricane Dorian.

Finally, Fiona Reynolds highlighted two environmental and social catastrophes this year, the Amazon fires disaster and the tailings dam collapse in Brazil. Thousands of fires are currently ravaging the Amazon. Next week the PRI will formally launch an investor statement on the fires[13], focusing on deforestation, which the PRI will encourage signatories to support. The aim is to make sure that investors are heard on this issue. The PRI has also recently released a report on '*The Amazon: a critical climate tipping point*'[14], which the PRI encourages signatories to read.

At the start of 2019 Brazil witnessed the worst humanitarian disaster in mining history, the collapse of the tailings dam in Brumadinho. Over 270 people died, and they are still searching for bodies. In the wake of the collapse a large PRI coordinated investor imitative began to engage with Vale and other investors began to engage more broadly with the sector on tailing storage facilities. The International Council on Mining and Metals (ICMM) committed to undertake an independent review to establish a standard for tailings storage facilities and approached the PRI and UNEP to lead the review. The PRI is represented by Adam Mathews from Church Commissioners and John Howchin from the Swedish Council of Ethics. Fiona Reynolds thanked them for their commitment to this issue. The PRI is also really honoured to have with us at this conference Amanda Andrade. Amanda is from Brumadinho and lost her sister in the disaster. Amanda has been very active raising awareness, to try to ensure that a similar disaster will never happen again. You can hear from Amanda at the conference.

In conclusion, although there are many positive stories to tell in responsible investment, both through collective and individual leadership, people cannot rest on their laurels. Everyone needs to accelerate action and re-double efforts. The theme of this year's conference is responsible investment in an age of urgent transition, and this reflects the fact that humanity is facing a

[13] https://www.unpri.org/amazon-fires
[14] https://www.unpri.org/Uploads/s/h/b/pri_theamazon_acriticalclimatetippingpoint_2019_659012.pdf

climate emergency and dramatic social change. The hope is that over the next few days delegates will focus not only on responsible investment activities, but that everyone also comes together as a coalition of the willing to focus on the proactive role that investors can play, a part of the change that everyone needs to see. Investors are not responsible for every issue in the world, they need to work with companies, with policy makers, and with civil society. But, without the investment community it will be difficult to solve all of these problems.

SIGNATORY Q&A

Signatories asked questions on:

- How the PRI is considering coordinated responsible investment action both in the public and private markets.
- The process for delisting signatories that fail to meet the minimum requirements and common reasons why signatories are not meeting the requirements.
- How the ‘responsible investment bubble’ can connect with hearts as well as minds.
- The PRI’s prioritisation of the movement of capital and decarbonising portfolios.
- The role of the PRI in facilitating the convergence or harmonisation of SDGs impact reporting.
- What can be done to enable organisations to learn from peers via the PRI Reporting Framework and its various outputs, such as the assessment and transparency reports.

Signatories voiced their support for:

- The PRI supported engagement on tailings storage facilities, and generally the model of collaborative engagement on systemic and structural issues.
- The Inevitable Policy Response programme of work.

PRI BOARD ANNUAL ELECTION CANDIDATES

The 2019 PRI Board annual election is for ***two asset owner*** positions and ***one service provider*** position. Three candidates have nominated for the two asset owner positions and four candidates have nominated for the one service provider position. Signatories will be asked to vote for candidates from 30 September to 15 November[15].

Asset owner candidates:

Name	Role	Organisation	Region	Signatory since	Seconding signatory
Eva Halvarsson	CEO	AP2	Europe	2006	Stichting pensioenfonds van de ABN AMRO Bank N.V.
Hiromichi Mizuno	Executive Managing Director and CIO	GPIF	Asia	2015	CBUS Superannuation Fund; CalSTRS
Rafael Soares Ribeiro de Castro	Executive Manager of Compliance and Internal Control	PREVI	Latin America	2006	Real Grandeza

[15] For more information on the elections see: https://www.unpri.org/pri/pri-governance/board-elections

Service provider candidates:

Name	Role	Organisation	Region	Signatory since	Seconding signatory
Giles Gunesekera	CEO	Global Impact Initiative	Australasia	2019	Sustainable Platform
Michael Jantzi	CEO	Sustainalytics	Europe	2008	Morningstar
Susheela Peres da Costa	Head of Advisory	Regnan	Australasia	2007	Responsible Investment Association of Australasia
Peter Webster	Director of International Affairs	Vigeo Eiris	Europe	2006	Sustainable Investments Institute (Si2); Imug Beratungsgesellschaft für sozial-oekologische Innovationen mbH; QUICK ESG; and SITAWI - Finance for Good

Signatories approve the minutes via an online vote alongside the PRI Board election vote.

LACERS

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

Lita Payne

REPORT TO BOARD OF ADMINISTRATION
From: Lita Payne, Executive Officer

MEETING: NOVEMBER 12, 2019
ITEM: VIII – D

SUBJECT: **REVISION TO RESOLUTION FOR QUANTITATIVE MANAGEMENT ASSOCIATES, LLC AND POSSIBLE BOARD ACTION**

ACTION: ☒ CLOSED: ☐ CONSENT: ☐ RECEIVE & FILE: ☐

Recommendation

That the Board approve a revised resolution for a one-year contract extension with Quantitative Management Associates, LLC for management of an active emerging markets core equities portfolio that was approved on August 27, 2019.

Discussion

On August 27, 2019, the Board approved a one-year contract extension with Quantitative Management Associates, LLC (QMA) for management of an active emerging markets core equities portfolio. However, there was a clerical error with the contract term listed in the resolution. The "Effective Dates" section incorrectly specified a contract term of January 1, 2010 through December 31, 2021; the ending date should be December 31, 2020 to be consistent with the approved one-year contract extension. The attached revised resolution reflects the correct contract term.

Strategic Plan Impact Statement

A contract extension with Quantitative Management Associates, LLC will allow the fund to maintain a diversified exposure to non-U.S. equities emerging markets, which is expected to help optimize long-term risk adjusted investment returns (Goal IV). The discussion of the investment manager's profile, strategy, performance, and management fee structure are consistent with Goal V (uphold good governance practices which affirm transparency, accountability, and fiduciary duty).

Prepared By: Eduardo Park, Investment Officer I, Investment Division

RJ:BF:EP:sg

Attachment: 1. Revised Resolution

CONTRACT EXTENSION
QUANTITATIVE MANAGEMENT ASSOCIATES, LLC
ACTIVE EMERGING MARKETS CORE EQUITIES
PORTFOLIO MANAGEMENT

PROPOSED RESOLUTION

WHEREAS, LACERS current three-year contract with Quantitative Management Associates, LLC (QMA) for active emerging markets core equities portfolio management expires on December 31, 2019; and,

WHEREAS, on July 29, 2019, QMA was placed on "On Watch" status pursuant to the LACERS Manager Monitoring Policy; and,

WHEREAS, a contract extension with QMA will allow the fund to maintain a diversified exposure to non-U.S. equities emerging markets; and,

WHEREAS, on August 27, 2019, the Board approved the Investment Committee's recommendation to approve a one-year contract extension with QMA; and,

NOW, THEREFORE, BE IT RESOLVED, that the General Manager is hereby authorized to approve and execute a contract subject to satisfactory business and legal terms and consistent with the following services and terms:

Company Name:	Quantitative Management Associates, LLC
Service Provided:	Active Emerging Markets Core Equities Portfolio Management
Effective Dates:	January 1, 2020 through December 31, 2020
Duration:	One year
Benchmark:	MSCI Emerging Markets Index
Allocation as of July 31, 2019:	$436 million

August 27, 2019

LACERS
LOS ANGELES CITY EMPLOYEES'
RETIREMENT SYSTEM

REPORT TO BOARD OF ADMINISTRATION **MEETING: NOVEMBER 12, 2019**
From: Lita Payne, Executive Officer Lita Payne **ITEM: VIII-E**

SUBJECT: **NOTIFICATION OF COMMITMENT OF UP TO $35 MILLION IN LBA LOGISTICS VALUE FUND VII, L.P.**

ACTION: ☐ CLOSED: ☐ CONSENT: ☐ RECEIVE & FILE: ☒

Recommendation

That the Board receive and file this notice of the commitment of up to $35 million in LBA Logistics Value Fund VII, L.P.

Discussion

On October 22, 2019, the Board, in closed session pursuant to Government Code Section 54956.81, approved a commitment of up to $35 million in the following private real estate fund: LBA Logistics Value Fund VII, L.P. The investment closed on November 6, 2019. Board vote: Ayes 7 (Commissioners Chao, Elizabeth Lee, Sandra Lee, Serrano, Sohn, Vice President Wilkinson, and President Ruiz), Nays 0.

Strategic Plan Impact Statement

Investment in LBA Logistics Value Fund VII, L.P. will allow LACERS to maintain exposure to diversified real estate, pursuant to the Real Estate Investments Fiscal Year 2019-2020 Strategic Plan, which is expected to help LACERS optimize long-term risk adjusted investment returns (Goal IV).

Prepared By: Eduardo Park, Investment Officer I, Investment Division

RJ/WL/EP:sg

LACERS
LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

REPORT TO BOARD OF ADMINISTRATION
From: Lita Payne, Executive Officer Lita Payne

MEETING: NOVEMBER 12, 2019
ITEM: IX – A

SUBJECT: **PRESENTATION BY CEM BENCHMARKING INC. OF INVESTMENT BENCHMARKING FOR THE FIVE-YEAR PERIOD ENDING DECEMBER 31, 2018 AND PENSION ADMINISTRATION BENCHMARKING FOR THE FISCAL YEAR ENDING JUNE 30, 2018**

ACTION: ☐ CLOSED: ☐ CONSENT: ☐ RECEIVE & FILE: ☒

Recommendation

That the Board receive and file this report.

Executive Summary

Representatives from CEM Benchmarking Inc. will present two reports on (1) Pension Administration Benchmarking and (2) Investment Benchmarking of LACERS as of 2018. Since 1990, CEM has maintained a database of investment management and administration costs and investment performance for a global universe of funds. CEM specializes in providing benchmarking information to institutional investors such as public and private pension funds, endowments/foundations, and sovereign wealth funds.

Discussion

Pension Administration Benchmarking

On October 9, 2018, the Board approved a contract with CEM Benchmarking Inc. (CEM) to perform an objective cost and performance benchmarking analysis of LACERS' pension administration for the Fiscal Year Ending 2018. Utilizing its database, CEM has provided a detailed report of LACERS' costs and cost factors, services and service levels, complexity, and transaction volumes. This is the first time that LACERS has engaged in pension administration benchmarking and helps to form a foundation for future benchmarking against both peers and ourselves going forward.

Investment Benchmarking

On February 26, 2019, the Board approved a contract with CEM to perform an objective cost and performance benchmarking analysis of the LACERS portfolio. Utilizing its database, CEM has provided a detailed report of LACERS' investment performance, risk, and costs compared to a peer group of funds for the period ending December 31, 2018. The information contained in this report will assist the Board and staff with managing LACERS' costs and performance, provide trend and research insights to support decision making, and promote fund governance. LACERS previously contracted with CEM to conduct investment benchmarking studies for calendar years 2002 to 2008, 2013, and 2016.

Kam Mangat of CEM Benchmarking will present the above mentioned LACERS benchmarking reports.

Strategic Plan Impact Statement

The CEM benchmarking studies provide LACERS with a comparative analysis of investment management and administration services costs and performance to improve decision making. This is consistent with Goal IV (optimize long-term risk adjusted returns through superior investments), Goal V (uphold good governance practices which affirm transparency, accountability, and fiduciary duty), and Goal VI (increase organizational effectiveness, efficiency, and resiliency).

Prepared By: Todd Bouey, Assistant General Manager

NMG:TB:DWN

Attachment: 1. CEM Presentation: Pension Administration Benchmarking and Investment Benchmarking Report, November 12, 2019

BOARD Meeting: 11/12/19
Item IX - A
Attachment 1

Los Angeles City Employees' Retirement System

Pension Administration Benchmarking and Investment Benchmarking Report

Kam Mangat, CFA, MBA
kam@cembenchmarking.com

November 12, 2019

CEM Benchmarking

About CEM Benchmarking

Clients

We serve150 of the world's top 300 pension and SWF's. In total, we serve over 500 plans with combined assets of over US$10 trillion.

Independent

Benchmarking pension funds, SWF's and other asset owners is all that we do.

Unique database

We have been collecting data from the world's top funds for 25 years. Our database is rich, robust and completely unique.

Confidentiality

Confidentiality is critical. Your individual benchmarking results will not be seen by any other fund.

Expertise

30 professionals including 7 CFAs, 7 MBAs, 3 MSc. and 2 PhDs.

CEM Benchmarking

What are the benefits of benchmarking?

- Successful benchmarking using peer comparative analysis can result in significant benefits:
  - Changes in performance and innovation
  - Improvement in service, quality and productivity
  - Improved performance measurement
  - Opens your organization to new methods, ideas and tools
- ***"What gets measured, gets managed"***

CEM Benchmarking

Pension Administration Benchmarking Report

59 leading pension systems in the U.S. and Canada participate in the benchmarking service.

Participants

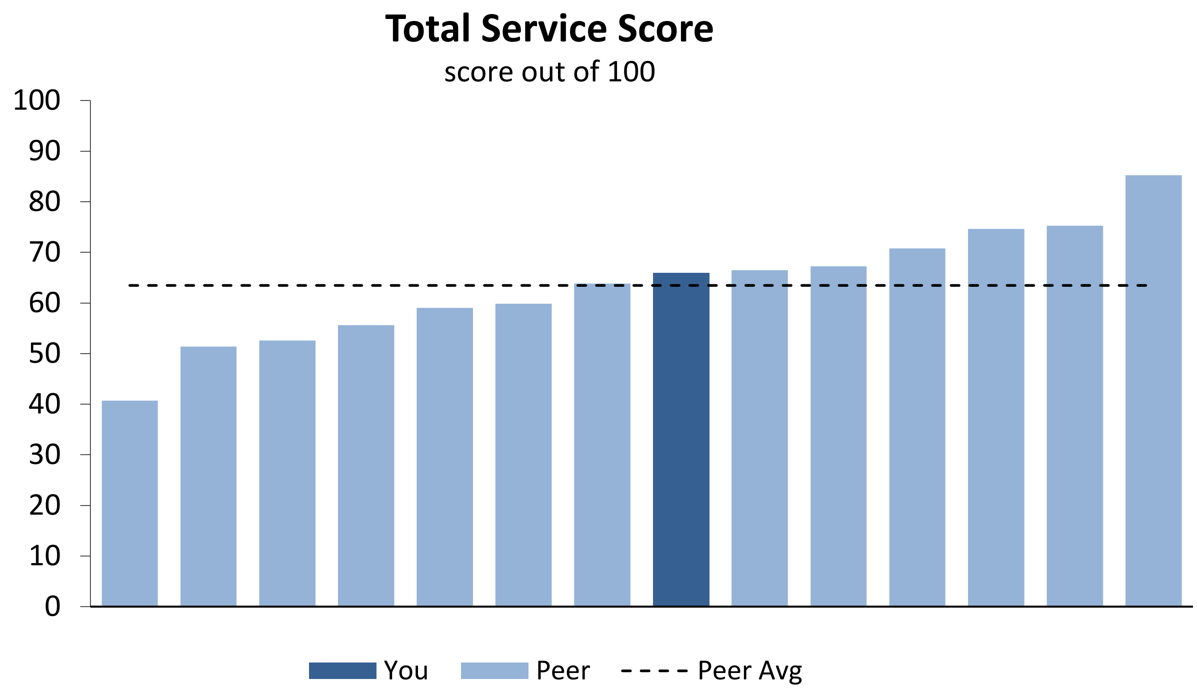
United States
Arizona SRS
CalPERS
CalSTRS
City of Austin ERS
Colorado PERA
Delaware PERS
ER of Fairfax County
Fairfax County RS
Florida RS
Fort Worth ERF
Idaho PERS
Illinois MRF
Indiana PRS
Iowa PERS
Kansas PERS
LACERA
LACERS
LAFPP
Michigan ORS
Milwaukee County
North Carolina RS
NYC BERS
NYC ERS
NYC PPF
NYC TRS
NYSLRS
Ohio PERS
Oregon PERS
Orange County ERS
Pennsylvania PSERS
Sacramento County ERS
San Bernardino CERA
San Diego City ERS
Sonoma County ERA
PSRS PEERS of Missouri
South Carolina RS
South Dakota RS
STRS Ohio
Texas County and District RS
TRS Illinois
TRS Louisiana
TRS of Texas
Utah RS
Virginia RS
Washington State DRS
Wisconsin DETF

Canada
Alberta Pension Services
Alberta Teachers' RF
BC Pension Corporation
Canadian Forces Pension Plans
FPSPP
Local Authorities (Alberta)
OMERS
Ontario Pension Board
Ontario Teachers
OPTrust
RCMP
Retraite Quebec
SHEPP

Your peer group consists of the following 14 participants:

	Membership		
Peers	Actives Members	Annuitant	Total
Milwaukee County	3,881	8,089	11,970
City of Austin ERS	9,612	6,225	15,837
San Diego City ERS	7,913	9,537	17,450
Sacramento County ERS	12,677	11,883	24,560
LAFPP	13,442	12,890	26,332
Fairfax County RS	18,253	11,462	29,715
ER of Fairfax County	21,841	11,729	33,570
San Bernardino CERA	21,465	12,716	34,181
Orange County ERS	21,746	16,369	38,115
LACERS	**26,042**	**19,379**	**45,421**
NYC BERS	33,007	18,601	51,608
South Dakota RS	41,180	28,194	69,374
Delaware PERS	44,836	33,342	78,178
NYC PPF	36,165	49,731	85,896
Peer Average	22,290	17,868	40,158

Your total service score was 66 out of 100. This was above the peer average of 63.



Service is defined as 'Anything a member would like, before considering costs'. Generally speaking this means faster is better, and more services and more availability is better. The Total Service Score is a weighted average of the service scores for each activity. The following pages provide an overview of the key service measure included in your Service Score.

The total service score is the weighted average of the activity level service scores.

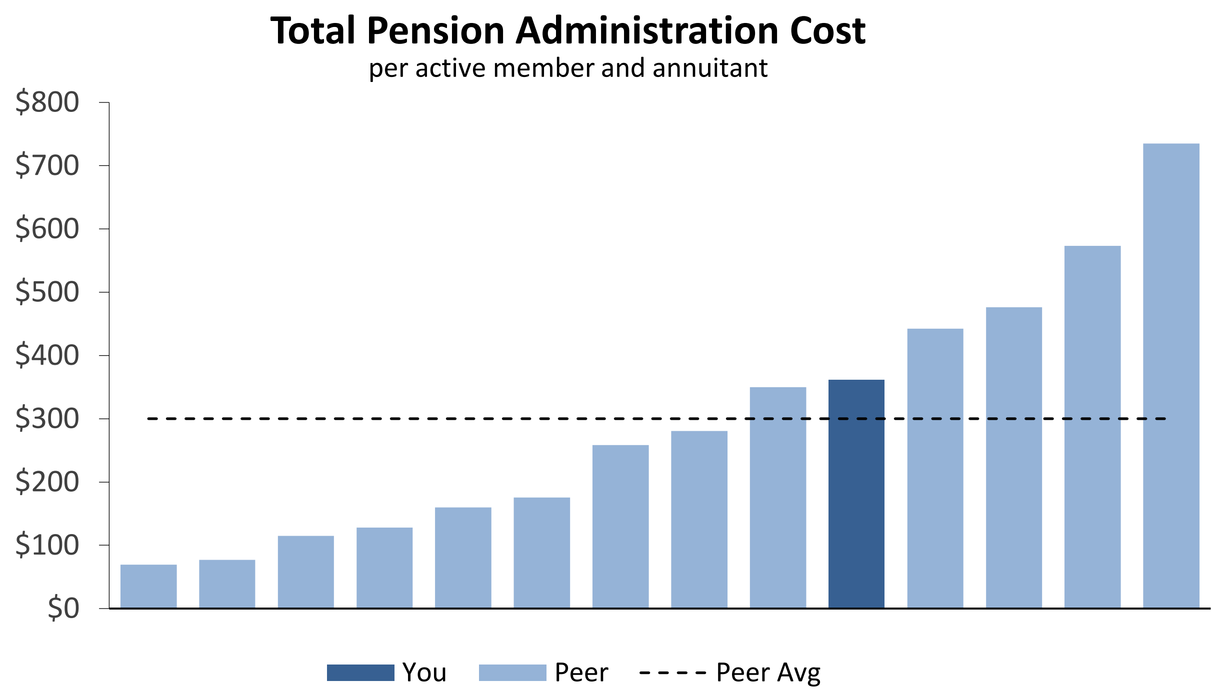
Service Scores by Activity

Activity	You	Peer Average	Weights
Paying Pensions	100	100	20.0%
Pension Inceptions	52	44	7.0%
Benefit Estimates	83	53	5.0%
1-on-1 Counseling	100	96	7.0%
Presentations	80	88	6.0%
Member Contacts	40	46	21.0%
Website	68	52	11.0%
News and Targeted Communication	84	59	4.0%
Member Statements	60	58	6.0%
Disability	0	36	4.0%
Red Tape	70	43	4.0%
Satisfaction Surveying	15	27	5.0%
Total Service Score	66	63	100.0%
Total Service Score - excluding Disability	69	64	100.0%
Total Service Score - Median		65	

Examples of key service measures included in your Service Score:

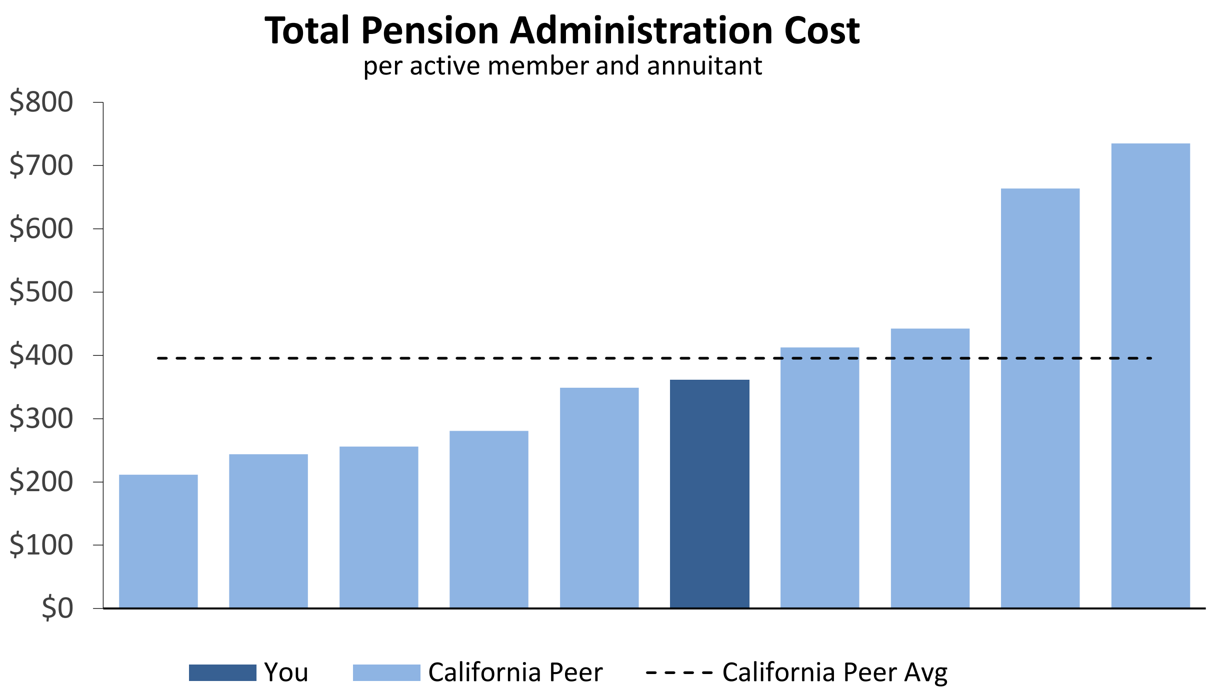
Select Key Service Metrics	You	Peer Avg
Member Contacts		
• Average total wait time including time negotiating auto attendants, etc.	217 secs	96 secs
• % of calls abandoned while in queue, on hold or in menu?	9%	8%
• How many hours per week can members call service representatives?	45.0	42.9
Website		
• Can members access their own data in a secure environment?	Yes	79% Yes
• Do you have an online calculator linked to member data?	Yes	71% Yes
• # of other website tools offered such as changing address information, registering for counseling sessions and/or workshops, viewing or printing tax receipts, etc.	8	6
Member Statements		
• How current is the data in member statements when mailed?	n/a	2.2 mnths
• Do statements provide an estimate of the future pension entitlement?	Yes	46% Yes
Pension Inceptions		
• What % of annuity pension inceptions are paid without an interruption of cash flow greater than 1 month between the final pay check and the first pension check?	61%	46%
1-on-1 counseling		
• % of your active membership that attended a 1-on-1 counseling session	38.0%	13.9%

Your pension administration cost was $361 per active member and annuitant. This was $61 above the peer average of $300.



Your cost per member calculation is based on total pension administration cost of $16.4 million.

California systems tend to be higher cost.



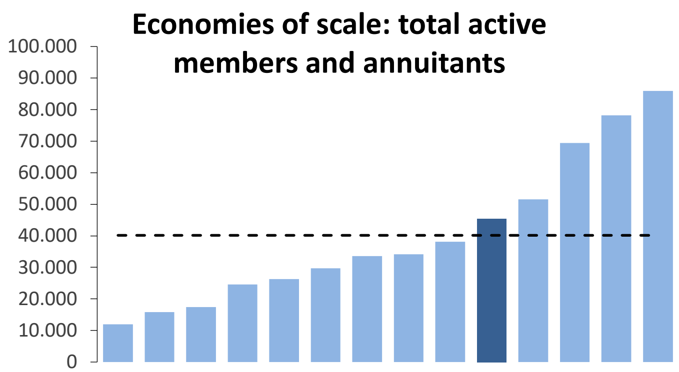
Your total pension administration cost of $361 compared to an average of $396 for all the California systems in the CEM database.

California Systems	
CalPERS	Orange County ERS
CalSTRS	Sacramento County ERS
LACERA	San Bernardino CERA
LACERS	San Diego City ERS
LAFPP	Sonoma County ERA

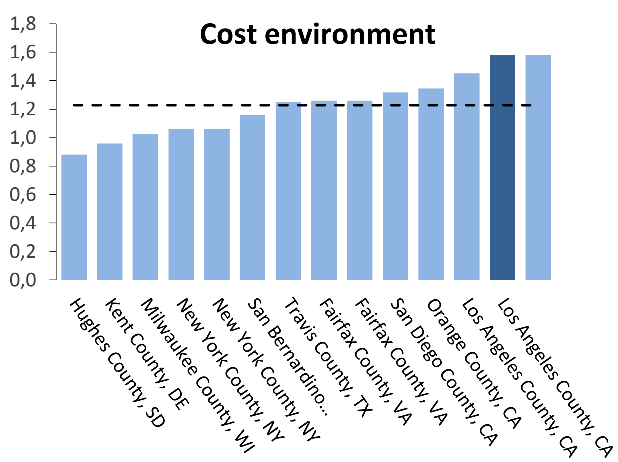
Reasons why your total cost was $61 higher than the peer average:

	Comparison				Impact
Reason	You	Peer average	California average	More/ Less (relative to peers)	$s per member (relative to peers)
		FTE per 10,000 members			
A. Using 64% more FTE to serve members	25.3	15.4	20.1	64%	$108
B. Paying more in total per FTE for:		Cost per FTE			
• Salaries & benefits	$115,652	$111,076	$124,573	4%	
• Building expenses	$6,052	$8,435	$11,127	-28%	
	$121,704	$119,510	$135,700	2%	$6
C. Paying less per member in total for:		$s per member			
• Professional Fees	$26	$61	$61	-57%	
• Amortization	$7	$14	$17	-50%	
• Charges from sister organizations	$0	$4	$5	-100%	
• Other administration expenses	$20	$26	$39	-23%	
	$53	$105	$121	-50%	-$52
Total					$61

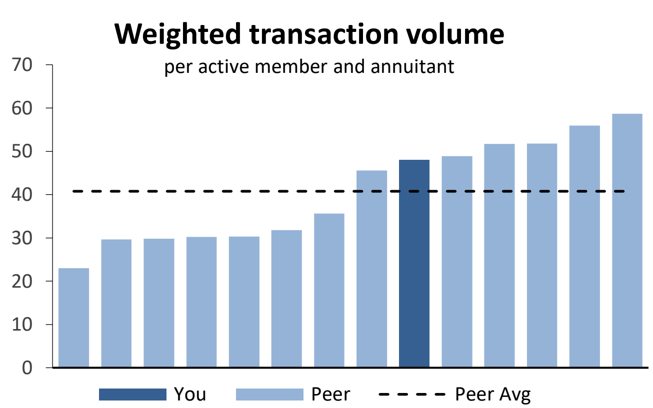
Differences in costs can also be attributed to factors such as economies of scale, cost environment. and differences in transaction volumes.



Research suggests that for every tenfold increase in size, administrative costs fall by $40 per member. This suggests that you have a $2.14 per member advantage relative to the peer average.



Your cost environment was 29% higher than the peer average.



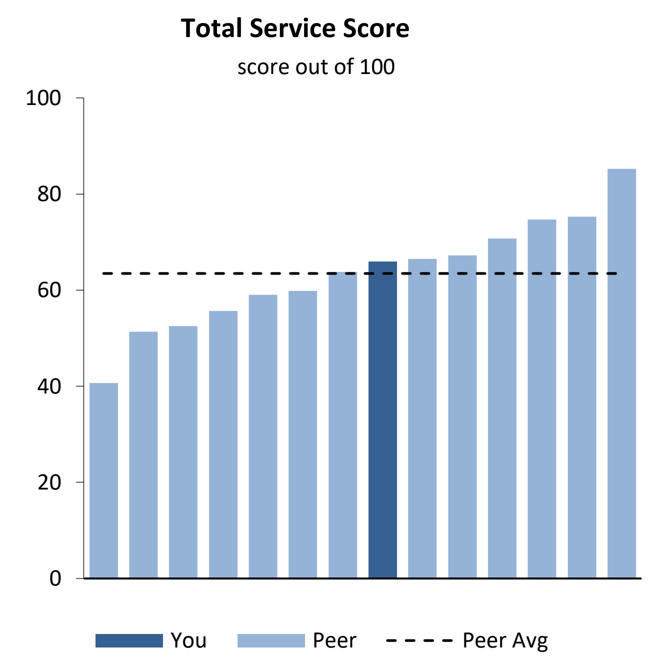
Workloads: your weighted transaction volume was 48, which was 18% above the peer average. This suggests that you do more transactions and/or have a more costly mix of transactions per active member and annuitant. The next page shows you where you are doing more or less transactions in comparison with your peers.

Where are you doing more/fewer transactions than your peers?

Activity	Activity volume description	Your Volume	Volume per 1,000 active members and annuitants: You	Peer Avg	More/ -less
1. Member Transactions					
A. Pension Payments	annuitants	19,379	426.7	451.7	-6%
B. Pension Inceptions	service & survivor inceptions	1,248	27.5	25.8	6%
C. Withdrawals	withdrawals	165	3.6	13.3	-73%
D. Purchases	purchases	293	6.5	14.4	-55%
E. Disability	disability applications	30	0.7	1.2	-45%
2. Member Communication					
A. Member Calls	calls & emails	61,596[1]	1,356.1	1,282.8	6%
B. Mail Room	incoming letters	18,834[1]	414.7	434.3	-5%
C. Pension Estimates	written estimates	3,966[1]	87.3	87.6	0%
D. 1-on-1 Counseling	counseling sessions	9,896	217.9	79.0	176%
E. Presentations	presentations	72	1.6	1.5	9%
F. Mass Communication	active members	26,042	573.3	548.3	5%
3. Collections and Data Maintenance					
A. Employer data	active members	26,042	573.3	548.3	5%
B. Non-employer data	annuitants, inactive members	22,249	489.8	564.2	-13%
Weighted Total			47.9	40.8	18%

1. CEM has used a default where your response was "unknown".

Key Takeaways:



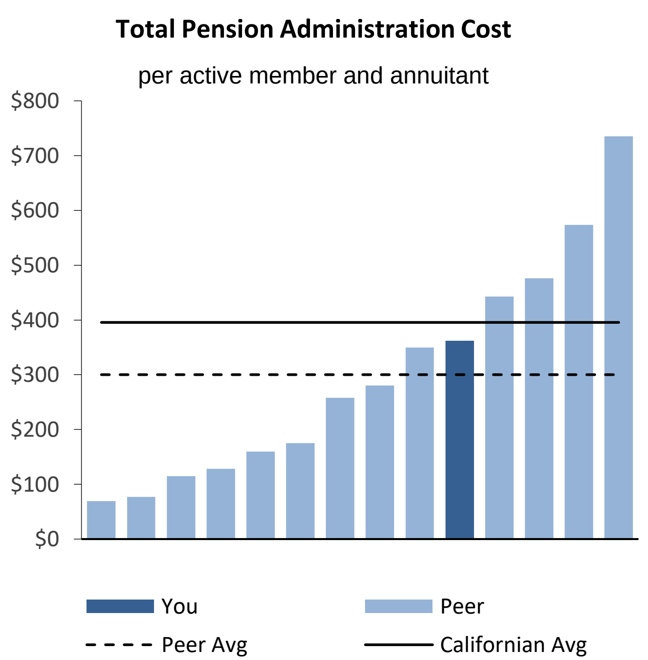
Your total service score was above the peer average.

The activities with the biggest positive impact on your service score were:

- Website: You offer 8 online transaction tools versus 6 for your peers.
- Written estimates: Your turnaround time was 1 day versus a peer average of 20 days.

This was offset by:

- Disability: Your turnaround was 11 months (versus 10 month peer average).
- Member contacts: Your call wait time was 217 seconds versus 96 seconds for your peers.



Your pension administration cost was $61 above the peer average and $35 below the Californian peer average.

The main reason why was that you used more FTEs per 10,000 members to serve your members.

Your total complexity score was 42. This was above the peer average of 37.

Investment Benchmarking Report

CEM Benchmarking

This benchmarking report compares your cost and return performance to the 322 funds in CEM's extensive pension database.

- 163 U.S. pension funds participate. The median U.S. fund had assets of $8.6 billion and the average U.S. fund had assets of $23.6 billion. Total participating U.S. assets were $3.8 trillion.

- 77 Canadian funds participate with assets totaling $1.5 trillion.

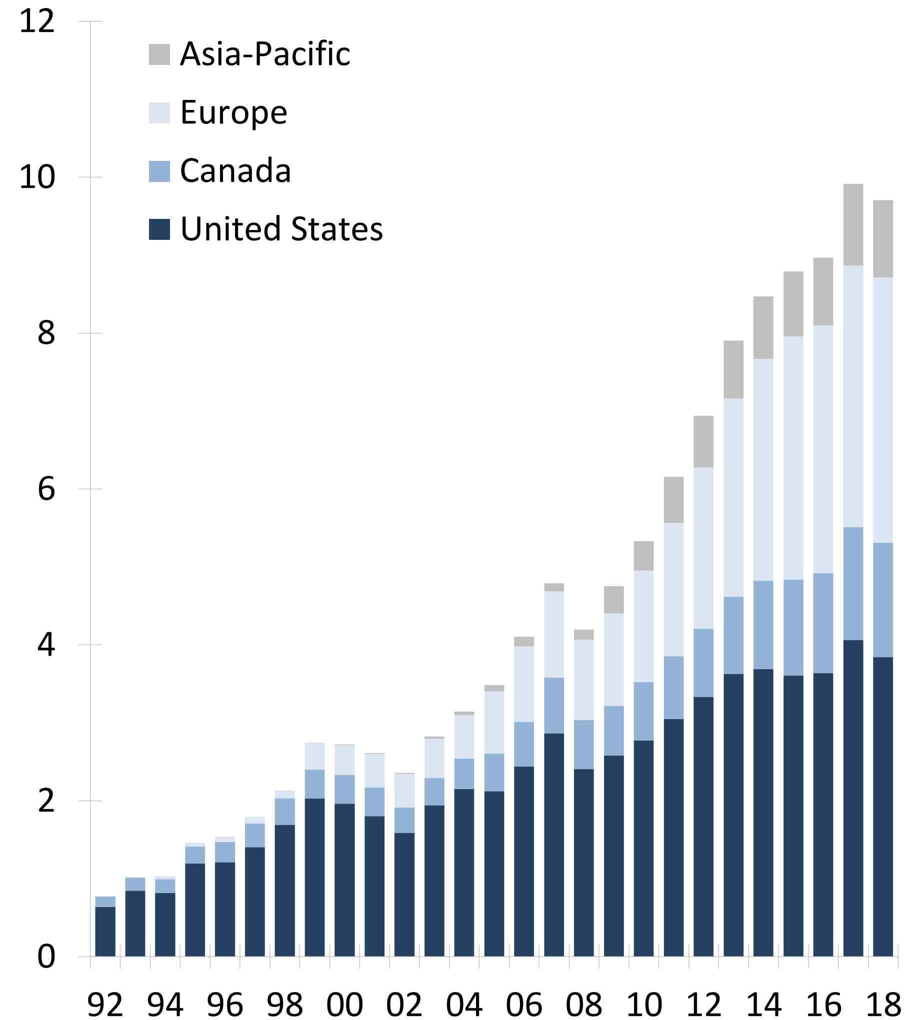
- 74 European funds participate with aggregate assets of $3.4 trillion. Included are funds from the Netherlands, Norway, Sweden, Finland, Ireland, Denmark and the U.K.

- 6 Asia-Pacific funds participate with aggregate assets of $990.8 billion. Included are funds from Australia, New Zealand, China and South Korea.

- 2 Gulf region funds participate.

The most meaningful comparisons for your returns and value added are to the U.S. Public universe.

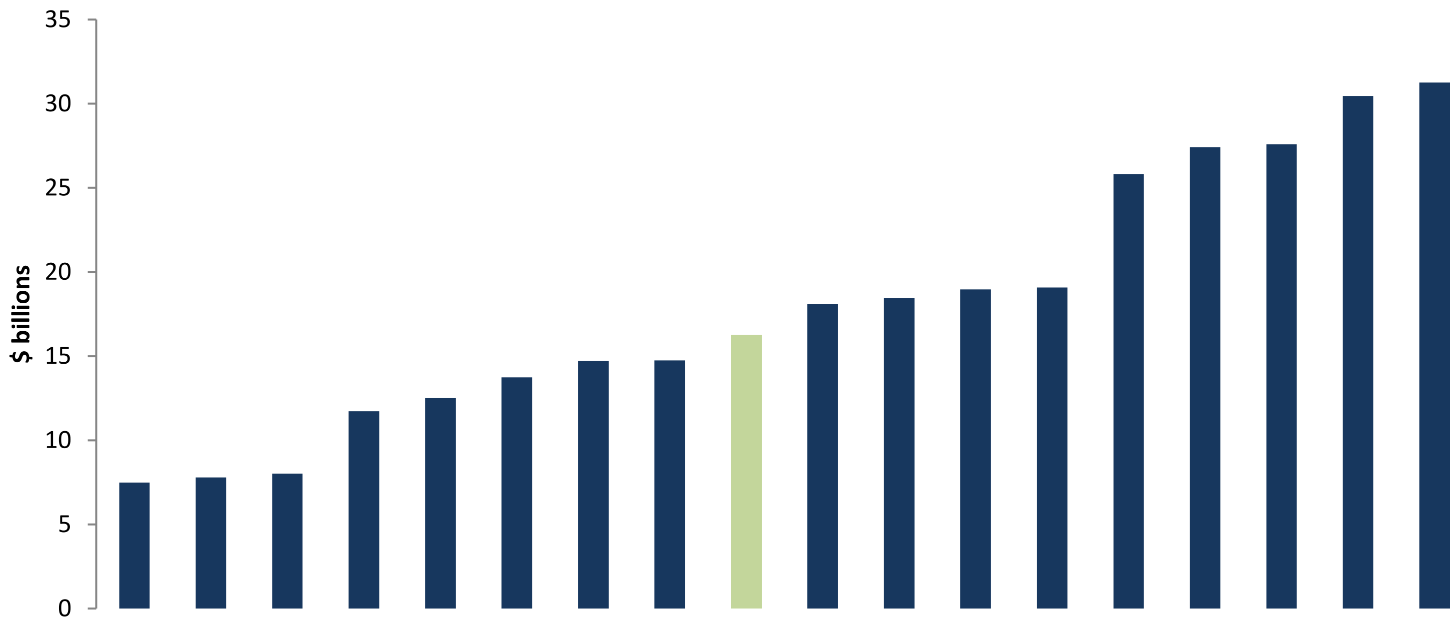
Participating assets ($ trillions)



The most valuable comparisons for cost performance are to your custom peer group because size impacts costs.

Peer group for Los Angeles City Employees' Retirement System

• 18 U.S. Public public sponsors from $7.5 billion to $31.3 billion
• Median size of $17.2 billion versus your $16.3 billion



To preserve client confidentiality, given potential access to documents as permitted by the Freedom of Information Act, we do not disclose your peers' names in this document.

What gets measured gets managed, so it is critical that you measure and compare the right things:

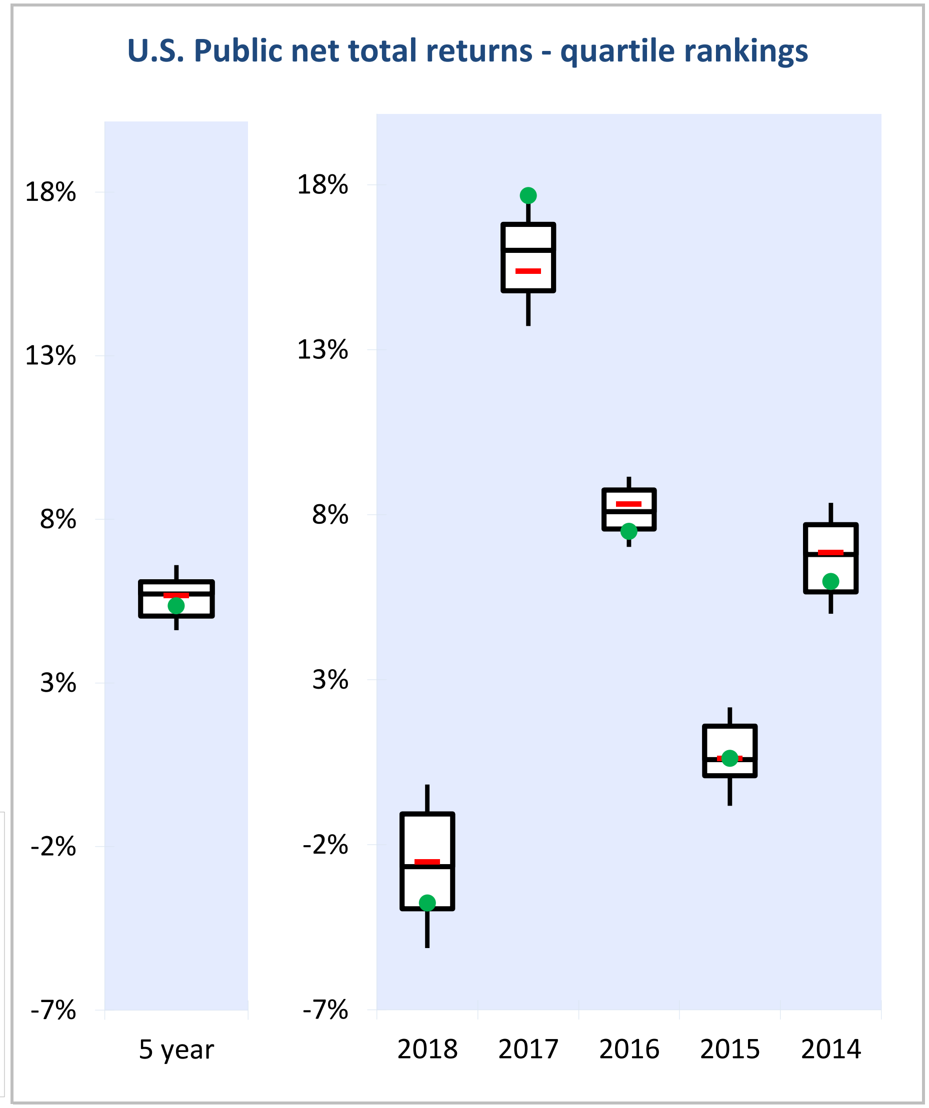
1. Returns	Why do total returns differ from other funds? What was the impact of your policy mix decisions versus implementation decisions?
2. Net value added	Are your implementation decisions adding value (i.e., mostly the effectiveness of active management, as well as the amount of active management versus passive management)?
3. Costs	Are your costs reasonable? Costs matter and can be managed.
4. Cost effectiveness	Net implementation value added versus excess cost. Does paying more get you more?
5. Risk	How much risk was taken to obtain your value added? What is the risk of your policy mix?

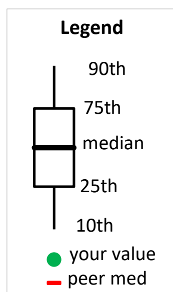
Your 5-year net total return of 5.0% was below the U.S. Public median of 5.4% and slightly below the peer median of 5.4%

Total returns, by themselves, provide little insight into the reasons behind relative performance. Therefore, we separate total return into its more meaningful components: policy return and value added.

	Your 5-year
Net total fund return	5.0%
- Policy return	5.2%
= Net value added	-0.2%

This approach enables you to understand the contribution from both policy mix decisions (which tend to be the board's responsibility) and implementation decisions (which tend to be management's responsibility).





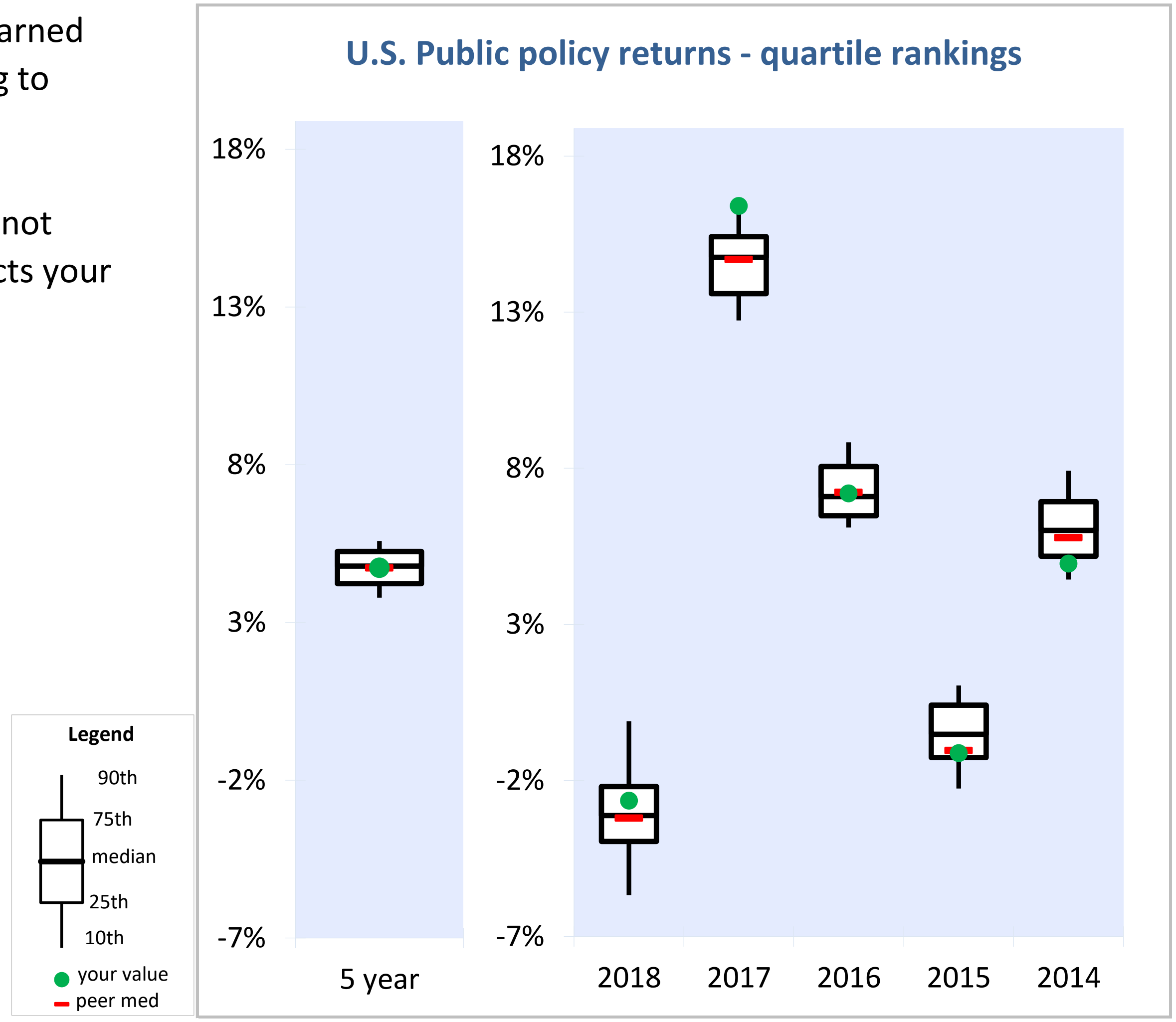
Your 5-year policy return of 5.2% was close to the U.S. Public median of 5.3% and equal to the peer median of 5.2%.

Your policy return is the return you could have earned passively by indexing your investments according to your policy mix.

Having a higher or lower relative policy return is not necessarily good or bad. Your policy return reflects your investment policy, which should reflect your:

- Long term capital market expectations
- Liabilities
- Appetite for risk

Each of these three factors is different across funds. Therefore, it is not surprising that policy returns often vary widely between funds.



To enable fairer comparisons, the policy returns of all participants, including your fund, were adjusted to reflect private equity benchmarks based on lagged, investable, public-market indices. Prior to this adjustment, your 5-year policy return was 4.9%, 0.3% lower than your adjusted 5-year policy return of 5.2%. Mirroring this, your 5-year total fund net value added would be 0.3% higher.

Your 5-year policy return of 5.2% was close to the U.S. Public median of 5.3% primarily because of:

The offsetting impacts of:

- Your higher allocation to private equity, which was one of the better performing asset classes over the past 5 years. You had a 5-year average allocation of 12% versus the U.S. Public average of 8%.
- Your mix and your choice of benchmarks in public assets. Both your total stock and total fixed income benchmark returns were lower than the U.S. Public averages. You had a 5-year return of 4.3% and 2.6% versus the U.S. Public averages of 4.8% and 3.0%, respectively.

	5-year average policy mix[1]			5-year bmk. return	
	Your Fund	U.S. Publ Avg.	More/ Less	Your Fund	U.S. Publ Avg.
U.S. Stock	24%	21%	3%	7.8%	7.8%
EAFE Stock	20%	5%	15%	0.5%	0.8%
Emerging Market Stock	6%	2%	4%	1.7%	1.7%
Other Stock[2]	2%	20%	-18%	n/a[3]	n/a[3]
Total Stock	53%	49%	4%	4.3%	4.8%
U.S. Bonds	19%	16%	3%	2.5%	2.6%
Inflation Indexed Bonds	3%	3%	0%	1.9%	2.0%
High Yield Bonds	3%	2%	1%	3.8%	3.6%
Fixed Income - Emerging	2%	1%	1%	2.8%	2.2%
Cash	1%	-1%	2%	1.0%	0.7%
Other Fixed Income	0%	6%	-5%	n/a[3]	n/a[3]
Total Fixed Income	28%	27%	1%	2.6%	3.0%
Hedge Funds	0%	4%	-4%	n/a[3]	2.4%
Risk Parity	0%	1%	-1%	n/a[3]	3.5%
Commodities	1%	1%	0%	n/a[3]	-9.3%
Real Estate ex-REITs	5%	8%	-2%	10.8%	9.6%
Other Real Assets[2]	0%	2%	-2%	n/a[3]	n/a[3]
Private Equity	12%	8%	4%	13.2%	13.3%
Total	100%	100%	0%		

1. 5-year weights are based only on plans with 5 years of continuous data.
2.Other stock includes ACWIxUS, global stock stock. Other real assets includes natural resources, infrastructure and REITS.
3. A value of 'n/a' is shown if asset class return are not available for the full 5 years or if they are broad and incomparable.

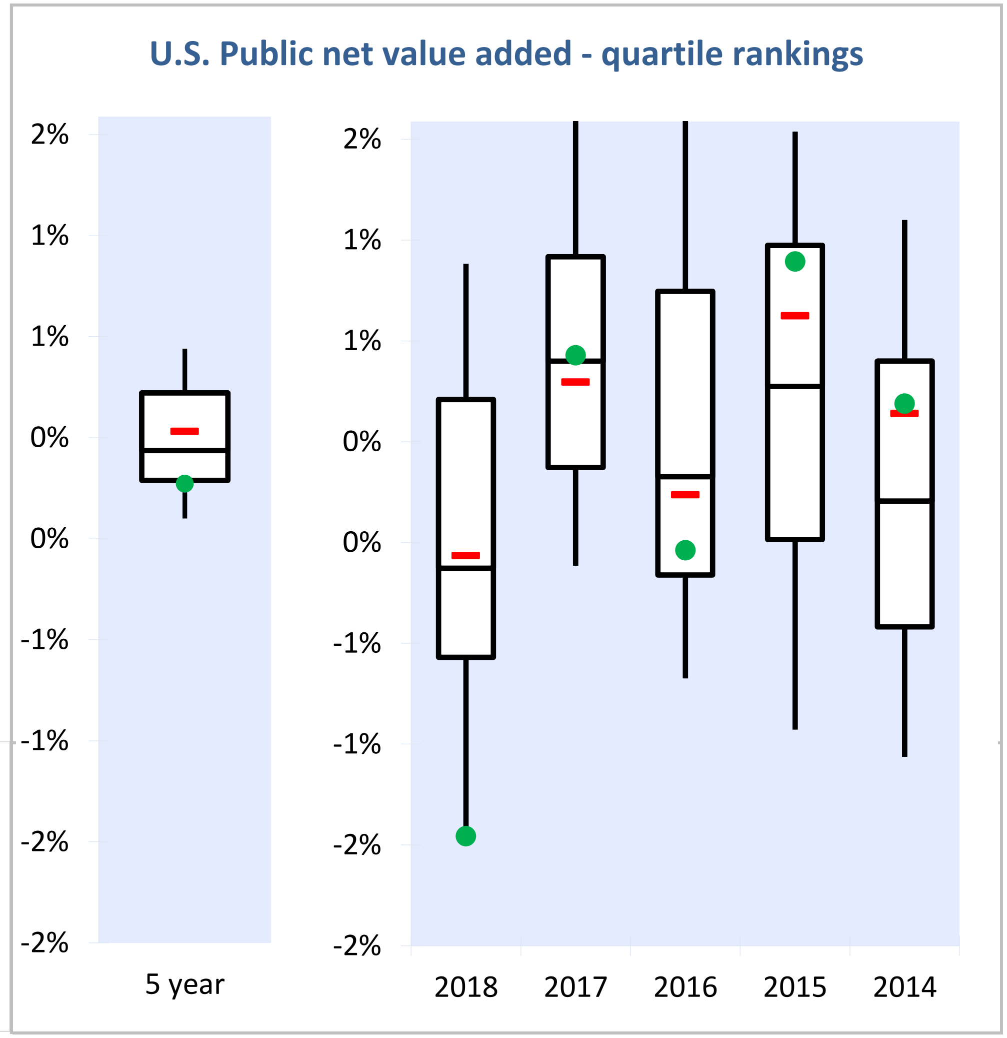
Net value added is the component of total return from active management. Your 5-year net value added was -0.2%.

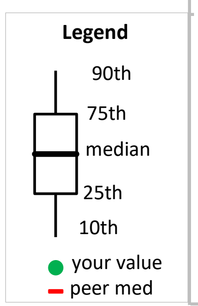
Net value added equals total net return minus policy return.

Value added for Los Angeles City Employees' Retirement System

Year	Net Return	Policy Return	Net value Added
2018	-4.1%	-2.2%	-1.9%
2017	17.4%	16.9%	0.5%
2016	7.2%	7.7%	-0.5%
2015	0.3%	-0.7%	1.0%
2014	5.7%	5.4%	0.3%
5-Year	5.0%	5.2%	-0.2%

Your 5-year net value added of -0.2% compares to a median of 0.1% for your peers and 0.0% for the U.S. Public universe.

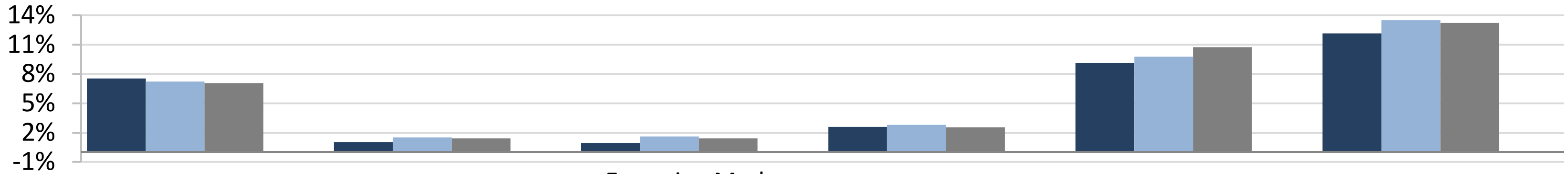




To enable fairer comparisons, the value added for each participant including your fund was adjusted to reflect private equity benchmarks based on investable public market indices. Prior to this adjustment, your fund's 5-year total fund net value added was 0.1%.

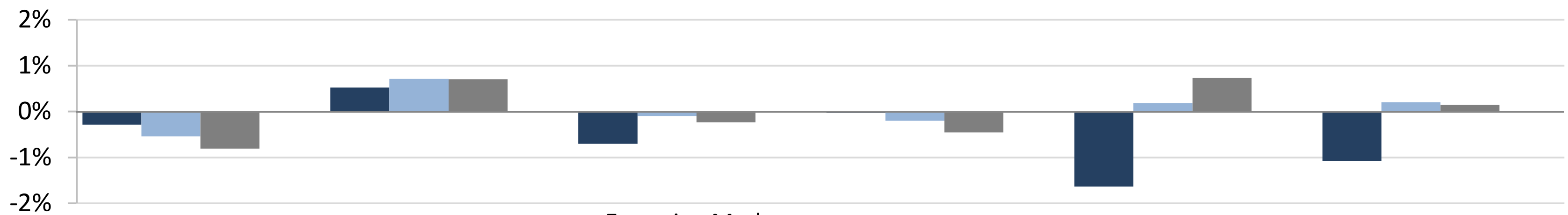
Comparisons of your 5-year net return and net value added by major asset class.

5-year average net return by major asset class



	U.S. Stock	EAFE Stock	Emerging Market Stock	Fixed Income	Real Estate	Private Equity[1]
Your fund	7.6%	1.1%	1.0%	2.6%	9.2%	12.1%
U.S. Public average	7.2%	1.5%	1.6%	2.8%	9.8%	13.5%
Peer average	7.1%	1.4%	1.4%	2.5%	10.7%	13.2%
Your % of assets	27.0%	21.1%	6.2%	26.9%	5.1%	10.1%

5-year average net value added by major asset class



	U.S. Stock	EAFE Stock	Emerging Market Stock	Fixed Income	Real Estate	Private Equity[1]
Your fund	-0.3%	0.5%	-0.7%	0.0%	-1.6%	-1.1%
U.S. Public average	-0.5%	0.7%	-0.1%	-0.2%	0.2%	0.2%
Peer average	-0.8%	0.7%	-0.2%	-0.5%	0.7%	0.1%

1. To enable fairer comparisons, the private equity benchmarks of all participants, including your fund were adjusted to reflect lagged, investable, public-market indices. Prior to this adjustment, your fund's 5-year private equity net value added was 1.1%.

Your investment costs were $83.8 million or 50.1 basis points in 2018.

Asset management costs by asset class and style ($000s)	External Management				
	Passive fees	Active base fees	Perform. fees [2]	Total	
Stock - U.S. Large Cap	190	522		712	
Stock - U.S. Mid Cap		574		574	
Stock - U.S. Small Cap	29	1,659		1,688	
Stock - EAFE	401	8,446		8,846	
Stock - Emerging		6,495		6,495	
Stock - Other		4,264		4,264	
Fixed Income - U.S.	426	2,570		2,996	
Fixed Income - Emerging		1,292		1,292	
Fixed Income - Inflation Indexed		301		301	
Fixed Income - High Yield		1,432		1,432	
Fixed Income - Other		598		598	
Commodities		1,179		1,179	
REITs		498		498	
Real Estate ex-REITs [1 2]		4,843	732	4,843	
Real Estate ex-REITs - LP [1 2]		4,314	1,837	4,314	
Diversified Private Equity - LP [1 2]		40,181	32,453	40,181	
Total excluding private asset performance fees				80,213	48.0bp
Oversight, custodial and other costs [3]					
Oversight of the fund				1,862	
Trustee & custodial				0	
Consulting and performance measurement				1,535	
Audit				50	
Other				163	
Total oversight, custodial & other costs				3,610	2.2bp
Total investment costs (excl. transaction costs & private asset performance fees)				83,824	50.1bp

Footnotes

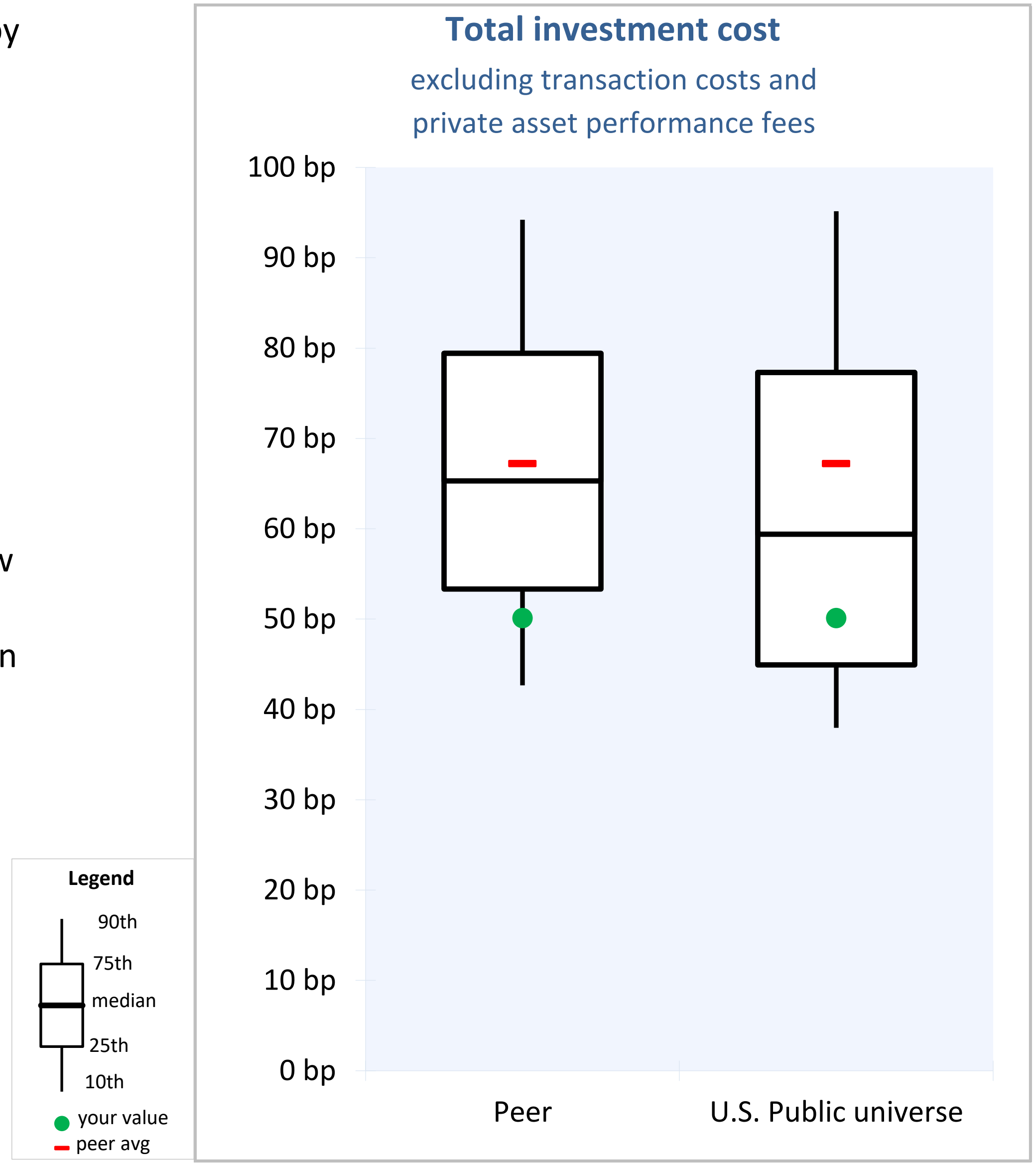
1. CEM used a default cost because detailed costs by partnership were not provided for private equity.
Without the details, we were unable to show your actual costs on the same (gross) basis as peers. The unusually low costs have now been defaulted to: Real Estate ex-REITs - LP 124 bps, Diversified Private Equity - LP 156 bp.
Refer to Appendix A for full details regarding defaults.
2. Total cost excludes carry/performance fees for real estate, infrastructure, natural resources and private equity. Performance fees are included for the public market asset classes and hedge funds.
3. Excludes non-investment costs, such as benefit insurance premiums and preparing cheques for retirees.

Your total investment cost of 50.1 bps was below the peer median of 65.3 bps.

Differences in total investment cost are often caused by two factors that are often outside of management's control:

- Asset mix, particularly holdings of the highest cost asset classes: real estate (excl. REITS), infrastructure, hedge funds and private equity. These high cost assets equaled 16% of your funds assets at the end of 2018 versus a peer average of 23%.
- Fund size. Bigger funds have advantages of scale.

Therefore, to assess whether your costs are high or low given your unique asset mix and size, CEM calculates a benchmark cost for your fund. This analysis is shown on the following page.



Benchmark cost analysis suggests that, after adjusting for fund size and asset mix, your fund was slightly low cost by 5.4 basis points in 2018.

Your benchmark cost is an estimate of what your cost would be given your actual asset mix and the median costs that your peers pay for similar services. It represents the cost your peers would incur if they had your actual asset mix.

Your total cost of 50.1 bp was slightly below your benchmark cost of 55.5 bp. Thus, your cost savings were 5.4 bp.

Your cost versus benchmark

	$000s	basis points
Your total investment cost	83,824	50.1 bp
Your benchmark cost	92,841	55.5 bp
Your excess cost	(9,017)	(5.4) bp

Your fund was slightly low cost primarily because you had a lower cost implementation style.

Reasons for your low cost status

	Excess Cost/ (Savings) $000s	Excess Cost/ (Savings) bps
1. Lower cost implementation style		
• Less active management, more lower cost passive	(4,743)	(2.8)
• More external management vs. lower cost internal	990	0.6
• Less LPs as a percentage of external	(823)	(0.5)
• Less fund of funds	(4,142)	(2.5)
• Less co-investment as a percentage of LP/Co	897	0.5
• Less overlays	(786)	(0.5)
	(8,607)	(5.1)
2. Paying less than peers for similar services		
• External investment management costs	(371)	(0.2)
• Oversight, custodial & other costs	(39)	(0.0)
	(410)	(0.2)
Total savings	(9,017)	(5.4)

Differences in cost performance are often caused by differences in implementation style.

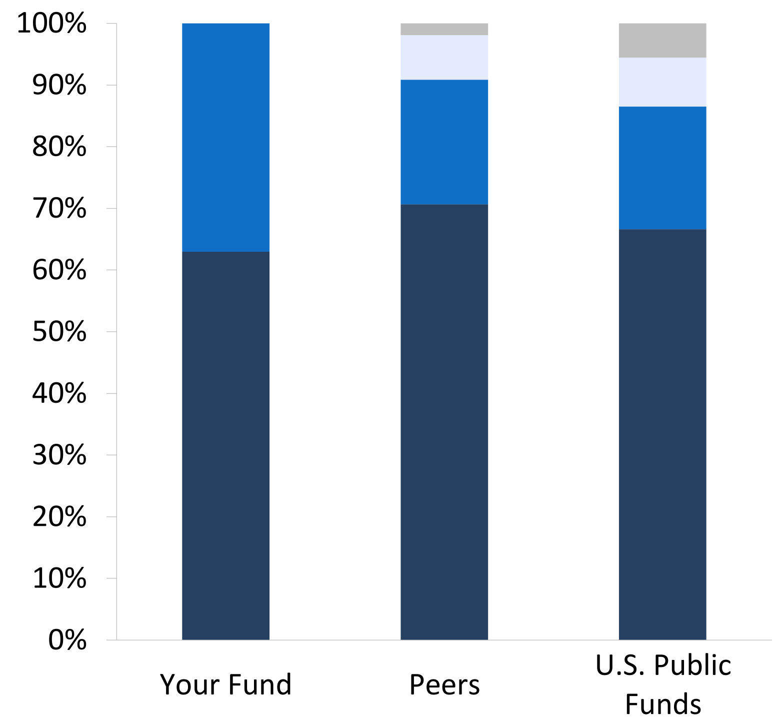
Implementation style is defined as the way in which your fund implements asset allocation. It includes internal, external, active, passive and fund of funds styles.

The greatest cost impact is usually caused by differences in the use of:

- External active management because it tends to be much more expensive than internal or passive management. You used less external active management than your peers (your 63% versus 71% for your peers).

- Within external active holdings, fund of funds usage because it is more expensive than direct fund investment. You had less in fund of funds. Your 0% of hedge funds, real estate and private equity in fund of funds compared to 16% for your peers.

Implementation style[1]



	Your Fund	Peers	U.S. Public Funds
Internal passive	0%	2%	6%
Internal active	0%	7%	8%
External passive	37%	20%	20%
External active	63%	71%	67%

1. The graph above does not take into consideration the impact of derivatives. The values in the graph above are calculated using average holdings.

Differences in implementation style and their impacts are shown below.

Calculation of the cost impact of differences in implementation style

Asset class by implementation choice*	Assets by style ($mils)[1]	Style % Your fund	Style % Peer average	Style % More/ (less)	Benchmark cost		More/ (less)[1]	Cost/ (savings) in $000s	bps
	A			B			C	A X B X C	
Passive vs. Active	Total assets	Passive % of total assets			Passive	Active	More/ (less)		
Stock - U.S. Large Cap	3,444	94.9%	59.8%	35.1%	0.8 bp	38.4 bp	(37.6) bp	(4,546)	
Stock - U.S. Mid Cap	143	0.0%	13.4%	(13.4%)	1.0 bp	51.0 bp	(50.0) bp	96	
Stock - U.S. Small Cap	722	69.4%	21.8%	47.6%	2.1 bp	55.5 bp	(53.4) bp	(1,833)	
Stock - EAFE	3,401	52.3%	49.5%	2.7%	2.6 bp	48.2 bp	(45.6) bp	(426)	
Stock - Emerging	1,279	0.0%	21.0%	(21.0%)	6.6 bp	63.7 bp	(57.1) bp	1,536	
Fixed Income - U.S.	2,877	31.8%	17.2%	14.6%	2.0 bp	14.1 bp	(12.1) bp	(508)	
Fixed Income - Inflation Indexed	560	0.0%	60.7%	(60.7%)	1.7 bp	18.3 bp	(16.7) bp	567	
Commodities	155	0.0%	22.9%	(22.9%)	22.0 bp	71.1 bp	(49.1) bp	175	
REITs	107	0.0%	43.6%	(43.6%)	6.9 bp	48.9 bp	(42.0) bp	196	
More passive								(4,743)	(2.8) bp
Internal passive vs. external passive	Passive assets	Internal passive % of passive assets			Internal passive	External passive	More/ less		
Stock - U.S. Large Cap	3,269	0.0%	28.2%	(28.2%)	0.8 bp	0.9 bp	(0.1) bp	12	
Stock - U.S. Small Cap	501	0.0%	19.5%	(19.5%)	1.6 bp	2.3 bp	(0.6) bp	6	
Stock - EAFE	1,778	0.0%	0.9%	(0.9%)	3.8 bp	2.6 bp	1.2 bp	(2)	
Fixed Income - U.S.	915	0.0%	2.6%	(2.6%)	1.3 bp	2.0 bp	(0.7) bp	2	
Less int. passive as % of total passive								18	0.0 bp
Total impact of differences in active vs. passive implementation styles								(4,725)	(2.8) bp

* Implementation styles where you are exactly the same as your peers (i.e. style impact is zero) are not shown.

1. The 'style premium' is calculated as the difference between the style-weighted peer-median cost of the two styles being compared.

Differences in implementation style and their impacts are shown below.

Calculation of the cost impact of differences in implementation style

Asset class by implementation choice*	Assets by style ($mils)[1]	Style % Your fund	Style % Peer average	Style % More/ (less)	Benchmark cost		More/ (less)[1]	Cost/ (savings) in $000s	bps
	A			B			C	A X B X C	
Internal active vs. external active	Active assets	Internal active % of active assets			Internal active	External active	More/ (less)		
Stock - U.S. Small Cap	221	0.0%	19.6%	(19.6%)	7.8 bp	67.1 bp	(59.3) bp	257	
Fixed Income - U.S.	1,962	0.0%	18.9%	(18.9%)	3.2 bp	16.7 bp	(13.5) bp	500	
Fixed Income - High Yield	383	0.0%	7.6%	(7.6%)	7.7 bp	36.9 bp	(29.1) bp	85	
Fixed Income - Other	136	0.0%	7.6%	(7.6%)	7.7 bp	36.9 bp	(29.1) bp	30	
Real Estate ex-REITs	806	0.0%	1.5%	(1.5%)	25.4 bp	109.9 bp	(84.5) bp	100	
Less int. active as % of total active								971	0.6 bp
Total impact of differences in implementation style on this page								971	0.6 bp

* Implementation styles where you are exactly the same as your peers (i.e. style impact is zero) are not shown.

1. The 'style premium' is calculated as the difference between the style-weighted peer-median cost of the two styles being compared.

Differences in implementation style and their impacts are shown below.

Calculation of the cost impact of differences in implementation style

Asset class by implementation choice*	Assets by style ($mils)[1]	Style % Your fund	Style % Peer average	Style % More/ (less)	Benchmark cost		More/ (less)[2]	Cost/ (savings) in $000s	bps
	A			B			C	A X B X C	
Evergreen vs. LP/Co/FoF	External assets	Evergreen fund % of external			Ever-green	LP/Co/ FoF	More/ (less)		
Real Estate ex-REITs	806	56.8%	34.0%	22.8%	80.4 bp	125.1 bp	(44.7) bp	(823)	
More evergreen % of external								(823)	(0.5) bp
LP/Co vs. Fund of funds	LP/Co/ FoF assets	LP and Co % of LP/Co/Fund of funds			LP/Co	FoF	More/ (less)		
Real Estate ex-REITs	348	100.0%	98.5%	1.5%	124.0 bp	196.7 bp	(72.7) bp	(37)	
Diversified Private Equity	2,576	100.0%	75.1%	24.9%	152.5 bp	216.4 bp	(63.9) bp	(4,104)	
More fund of funds % of LP/Co/FoF								(4,142)	(2.5) bp
Co-investment vs. LP	LP/Co assets	Co-investment % of limited partnerships			Co-invest.	Limited Partner.	More/ (less)		
Real Estate ex-REITs	348	0.0%	0.0%	(0.0%)	24.5 bp	124.0 bp	(99.5) bp	0	
Diversified Private Equity	2,576	0.0%	2.3%	(2.3%)	3.5 bp	156.0 bp	(152.5) bp	897	
Less co-investment % of LP/Co								897	0.5 bp
Overlays									
Impact of higher use of portfolio level overlays								(786)	(0.5) bp
Total impact of differences in implementation style on this page								(4,853)	(2.9) bp

* Implementation styles where you are exactly the same as your peers (i.e. style impact is zero) are not shown.
1. 'Amount fees are based on' is the basis for calculating costs for private assets.
2. The 'style premium' is calculated as the difference between the style-weighted peer-median cost of the two styles being compared.

The net impact of paying more/less for similar services saved 0.2 bps.

Cost impact of paying more/(less)

	Style	Your avg holdings in $mils	Cost in bps Your Fund	Peer median	More/ (less)	Cost/ (savings) $000s	bps
External asset management		(A)			(B)	(A X B)	
Stock - U.S. Large Cap	passive	3,269	0.6	0.9	(0.3)	(100)	
Stock - U.S. Large Cap	active	175	29.9	38.4	(8.5)	(149)	
Stock - U.S. Mid Cap	active	143	40.1	51.0	(11.0)	(157)	
Stock - U.S. Small Cap	passive	501	0.6	2.3	(1.7)	(84)	
Stock - U.S. Small Cap	active	221	75.0	67.1	7.9	174	
Stock - EAFE*	passive	1,778	2.3	2.6	(0.3)	(60)	
Stock - EAFE	active	1,623	52.0	48.2	3.8	620	
Stock - Emerging	active	1,279	50.8	63.7	(12.9)	(1,653)	
Stock - Other	active	525	81.3	60.4	20.9	1,096	
Fixed Income - U.S.	passive	915	4.7	2.0	2.6	240	
Fixed Income - U.S.	active	1,962	13.1	16.7	(3.6)	(699)	
Fixed Income - Emerging	active	332	39.0	45.1	(6.1)	(203)	
Fixed Income - Inflation Indexed*	active	560	5.4	18.3	(13.0)	(726)	
Fixed Income - High Yield	active	383	37.4	36.9	0.5	20	
Fixed Income - Other	active	136	43.9	36.9	7.1	96	
Cash	active	103	0.0	Excluded	--	--	
Commodities	active	155	75.8	71.1	4.7	73	
REITs	active	107	46.5	48.9	(2.3)	(25)	
Real Estate ex-REITs	active	458	105.8	80.4	25.5	1,166	
Real Estate ex-REITs	LP	348	124.0	Excluded	--	--	
Diversified Private Equity	LP	2,576	156.0	Excluded	--	--	
Total for external management						(371)	(0.2 bp)
Oversight, custodial, other							
Oversight		16,722	1.1	1.0	0.1		
Consulting		16,722	0.9	0.4	0.5		
Custodial		16,722	0.0	0.4	(0.4)		
Audit		16,722	0.0	0.1	(0.0)		
Other		16,722	0.1	0.1	(0.0)		
Total for oversight, custodial, other[2]			2.2	2.2	(0.0)	(39)	(0.0 bp)
Total						-410	(0.2 bp)

Footnotes:

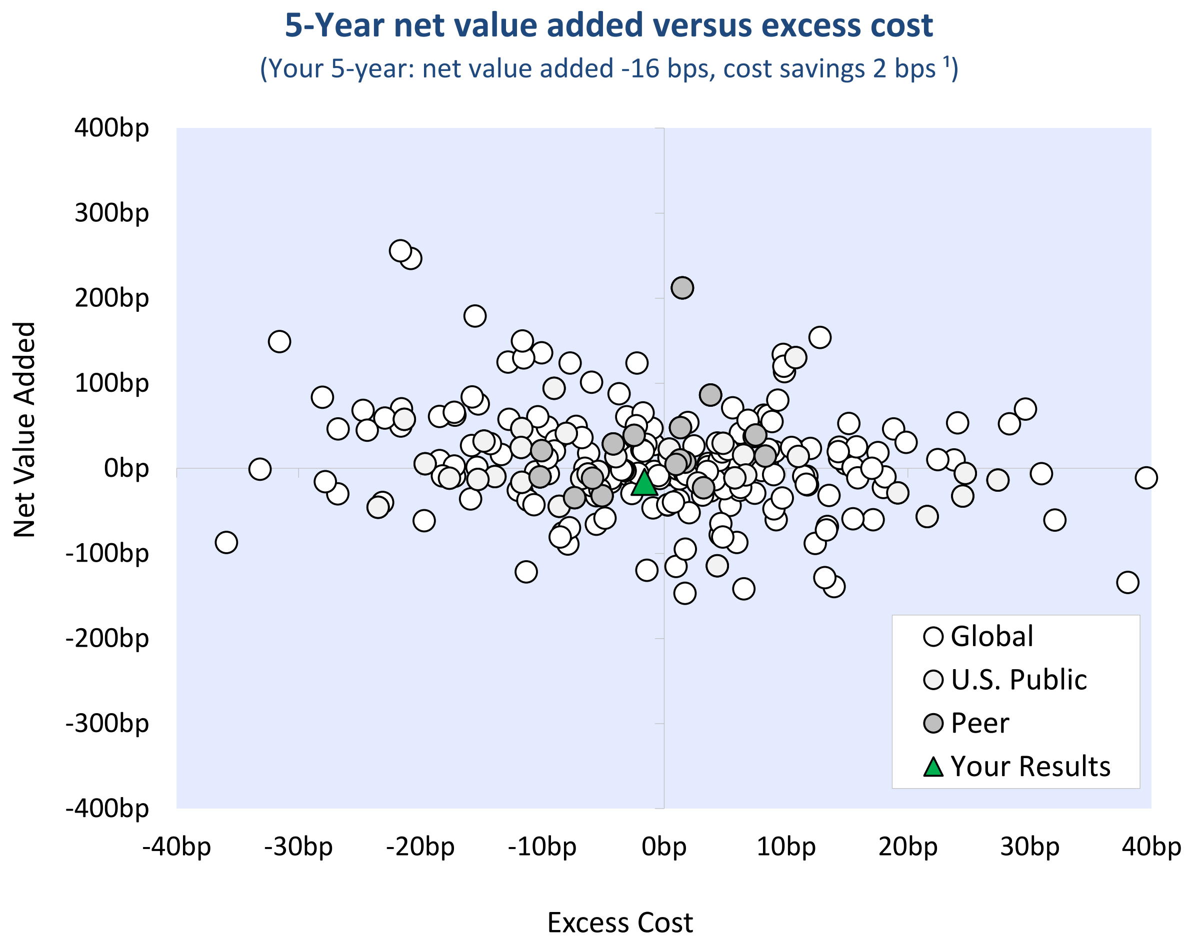
1. 'Amount fees are based on' is the basis for calculating costs for private assets.
2. Oversight, custodial, and other costs are benchmarked using the peer median cost for the total of the pieces. The individual line items are shown for comparison but not used in the benchmark.

In summary, your fund was slightly low cost primarily because you had a lower cost implementation style.

Reasons for your low cost status

	Excess Cost/ (Savings) $000s	Excess Cost/ (Savings) bps
1. Lower cost implementation style		
• Less active management, more lower cost passive	(4,743)	(2.8)
• More external management vs. lower cost internal	990	0.6
• Less LPs as a percentage of external	(823)	(0.5)
• Less fund of funds	(4,142)	(2.5)
• Less co-investment as a percentage of LP/Co	897	0.5
• Less overlays	(786)	(0.5)
	(8,607)	(5.1)
2. Paying less than peers for similar services		
• External investment management costs	(371)	(0.2)
• Oversight, custodial & other costs	(39)	(0.0)
	(410)	(0.2)
Total savings	(9,017)	(5.4)

Your fund achieved 5-year net value added of -16 bps and cost savings of 2 bps on the cost effectiveness chart.



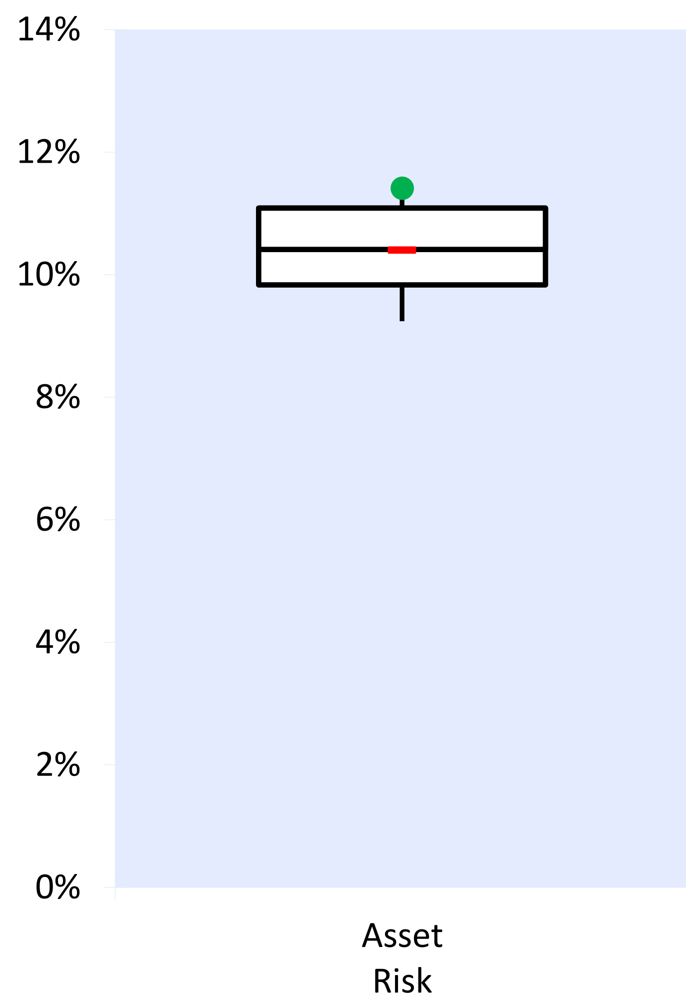
1. Your 5-year cost savings of 2 basis points is the average of your cost savings for the past 5 years. Prior years' cost status was calculated using regression analysis, except for 2016.

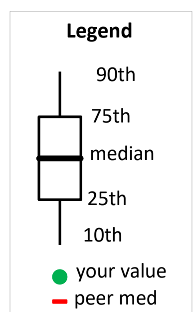
	2018	2017	2016	2015	2014	5-year
Net value added	-188.8bp	49.7bp	-47.0bp	96.3bp	25.7bp	-15.9bp
Excess Cost	-5.4bp	-0.8bp	-2.1bp	1.6bp	-1.5bp	-1.6bp

Comparison of risk levels

Your asset risk of 11.4% was above the U.S. Public median of 10.4%. Asset risk is the standard deviation of your policy return. It is based on the historical variance of, and covariance between, the asset classes in your policy mix.

U.S. Public risk levels at December 31, 2018





Summary of key takeaways

Returns

- Your 5-year net total return was 5.0%. This was below the U.S. Public median of 5.4% and below the peer median of 5.4%.
- Your 5-year policy return was 5.2%. This was close to the U.S. Public median of 5.3% and equal to the peer median of 5.2%.

Value added

- Your 5-year net value added was -0.2%. This was close to the U.S. Public median of 0.0% and slightly below the peer median of 0.1%.

Cost and cost effectiveness

- Your investment cost of 50.1 bps was below your benchmark cost of 55.5 bps. This suggests that your fund was slightly low cost compared to your peers.
- Your fund was slightly low cost primarily because you had a lower cost implementation style.

Risk

- Your asset risk of 11.4% was above the U.S. Public median of 10.4%.

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LACERS
LOS ANGELES CITY EMPLOYEES'
RETIREMENT SYSTEM

REPORT TO BOARD OF ADMINISTRATION
From: Lita Payne, Executive Officer Lita Payne

MEETING: NOVEMBER 12, 2019
ITEM: IX – B

SUBJECT: **ACTUARIAL VALUATIONS AS OF JUNE 30, 2019 INCLUDING PROPOSED CITY CONTRIBUTION RATES FOR FISCAL YEAR 2020-21 AND POSSIBLE BOARD ACTION**

ACTION: ☒ CLOSED: ☐ CONSENT: ☐ RECEIVE & FILE: ☐

Recommendation

That the Board adopts the attached Actuarial Valuation reports of its consulting actuary, Segal Consulting, for the period ending June 30, 2019, including:

1) *Retirement Benefits Actuarial Valuation* and *Other Postemployment Benefits Actuarial Valuation* which establish the recommended City contribution rates for Fiscal Year Ending 2021;

2) *Governmental Accounting Standards (GAS) 67 Pension Valuation* and *GAS 74 Other Post-Employment Benefit Valuation* which provide the financial disclosures to meet LACERS' June 30, 2019 financial reporting requirements of the Governmental Accounting Standards Board; and,

3) *Family Death Benefit Plan Costs as of June 30, 2019* which is a bi-annually conducted valuation setting the premium for the next two fiscal years to be reduced from the current $3.00 to $2.40 per month as recommended.

Executive Summary

The Board's consulting actuary, Segal Consulting (Segal), performed the annual actuarial valuation of the retirement benefits and the retiree health benefits of the LACERS' Retirement and Health System (System) based on census data as of June 30, 2019 (see Attachment 1). The actuarial valuation determines the System's funded status as of June 30, 2019 and the City's contribution rates for Fiscal Year Ending (FYE) 2021. The valuation also includes a Risk Assessment section; however, a more detailed analysis of risk in accordance with the Actuarial Standards Board new Actuarial Standards of Practice No. 51 will be provided in a stand-alone report later this fiscal year.

Overall, the System's Assets and Funded Ratios increased, while the total Unfunded Actuarial Accrued Liability decreased, primarily due to 2019/20 health insurance premium and subsidy levels being lower than expected, but partially offset by the updated trend for projecting Medicare B premiums after 2019/20.

Segal also prepared separate valuation reports in accordance with the requirements of the Governmental Accounting Standards (GAS) Statements No. 67 – *Financial Reporting for Pension Plans* and No. 74 – *Financial Reporting for Postemployment Benefit Plans* (see Attachments 2 and 3). Information from these valuations will be reported in LACERS' June 30, 2019 financial statements.

Segal also prepared a bi-annual valuation of the voluntary Family Death Benefit Plan (FDBP) as of June 30, 2019 which recommends contribution rates to be effective for FYE 2021 and FYE 2022. The last review of the FDBP was conducted as part of the June 30, 2017 actuarial valuation which yielded the current employee monthly contribution of $3.00. Another 20% reduction in the monthly contribution is recommended to $2.40. The City matches the employees' cost at the same level.

Discussion

Retirement and OPEB Actuarial Valuations

Segal performed the annual actuarial valuation of the retirement benefits and the retiree health benefits of the System based on census data as of June 30, 2019 (see Attachment 1). The actuarial valuation determines the System's funded status as of June 30, 2019 and the City's contribution rates for FYE 2021. The report also updates actuarial and demographic information about the System and its Members.

Significant Valuation Results

Valuation Ending	June 30, 2019	June 30, 2018	Percent Change
Total System Assets			
A. Actuarial Value	$17,711,461,636	$16,687,907,767	6.1%
B. Market Value	17,707,909,933	16,989,616,344	4.2%
Unfunded Actuarial Accrued Liability (UAAL)			
A. Retirement Benefits	$5,974,856,716	$5,962,143,593	0.2%
B. Health Subsidy Benefits	521,636,655	627,984,336	(16.9)%
C. Total	$6,496,493,371	$6,590,127,929	(1.4)%
Funded Ratio (Based on Valuation Value of Assets)			
A. Retirement Benefits	71.3%	70.1%	1.2%
B. Health Subsidy Benefits	84.4%	80.7%	3.7%
C. Total	73.1%	71.6%	1.5%

Valuation Highlights

Overall, the System's Assets and Funded Ratios increased, while the total UAAL decreased, primarily due to 2019/20 health insurance premium and subsidy levels being lower than expected, but partially offset by the updated trend for projecting Medicare B premiums after 2019/20. Investment experience represented a System gain as the rate of return on the valuation basis for June 30, 2019 was 7.34%, exceeding the assumed rate of return of 7.25%. Key financial indicator changes are highlighted below.

- The ratio of the valuation value of assets to actuarial accrued liabilities for retirement benefits increased year-over-year from 70.1% to 71.3%. On a market value basis, the funded ratio for the retirement benefits decreased year-over-year from 71.4% to 71.3%.

- The funded ratio for the retiree health benefits on an actuarial basis increased year-over-year from 80.7% to 84.4%. On a market value basis, the funded ratio for retiree health benefits increased from 82.2% to 84.3%.

- The actuarial value of total System assets as of June 30, 2019 increased 6.1% over the prior year, from $16.69 billion to $17.71 billion. On a market value basis, there was a 4.2% increase in assets from $16.99 billion to $17.71 billion.

- The UAAL for the retirement benefit increased 0.2% over the prior year, from $5.96 billion to $5.97 billion. For the retiree health benefits, the UAAL decreased 16.9% from the prior year, from $627.9 million to $521.6 million. The total UAAL for both the retirement benefits and the retiree health benefits as of June 30, 2019 is $6.50 billion. Compared to the previous year, the total UAAL decreased by $93.6 million.

Actuarially Determined Employer Contributions

The City's contribution is the sum of the Normal Cost plus an amortized payment of the Unfunded Actuarial Accrued Liability (UAAL). The Normal Cost is the portion of the actuarial present value of LACERS' plan benefits which is allocated to a valuation year using LACERS' adopted cost method – Entry Age Normal. The amortization of the UAAL is the payment stream required to fund the difference between the actuarial accrued liabilities and the actuarial value of assets, determined by methods prescribed by LACERS' Amortization Policy. The actuary has calculated contribution rates reflecting decisions made by the Board including the *July 1, 2014 through June 30, 2017 Actuarial Experience Study* dated June 29, 2018 and the *Assumptions and Methods Recommended for the June 30, 2019 Retiree Health Actuarial Valuations* dated September 17, 2019, along with other Board policies. Following are the actuarially determined City contribution rates as a percentage of the City payroll for FYE 2021 if received by July 15, 2020, as compared with current rates.

Employer Rates – Tier 1 and Tier 3 Combined

As a Percentage of City Payroll	Recommended Rates FYE 2021	Current Rates FYE 2020	Difference
Retirement	24.63%	24.75%	(0.12)%
Health	4.49%	4.91%	(0.42)%
Total	**29.12%**	**29.66%**	**(0.54)%**

Overall, the recommended employer contribution rate for FYE 2021 is 0.5% lower than the current year rate. The slight decrease in the employer rate is due to payroll and demographic changes including increasing enrollment of new employees in Tier 3 and lower than expected salary increases, along with lower than expected 2019/20 health insurance premium and subsidy levels, offset by amortizing the prior year's UAAL over a smaller than projected total payroll and other demographic experience losses, as well as a change in assumptions for projecting Medicare Part B premiums after 2019/20.

Actuarial Standards of Practice No. 51 (ASOP 51)

The Actuarial Standards Board new ASOP 51 regarding risk assessment is effective with LACERS' June 30, 2019 actuarial valuation. ASOP 51 requires actuaries to identify and assess risks that "may reasonably be anticipated to significantly affect the plan's future financial condition." While certain risk factors are discussed in the valuations, a detailed analysis of risk relative to the System's future financial condition will be provided in a stand-alone report later this fiscal year.

GAS 67 and GAS 74

Segal prepared separate valuation reports in accordance with the requirements of the GAS Statements No. 67 – *Financial Reporting for Pension Plans* and No. 74 – *Financial Reporting for Postemployment Benefit Plans* (see Attachments 2 and 3). Information from these valuations will be reported in LACERS' June 30, 2019 financial statements. Key highlights are identified below.

- The Net Pension Liability (NPL) was determined to be $5.98 billion as of June 30, 2019 for the retirement benefits, compared to $5.71 billion as of June 30, 2018. The NPL is a required disclosure in the financial notes of a pension plan pursuant to GAS 67, and a required disclosure as a liability in the plan sponsor's financial statements pursuant to GAS 68 – *Accounting and Financial Reporting for Pensions*. The NPL measure differs from the UAAL as it is calculated on a market value basis and reflects all investment gains and losses as of the measurement date. Another required disclosure under GAS 67 is the Plan Fiduciary Net Position as a percentage of Total Pension Liability, which is 71.3% as of June 30, 2019.

- The Net OPEB Liability (NOL) was determined to be $522.2 million as of June 30, 2019 for the retiree health benefits, compared to $580.5 million as of June 30, 2018. The NOL is a required disclosure in the financial notes of an OPEB plan pursuant to GAS 74, and a required disclosure as a liability in the plan sponsor's financial statements pursuant to GAS 75 – *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*. Additionally, GAS 74 requires disclosure of the Plan Fiduciary Net Position as a percentage of Total OPEB Liability, which is 84.3% as of June 30, 2019.

Family Death Benefit Plan

Segal also prepared a bi-annual valuation of the voluntary FDBP as of June 30, 2019 which recommends contribution rates to be effective for FYE 2021 and FYE 2022. The last review of the FDBP was conducted as part of the June 30, 2017 actuarial valuation which yielded the current employee monthly contribution of $3.00, reduced from the prior monthly rate of $3.70. The City matches the employees' cost at the same level.

Due to an ongoing FDBP surplus, Segal recommends similar actions to those taken in the June 30, 2017 FDBP Valuation, including:

1) Continuing campaign targeting retirement eligible contributors to consider discontinuing voluntary FDBP contributions for those whose survivors would not receive any FDBP benefits.
2) Reduce the monthly charge by another 20%, from the current $3.00 to $2.40 for FYE 2021 and FYE 2022.

Additionally, LACERS will continue to campaign to increase participation of non-retirement eligible Members.

Paul Angelo of Segal Consulting will present the above-mentioned June 30, 2019 actuarial valuation reports.

Strategic Plan Impact Statement

Adoption of the Actuarial Valuation ensures the adequacy of the employer contribution rates in paying the actuarially required contribution, in compliance with Los Angeles City Charter Sections 1158 and 1160, upholding "governance practices which affirm transparency, accountability and fiduciary duty."

Prepared By: Todd Bouey, Assistant General Manager

LP:TB

Attachments:
1. Segal Actuarial Valuation and Review of Retirement and Health Benefits as of June 30, 2019
2. Segal Actuarial Valuation and Review of Retirement Benefits as of June 30, 2019
3. Segal Funding Actuarial Valuation and Review of Other Postemployment Benefits (OPEB) as of June 30, 2019
4. Segal Family Death Benefit Plan (FDBP) Costs as of June 30, 2019
5. Segal Governmental Accounting Standards (GAS) 67 Actuarial Valuation as of June 30, 2019
6. Segal Governmental Accounting Standards (GAS) 74 Actuarial Valuation of Other Postemployment Retirement Benefits (OPEB) as of June 30, 2019

BOARD Meeting: 11/12/19
Item IX - B
Attachment 1

Segal Consulting

Los Angeles City Employees' Retirement System

Actuarial Valuation and Review of Retirement and Health Benefits as of June 30, 2019

This report has been prepared at the request of the Board of Administration to assist in administering the Fund. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Administration and may only be provided to other parties in its entirety, unless expressly authorized by Segal. The measurements shown in this actuarial valuation may not be applicable for other purposes.

Segal Consulting
180 HOWARD STREET, SUITE 1100 SAN FRANCISCO, CA 94105-6147
T 415.263.8200 www.segalco.com

November 6, 2019

Board of Administration
Los Angeles City Employees' Retirement System
202 W. 1st Street, Suite 500
Los Angeles, CA 90012-4401

Re: June 30, 2019 Actuarial Valuations

Dear Board Members:

Enclosed please find the June 30, 2019 actuarial valuations for the retirement, health, and family death benefit plans.

As requested by the System, we have attached the following supplemental schedules:

- Exhibit A – Summary of significant results for the retirement and health plans.
- Exhibit B – History of computed contribution rates for the retirement and health plans.
- Exhibit C – Schedule of funded liabilities by type for the retirement plan.[1]
- Exhibit D – Schedule of retirees and beneficiaries added to and removed from the rolls for the retirement plan.[2]

We look forward to discussing the reports and the enclosed schedules with the Board.

Sincerely,

Paul Angelo, FSA, MAAA, FCA, EA
Senior Vice President and Actuary

Andy Yeung, ASA, MAAA, FCA, EA
Vice President and Actuary

DNA/jl

5598717v3/05806.002

[1] For the health plan, a similar schedule is provided in Exhibit I of Section 3 of the health valuation report.

[2] For the health plan, a similar schedule is provided in Exhibit C of the health valuation report.

Exhibit A

Los Angeles City Employees' Retirement System
Summary of Significant Valuation Results

		June 30, 2019	June 30, 2018	Percent Change
I.	**Total Membership**			
	A. Active Members	26,632	26,042	2.3%
	B. Pensioners and Beneficiaries	20,034	19,379	3.4%
II.	**Valuation Salary**			
	A. Total Annual Projected Payroll	$2,225,412,831	$2,177,687,102	2.2%
	B. Average Projected Monthly Salary	6,963	6,969	-0.1%
III.	**Benefits to Current Retirees and Beneficiaries**[1]			
	A. Total Annual Benefits	$947,588,609	$880,071,707	7.7%
	B. Average Monthly Benefit Amount	3,942	3,784	4.2%
IV.	**Total System Assets**[2]			
	A. Actuarial Value	$17,711,461,636	$16,687,907,767	6.1%
	B. Market Value	17,707,909,933	16,989,616,344	4.2%
V.	**Unfunded Actuarial Accrued Liability (UAAL)**			
	A. Retirement Benefits	$5,974,856,716	$5,962,143,593	0.2%
	B. Health Subsidy Benefits	521,636,655	627,984,336	-16.9%

(1) *Includes July COLA.*

(2) *Includes assets for Retirement, Health, Family Death, and Larger Annuity Benefits.*

Exhibit A (continued)

Los Angeles City Employees' Retirement System
Summary of Significant Valuation Results

VI. Budget Items (as a Percent of Pay)	FY 2020-2021[1] Beginning of Year	FY 2020-2021[1] July 15	FY 2019-2020 Beginning of Year	FY 2019-2020 July 15	Difference Beginning of Year	Difference July 15
A. Retirement Benefits (Tier 1 and Tier 3 Combined)						
1. Normal Cost	6.23%	6.25%	6.38%	6.41%	(0.15)%	(0.16)%
2. Amortization of UAAL	18.33%	18.38%	18.29%	18.34%	0.04%	0.04%
3. Total Retirement Contribution	24.56%	24.63%	24.67%	24.75%	(0.11)%	(0.12)%
B. Health Subsidy Benefits (Tier 1 and Tier 3 Combined)						
1. Normal Cost	3.43%	3.44%	3.42%	3.44%	0.01%	0.00%
2. Amortization of UAAL	1.04%	1.05%	1.47%	1.47%	(0.43)%	(0.42)%
3. Total Health Subsidy Contribution	4.47%	4.49%	4.89%	4.91%	(0.42)%	(0.42)%
C. Total Contribution (A + B)	29.03%	29.12%	29.56%	29.66%	(0.53)%	(0.54)%

VII. Funded Ratio	June 30, 2019	June 30, 2018	Difference
(Based on Valuation Value of Assets)			
A. Retirement Benefits	71.3%	70.1%	1.2%
B. Health Subsidy Benefits	84.4%	80.7%	3.7%
C. Total	73.1%	71.6%	1.5%
(Based on Market Value of Assets)			
D. Retirement Benefits	71.3%	71.4%	(0.1)%
E. Health Subsidy Benefits	84.3%	82.2%	2.1%
F. Total	73.1%	72.9%	0.2%

[1] *Alternative contribution payment date for FY 2020-2021:*

	Retirement	*Health*	*Total*
End of Pay Periods	*25.43%*	*4.64%*	*30.07%*

Exhibit B

Los Angeles City Employees' Retirement System
Computed Contribution Rates[1] – Historical Comparison

Valuation Date	Retirement	Health	Total	Projected Valuation Payroll (thousands)
06/30/1994	12.07%	2.99%	15.06%	$884,951
06/30/1995	7.34%	2.30%	9.64%	911,292
06/30/1996	6.51%	3.18%	9.69%	957,423
06/30/1997	6.57%	1.85%	8.42%	990,616
06/30/1998	6.43%	1.27%	7.70%	1,011,857
06/30/1999	4.93%	0.67%	5.60%	1,068,124
06/30/2000	2.54%	2.17%	4.71%	1,182,203
06/30/2001	3.84%	1.98%	5.82%	1,293,350
06/30/2002	9.22%	1.85%	11.07%	1,334,335
06/30/2003	11.95%	4.02%	15.97%	1,405,058
06/30/2004	14.76%	4.94%	19.70%	1,575,285
06/30/2005	17.51%	7.27%	24.78%	1,589,306
06/30/2006	17.18%	6.49%	23.67%	1,733,340
06/30/2007	15.52%	5.38%	20.90%	1,896,609
06/30/2008	14.65%	5.48%	20.13%	1,977,645
06/30/2009	18.73%	6.62%	25.35%	1,816,171
06/30/2010				
Before Additional Employee Contributions	21.19%	7.45%	28.64%	1,817,662
After Additional Employee Contributions	18.67%	6.94%	25.61%	1,817,662
06/30/2011[2]				
Before Additional Employee Contributions	24.31%	4.49%	28.80%	1,833,392
After Additional Employee Contributions	21.64%	4.49%	26.13%	1,833,392
06/30/2012[3]	21.34%	5.74%	27.08%	1,819,270
06/30/2013	22.24%	5.80%	28.04%	1,846,970
06/30/2014	24.05%	5.81%	29.86%	1,898,064
06/30/2015	23.65%	4.90%	28.55%	1,907,665
06/30/2016	22.96%	5.09%	28.05%	1,968,703
06/30/2017[4]	23.81%	5.26%	29.07%	2,062,316
06/30/2018	25.56%	5.07%	30.63%	2,177,687
06/30/2019	25.43%	4.64%	30.07%	2,225,413

[1] *Contributions are assumed to be made at the end of the pay period. For the 6/30/2014 and 6/30/2015 valuations, the contribution rates are the combined rates for Tiers 1 and 2. Beginning with the 6/30/2016 valuation, the contribution rates are the combined rates for Tiers 1 and 3 (Tier 2 was rescinded effective February 21, 2016).*

[2] *Beginning with the 6/30/2011 valuation date, the contribution rates are before adjustments to phase in over five years the impact of new actuarial assumptions (as a result of the June 30, 2011 Triennial Experience Study) on the City's contributions. Those adjustments no longer apply after the June 30, 2014 valuation.*

[3] *Beginning with the 6/30/2012 valuation date, the contribution rates are after additional employee contributions.*

[4] *Beginning with the 6/30/2017 valuation date, the contribution rates are after reflecting enhanced benefits for Airport Peace Officers effective January 7, 2018.*

Exhibit C

Los Angeles City Employees' Retirement System
Schedule of Funded Liabilities by Type for Retirement Benefits
For Years Ended June 30

($ In Thousands)

	Aggregate Actuarial Accrued Liabilities For				Portion of Aggregate Accrued Liabilities Covered by Reported Assets		
	(1)	(2)	(3)		(1)	(2)	(3)
Valuation Date	Member Contributions	Retirees, Beneficiaries, & Inactive/Vested	Active Members	Valuation Value of Assets	Member Contributions	Retirees, Beneficiaries, & Inactive/Vested	Active Members
06/30/1996	$637,737	$2,357,798	$1,480,489	$4,468,433	100.0%	100.0%	99.5%
06/30/1997	683,048	2,598,432	1,604,857	4,802,509	100.0	100.0	94.8
06/30/1998	733,680	2,772,712	1,806,526	5,362,923	100.0	100.0	100.0
06/30/1999	776,617	2,989,218	1,918,751	5,910,948	100.0	100.0	100.0
06/30/2000	827,729	3,149,392	2,035,810	6,561,365	100.0	100.0	100.0
06/30/2001	889,658	3,444,240	2,134,168	6,988,782	100.0	100.0	100.0
06/30/2002	950,002	3,756,935	2,545,181	7,060,188	100.0	100.0	92.5
06/30/2003	1,005,888	4,021,213	2,632,745	6,999,647	100.0	100.0	74.9
06/30/2004	1,062,002	4,348,252	3,123,610	7,042,108	100.0	100.0	52.2
06/30/2005	1,128,101	4,858,932	3,334,492	7,193,142	100.0	100.0	36.2
06/30/2006	1,210,246	5,149,385	3,511,031	7,674,999	100.0	100.0	37.5
06/30/2007	1,307,008	5,365,437	3,854,429	8,599,700[(1)]	100.0	100.0	50.0
06/30/2008	1,408,074	5,665,130	4,113,200	9,438,318	100.0	100.0	57.5
06/30/2009	1,282,663	7,356,302	3,403,019	9,577,747	100.0	100.0	27.6
06/30/2010	1,379,098	7,507,945	3,707,982	9,554,027	100.0	100.0	18.0
06/30/2011	1,474,824	7,765,071	4,151,809	9,691,011	100.0	100.0	10.9
06/30/2012	1,625,207	7,893,684	4,875,068	9,934,959	100.0	100.0	8.5
06/30/2013	1,757,195	8,066,564	5,057,904	10,223,961	100.0	100.0	7.9
06/30/2014	1,900,068	8,700,896	5,647,889	10,944,751	100.0	100.0	6.1
06/30/2015	2,012,378	9,118,166	5,779,452	11,727,161	100.0	100.0	10.3
06/30/2016	2,137,269	9,439,001	5,848,726	12,439,250	100.0	100.0	14.8
06/30/2017	2,255,048	10,164,403	6,038,737	13,178,334	100.0	100.0	12.6
06/30/2018	2,354,026	11,079,053	6,511,500	13,982,435	100.0	100.0	8.4
06/30/2019	2,469,761	11,933,703	6,389,957	14,818,564	100.0	100.0	6.5

[(1)] *Excludes assets transferred for Port Police.*

Exhibit D

Los Angeles City Employees' Retirement System
Retirees and Beneficiaries Added To and Removed From the Rolls[1]
For Years Ended June 30

Year Ended	No. of New Retirees/ Beneficiaries	Annual Allowances Added[2]	No. of Retirees/ Beneficiaries Removed	Annual Allowances Removed	No. of Retirees/ Beneficiaries at 6/30	Annual Allowances at 6/30	Percent Increase in Annual Allowances	Average Annual Allowance
06/30/2002	844	$23,740,829	620	$11,316,344	13,589	$336,437,038	6.4%	$24,758
06/30/2003	827	24,729,535	611	12,008,132	13,805	359,036,215	6.7%	26,008
06/30/2004	986	53,452,133	654	13,220,316	14,137	399,268,032	11.2%	28,243
06/30/2005	934	43,454,836	749	14,769,736	14,322	427,953,132	7.2%	29,881
06/30/2006	890	42,821,079	642	15,061,287	14,570	455,712,924	6.5%	31,277
06/30/2007	821	34,131,744	555	13,210,740	14,836	476,633,928	4.6%	32,127
06/30/2008	748	40,680,279	609	14,956,623	14,975	502,357,584	5.4%	33,546
06/30/2009	632	36,887,854	616	17,386,042	14,991	521,859,396	3.9%	34,812
06/30/2010	2,893	144,594,918	620	17,604,486	17,264	648,849,828	24.3%	37,584
06/30/2011	528	24,282,965	595	16,585,589	17,197	656,547,204	1.2%	38,178
06/30/2012	620	38,314,256	594	17,986,700	17,223	676,874,760	3.1%	39,301
06/30/2013	772	40,966,952	633	18,776,770	17,362	699,064,942	3.3%	40,264
06/30/2014	831	38,666,905	661	21,175,777	17,532	716,556,070	2.5%	40,871
06/30/2015	1,083	55,849,106	683	22,013,426	17,932	750,391,750	4.7%	41,847
06/30/2016	1,082	51,056,286	657	23,092,610	18,357	778,355,426	3.7%	42,401
06/30/2017	1,142	65,583,105	694	24,422,619	18,805	819,515,912	5.3%	43,580
06/30/2018	1,312	86,917,553	738	26,361,758	19,379	880,071,707	7.4%	45,414
06/30/2019	1,341	93,946,126	686	26,429,224	20,034	947,588,609	7.7%	47,299

(1) *Does not include Family Death Benefit Plan members. Table based on valuation data.*

(2) *Effective 06/30/2004, also includes the COLA granted in July.*

5598717v3/05806.002

BOARD Meeting: 11/12/19
Item IX - B
Attachment 2

Segal Consulting

Los Angeles City Employees' Retirement System

Actuarial Valuation and Review of Retirement Benefits as of June 30, 2019

Segal Consulting
180 Howard Street Suite 1100 San Francisco, CA 94105-6147
T 415.263.8200 www.segalco.com

November 6, 2019

Board of Administration
Los Angeles City Employees' Retirement System
202 W. 1st Street, Suite 500
Los Angeles, CA 90012-4401

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of June 30, 2019. It summarizes the actuarial data used in the valuation, analyzes the preceding year's experience, and establishes the funding requirements for fiscal year 2020/2021.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Plan. The census information and financial information on which our calculations were based was prepared by the staff of the System. That assistance is gratefully acknowledged.

The actuarial calculations were directed under the supervision of Andy Yeung, ASA, MAAA, FCA and Enrolled Actuary. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and the expectations for the Plan.

We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,

Segal Consulting, a Member of The Segal Group, Inc.

By:

Paul Angelo, FSA, MAAA, FCA, EA	Andy Yeung, ASA, MAAA, FCA, EA
Senior Vice President and Actuary	Vice President and Actuary

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Section 1: Actuarial Valuation Summary

Purpose and Basis

This report was prepared by Segal Consulting ("Segal") to present a valuation of the Los Angeles City Employees' Retirement System ("the System") as of June 30, 2019. The valuation was performed to determine whether the assets and contribution rates are sufficient to provide the prescribed benefits. The measurements shown in this actuarial valuation may not be applicable for other purposes. In particular, the measures herein are not necessarily appropriate for assessing the sufficiency of current Plan assets to cover the estimated cost of settling the Plan's accrued benefit obligations.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions or applicable law.

The contribution requirements presented in this report are based on:

- The benefit provisions of the pension plan, as administered by the Board of Administration;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of June 30, 2019, provided by the System;
- The assets of the Plan as of June 30, 2019, provided by the System;
- Economic assumptions regarding future salary increases and investment earnings;
- Other actuarial assumptions regarding employee terminations, retirement, death, etc. that the Board has adopted for the June 30, 2019 valuation; and
- The funding policy adopted by the Board of Administration.

Significant Issues

Ref: Pgs. 36, 28, & 53-55

1. The ratio of the valuation value of assets to actuarial accrued liabilities increased from 70.11% to 71.27%. On a market value of assets basis, the funded ratio decreased from 71.37% to 71.25%. The UAAL increased from $5.962 billion to $5.975 billion. The increase was due to: (i) actual contributions less than expected as a result of the anticipated one-year delay in implementing the higher contribution rate in the prior valuation, (ii) lower than expected mortality for payees, and (iii) other miscellaneous actuarial losses, offset somewhat by (iv) lower than expected salary increases for continuing active members, and (v) a higher than expected return on the valuation value of assets (after smoothing). A reconciliation of the System's UAAL is provided in *Section 2, Subsection E*. A schedule of the current UAAL amortization amounts is provided in *Section 3, Exhibit G*. Note that a graphical projection of the UAAL amortization bases and payments has been provided as *Exhibit H in Section 3*.

Ref: Pg. 30

2. The aggregate employer rate (if received on July 15) calculated in this valuation has decreased from 24.75% of payroll to 24.63% of payroll. The annual dollar employer contributions calculated in this valuation increased from about $539.0 million to $548.1 million. The decrease in the employer rate was due to: (i) a decrease in the normal cost rate due, in part, to the enrollment of new employees in Tier 3, (ii) a higher than expected return on the valuation value of assets (after smoothing), (iii) lower than expected salary increases for continuing active members, and (iv) the 40-year minimum GASB 25/27 amortization layer in 2003/2004 being fully amortized, offset somewhat by (v) actual contributions less than expected as a result of the anticipated one-year delay in implementing the higher contribution rate calculated in the prior valuation, (vi) amortizing the prior year's UAAL over a smaller than expected projected total payroll, (vii) lower than expected mortality for payees, and (viii) other miscellaneous actuarial losses. A complete reconciliation of the aggregate employer contribution is provided in *Section 2, Subsection F*.

Ref: Pg. 20

3. As indicated in *Section 2, Subsection B* of this report, the total net unrecognized investment <u>loss</u> as of June 30, 2019 is $3,551,703[1] for the assets for Retirement, Health, Family Death, and Larger Annuity Benefits. This net investment loss will be recognized in the determination of the actuarial value of assets for funding purposes in the next several years. This implies that earning the assumed rate of investment return of 7.25% per year (net of investment and administrative expenses) on a market value basis will result in a net investment loss on the actuarial value of assets after June 30, 2019. Item 9 in the chart in *Subsection B of Section 2* shows how, under the asset smoothing method, the $3.6 million net unrecognized loss will be recognized in the next six years.

---

[1] For comparison purposes, the total net unrecognized investment <u>gain</u> as of June 30, 2018 was $301,708,577.

The net deferred loss of $3.6 million represents less than 0.1% of the market value of assets as of June 30, 2019. Unless offset by future investment gains or other favorable experience, the recognition of the net $3.6 million market loss is expected to have an impact on the System's future funded percentage and contribution rate requirements. This potential impact may be illustrated as follows:

a. If the retirement plan component of the net deferred loss was recognized immediately in the valuation value of assets, the funded percentage would decrease from 71.27% to 71.25%.

   For comparison purposes, if the net deferred gain for the retirement plan in the June 30, 2018 valuation had been recognized immediately in the June 30, 2018 valuation, the funded percentage would have increased from 70.11% to 71.37%.

b. If the retirement plan component of the net deferred loss was recognized immediately in the valuation value of assets, the aggregate employer rate (if received on July 15, 2020) would remain at about 24.63% of payroll.

   For comparison purposes, if the net deferred gain for the retirement plan in the June 30, 2018 valuation had been recognized immediately in the June 30, 2018 valuation, the aggregate employer rate (if received on July 15, 2019) would have decreased from 24.75% of payroll to about 23.77% of payroll.

4. As in prior years, the employer contribution rates provided in this report have been developed assuming they will be received by LACERS on any of the following dates:

   a. The beginning of the fiscal year, or

   b. On July 15, 2020, or

   c. Throughout the year (i.e., LACERS will receive contributions at the end of every pay period).

Ref: Pg. 53

5. Carrying over the prior instructions from the Board of Administration, the recommended contribution is set equal to the contributions under the current funding policy plus an additional contribution due to the application of the 40-year minimum amortization requirement for fiscal year 2004/2005. The amortization of the 40-year minimum for 2004/2005 will be fully completed in the next valuation. (The amortization of the 40-year minimum for 2003/2004 was fully completed in this valuation.)

6. The actuarial valuation report as of June 30, 2019 is based on financial information as of that date. Changes in the value of assets subsequent to that date are not reflected. Declines in asset values will increase the actuarial cost of the Plan, while increases will decrease the actuarial cost of the Plan.

Ref: Pg. 40

7. The Actuarial Standards Board approved a new Actuarial Standard of Practice No. 51 (ASOP 51) regarding risk assessment. ASOP 51 is effective with LACERS' June 30, 2019 actuarial valuation. ASOP 51 requires actuaries to identify and assess risks that "may reasonably be anticipated to significantly affect the plan's future financial condition." Examples of key risks listed that are particularly relevant to LACERS are asset/liability mismatch risk, investment risk, and longevity risk. The standard also requires an actuary to consider if there is any ongoing contribution risk to the plan, however it does not require the actuary to evaluate the particular ability or willingness of contributing entities to make contributions when due, nor does it require the actuary to assess the likelihood or consequences of future changes in applicable law.

   The actuary's initial assessment can be strictly a qualitative discussion about potential adverse experience and the possible effect on future results, but it may also include quantitative numerical demonstrations where informative. The actuary is also encouraged to consider a recommendation as to whether a more detailed assessment or risk report would be significantly beneficial for the intended user in order to examine particular financial risks. When making that recommendation, the actuary will take into account such factors as the plan's design, risk profile, maturity, size, funded status, asset allocation, cash flow, possible insolvency and current market conditions.

   Since the actuarial valuation results are dependent on a fixed set of assumptions and data as of a specific date, there is risk that emerging results may differ, perhaps significantly, as actual experience is fluid and will not exactly track current assumptions. This potential divergence may have a significant impact on the future financial condition of the plan. We are in discussion with the System's staff regarding specific content for a more detailed analysis of the potential range of the impact of risk relative to the System's future financial condition to be provided later in a stand-alone report. Therefore, in this valuation report, we have only included a brief discussion of key risks that may affect the System in *Section 2, Subsection J*. The more detailed assessment of the risks tailored to specific interests or concerns of the Board will provide the Board with a better understanding of the inherent risks and is recommended. This assessment will further discuss and highlight information and risks particular to LACERS such as detailed historical experience and key events, growing plan maturity, heightened contribution sensitivity to asset and liability changes, and projected sensitivity to potential future investment returns through selected scenario or stress test projections.

Summary of Key Valuation Results

		June 30, 2019	June 30, 2018
		% of Payroll	% of Payroll
Employer Contribution Rates:[1]	Tier 1		
	• At the beginning of the year	25.00%	24.98%
	• On July 15	25.08%	25.06%
	• At the end of each pay period	25.90%	25.88%
	Tier 3		
	• At the beginning of the year	22.13%	22.05%
	• On July 15	22.20%	22.12%
	• At the end of each pay period	22.92%	22.85%
	Combined		
	• At the beginning of the year	24.56%	24.67%
	• On July 15	24.63%	24.75%
	• At the end of each pay period	25.43%	25.56%

(1) There is a 12-month delay until the rate is effective.

Summary of Key Valuation Results (continued)

		June 30, 2019	June 30, 2018
Actuarial Accrued Liability:	• Retired members and beneficiaries	$11,620,004,477	$10,778,202,813
	• Inactive vested members	516,719,939	485,374,682
	• Active members	8,656,696,727	8,681,001,563
	• Total Actuarial Accrued Liability	20,793,421,143	19,944,579,058
	• Normal Cost for plan year beginning June 30	374,967,243	370,409,073
Assets:	• Market Value of Assets (MVA)(1)	$17,707,909,933	$16,989,616,344
	• Actuarial Value of Assets (AVA)(1)	17,711,461,636	16,687,907,767
	• AVA as a percentage of MVA	100.0%	98.2%
	• Valuation Value of Retirement Assets (VVA)	$14,818,564,427	$13,982,435,465
	• Market Value of Retirement Assets (MVA)	14,815,592,841	14,235,230,528
Funded status:	• Unfunded Actuarial Accrued Liability (UAAL) on VVA basis	$5,974,856,716	$5,962,143,593
	• Funded ratio on VVA basis for retirement (VVA/AAL)	71.27%	70.11%
	• UAAL on MVA basis	$5,977,828,302	$5,709,348,530
	• Funded ratio on MVA basis for retirement (MVA/AAL)	71.25%	71.37%
Key assumptions:	• Net investment return	7.25%	7.25%
	• Price Inflation	3.00%	3.00%
	• Payroll growth	3.50%	3.50%

(1) Includes assets for Retirement, Health, Family Death, and Larger Annuity Benefits.

Summary of Key Valuation Results (continued)

		June 30, 2019	June 30, 2018	Change From Prior Year
Demographic data:	**Active Members:**			
	• Number of members	26,632	26,042	2.3%
	• Average age	47.0	47.4	-0.4
	• Average employment service	13.2	13.7	-0.5
	• Total projected compensation[1]	$2,225,412,831	$2,177,687,102	2.2%
	• Average projected compensation[1]	$83,562	$83,622	-0.1%
	Retired Members and Beneficiaries:			
	• Number of members:			
	– Service retired	15,165	14,583	4.0%
	– Disability retired	888	894	-0.7%
	– Beneficiaries	3,981	3,902	2.0%
	– Total	20,034	19,379	3.4%
	• Average age	72.5	72.5	0.0
	• Average monthly benefit	$3,942	$3,784	4.2%
	Inactive Vested Members:			
	• Number of members[2]	8,588	8,028	7.0%
	• Average Age	44.5	44.6	-0.1
	Total Members:	55,254	53,449	3.4%

(1) Reflects annualized salaries for part-time members.

(2) Includes terminated members due a refund of employee contributions.

Important Information About Actuarial Valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare a valuation, Segal relies on a number of input items. These include:

Plan of benefits	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
Participant data	An actuarial valuation for a plan is based on data provided to the actuary by the System. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Assets	The valuation is based on the Market Value of Assets as of the valuation date, as provided by the System. The System uses an "Actuarial Value of Assets" that differs from market value to gradually reflect year-to-year changes in the Market Value of Assets in determining the contribution requirements.
Actuarial assumptions	In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan's assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results, that does not mean that the previous assumptions were unreasonable.

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The actuarial valuation is prepared at the request of LACERS. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan. Future contribution requirements may differ from those determined in the valuation because of:
  - Differences between actual experience and anticipated experience;
  - Changes in actuarial assumptions or methods;
  - Changes in statutory provisions; and
  - Differences between the contribution rates determined by the valuation and those adopted by the Board.
- If LACERS is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. LACERS should look to their other advisors for expertise in these areas.

As Segal has no discretionary authority with respect to the management or assets of LACERS, it is not a fiduciary in its capacity as actuaries and consultants with respect to LACERS.

Actuarial Certification

November 6, 2019

This is to certify that Segal Consulting (Segal) has conducted an actuarial valuation of the Los Angeles City Employees' Retirement System (LACERS or the System) retirement program as of June 30, 2019, in accordance with generally accepted actuarial principles and practices. In particular, it is our understanding that the assumptions and methods used for funding purposes meet the parameters set by the Actuarial Standards of Practice (ASOPs). Actuarial valuations are performed annually for this retirement program with the last valuation completed on June 30, 2018. The actuarial calculations presented in this report have been made on a basis consistent with our understanding of the historical funding methods used in determination of the liability for retirement benefits.

The actuarial valuation is based on the plan of benefits verified by LACERS and on participant and financial data provided by LACERS. Segal did not audit LACERS' financial statements, but we conducted an examination of all participant data for reasonableness and we concluded that it was reasonable and consistent with the prior year's data.

One of the general goals of an actuarial valuation is to establish contributions that fully fund the System's liabilities, and that, as a percentage of payroll, remain as level as possible for each generation of active members. Both the Normal Cost and the Actuarial Accrued Liability are determined under the Entry Age cost method.

The actuarial computations made are for funding plan benefits. Accordingly, additional determinations will be needed for other purposes, such as satisfying financial accounting requirements under Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68 and judging benefit security at termination of the plan.

Segal prepared all of the supporting schedules in the Actuarial Section of the Comprehensive Annual Financial Report (CAFR) and certain supporting schedules in the Financial Section, based on the results of the June 30, 2019 actuarial valuation. A listing of the supporting schedules Segal prepared for inclusion in the Financial Section as Required Supplementary Information prescribed by GASB, and in the Actuarial Section, is provided below:

<u>Financial Section</u>
1) Schedule of Net Pension Liability*
2) Schedule of Changes in Net Pension Liability and Related Ratios*
3) Schedule of Contribution History*

Actuarial Certification (continued)

November 6, 2019

Actuarial Section

4) Summary of Significant Valuation Results
5) Active Member Valuation Data
6) Retirees and Beneficiaries Added to and Removed from Retiree Payroll
7) Schedule of Funded Liabilities by Type
8) Schedule of Funding Progress
9) Actuarial Analysis of Financial Experience
10) Actuarial Balance Sheet
11) Schedule of Changes in Net Pension Liability and Related Ratios*
12) Projection of Pension Plan's Fiduciary Net Position for use in Calculation of Discount Rate of 7.25% and Preparation of GASB 67 Report as of June 30, 2019*

* Source: Segal's GASB Statement No. 67 valuation report as of June 30, 2019.

LACERS' staff prepared other trend data schedules in the Statistical Section based on information supplied in Segal's valuation report.

To the best of our knowledge, this report is complete and accurate and in our opinion presents the plan's current funding information. The undersigned is a member of the American Academy of Actuaries and is qualified to render the actuarial opinion contained herein.

Andy Yeung

Andy Yeung, ASA, MAAA, FCA, EA
Vice President and Actuary

Section 2: Actuarial Valuation Results

A. Member Data

The Actuarial Valuation and Review considers the number and demographic characteristics of covered members, including active members, inactive vested members, retired members and beneficiaries.

This section presents a summary of significant statistical data on these member groups.

More detailed information for this valuation year and the preceding valuation can be found in *Section 3, Exhibits A, B, and C.*

MEMBER POPULATION: 2010 – 2019

Year Ended June 30	Active Members	Inactive Vested Members(1)	Retired Members and Beneficiaries	Total Non-Actives	Ratio of Non-Actives to Actives	Ratio of Retired Members and Beneficiaries to Actives
2010	26,245	5,344	17,264	22,608	0.86	0.66
2011	25,449	5,623	17,197	22,820	0.90	0.68
2012	24,917	5,808	17,223	23,031	0.92	0.69
2013	24,441	5,799	17,362	23,161	0.95	0.71
2014	24,009	6,031	17,532	23,563	0.98	0.73
2015	23,895	6,507	17,932	24,439	1.02	0.75
2016	24,446	6,895	18,357	25,252	1.03	0.75
2017	25,457	7,428	18,805	26,233	1.03	0.74
2018	26,042	8,028	19,379	27,407	1.05	0.74
2019	26,632	8,588	20,034	28,622	1.07	0.75

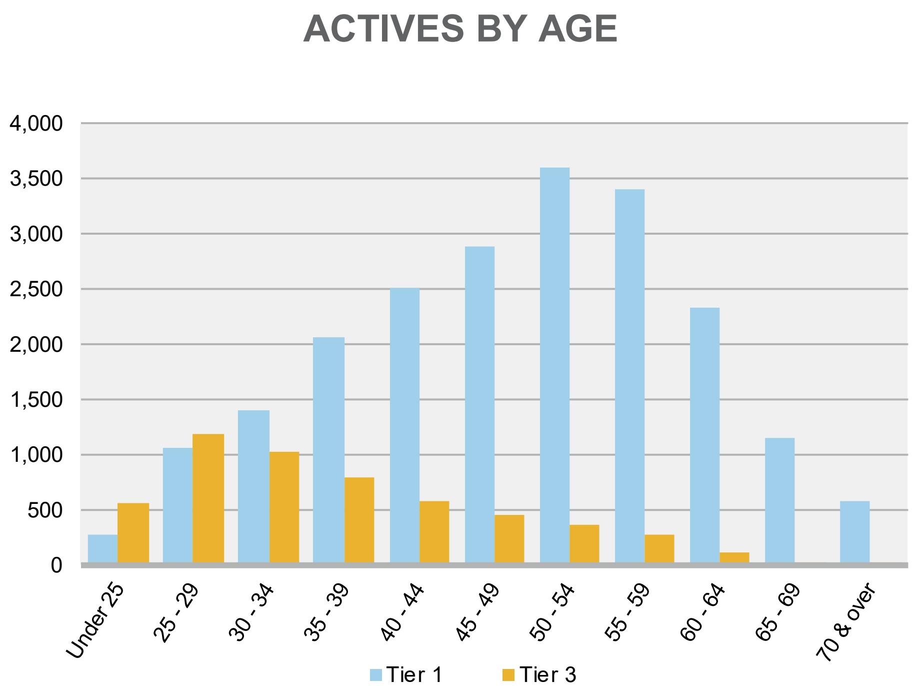
(1) Includes terminated members due a refund of employee contributions.

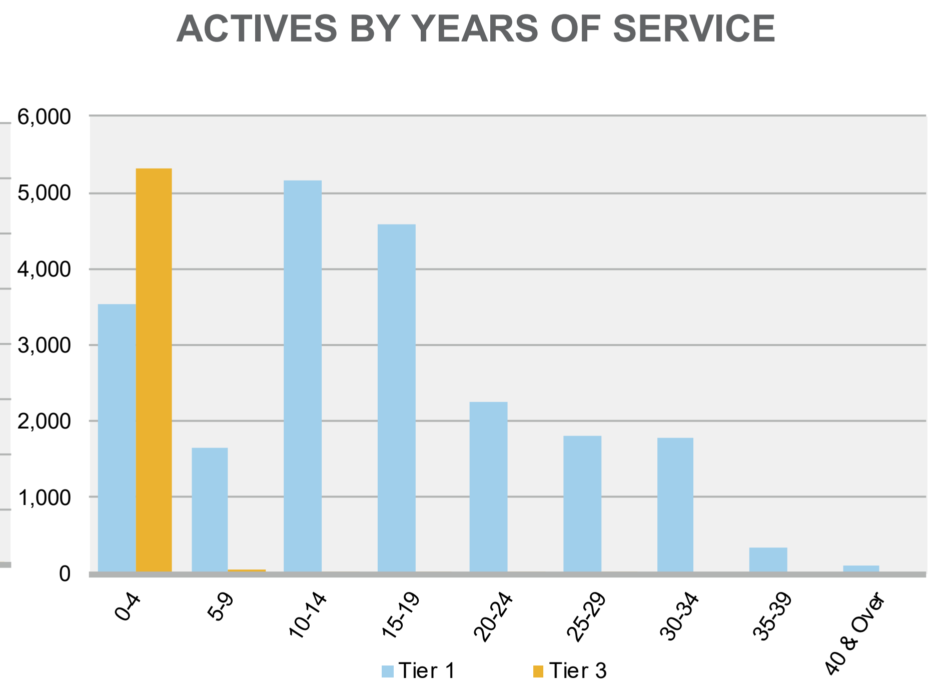
Active Members

Plan costs are affected by the age, years of service and compensation of active members. In this year's valuation, there were 26,632 active members with an average age of 47.0, average years of employment service of 13.2 years and average compensation of $83,562. The 26,042 active members in the prior valuation had an average age of 47.4, average employment service of 13.7 years and average compensation of $83,622.

Among the active members, there were none with unknown age information.

Distribution of Active Members as of June 30, 2019





Inactive Members

In this year's valuation, there were 8,588 members with a vested right to a deferred or immediate vested benefit or entitled to a return of their member contributions versus 8,028 in the prior valuation.

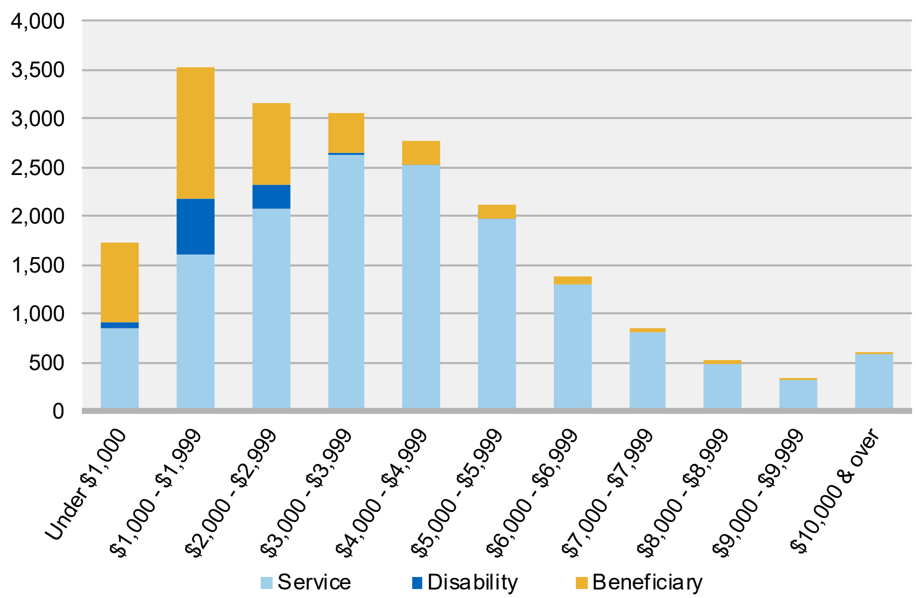
Retired Members and Beneficiaries

As of June 30, 2019, 16,053 retired members and 3,981 beneficiaries were receiving total monthly benefits of $78,965,717. For comparison, in the previous valuation, there were 15,477 retired members and 3,902 beneficiaries receiving monthly benefits of $73,339,309.

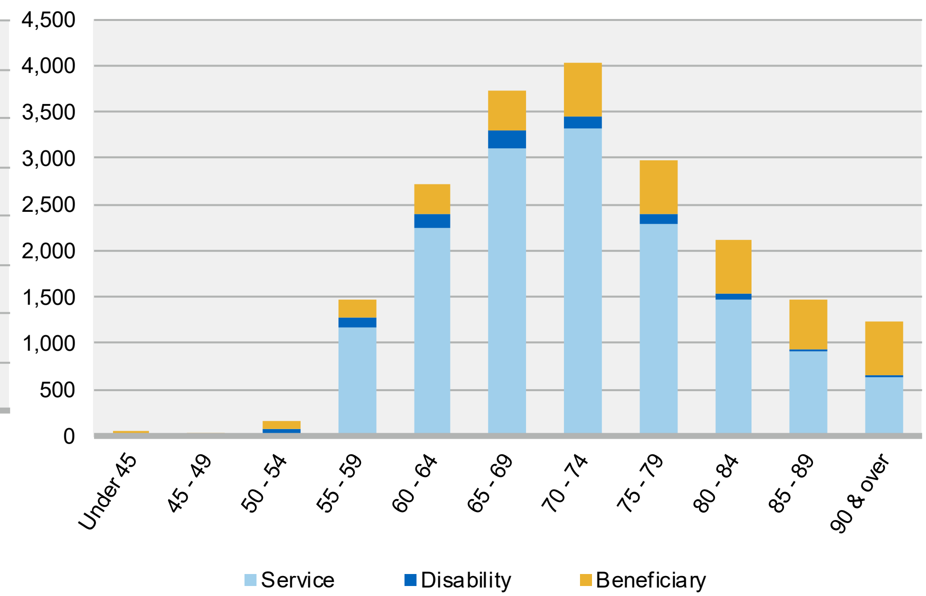
As of June 30, 2019, the average monthly benefit for retired members and beneficiaries is $3,942, compared to $3,784 in the previous valuation. The average age for retired members and beneficiaries is 72.5 in the current valuation, compared with 72.5 in the prior valuation.

Distribution of Retired Members and Beneficiaries as of June 30, 2019

RETIRED MEMBERS AND BENEFICIARIES BY TYPE AND MONTHLY AMOUNT



RETIRED MEMBERS AND BENEFICIARIES BY TYPE AND AGE



Historical Plan Population

The chart below demonstrates the progression of the active population over the last ten years. The chart also shows the changes among the retired population over the same time period.

MEMBER STATISTICS: 2010 – 2019

	Active Members			Retired Members and Beneficiaries		
Year Ended June 30	Count	Average Age	Average Employment Service	Count	Average Age	Average Monthly Amount
2010	26,245	46.1	12.1	17,264	71.1	3,132
2011	25,449	47.0	13.0	17,197	71.5	3,181
2012	24,917	47.8	13.9	17,223	71.9	3,275
2013	24,441	48.3	14.5	17,362	72.2	3,355
2014	24,009	48.8	15.0	17,532	72.4	3,406
2015	23,895	48.8	15.0	17,932	72.5	3,487
2016	24,446	48.6	14.7	18,357	72.5	3,533
2017	25,457	48.0	14.1	18,805	72.6	3,632
2018	26,042	47.4	13.7	19,379	72.5	3,784
2019	26,632	47.0	13.2	20,034	72.5	3,942

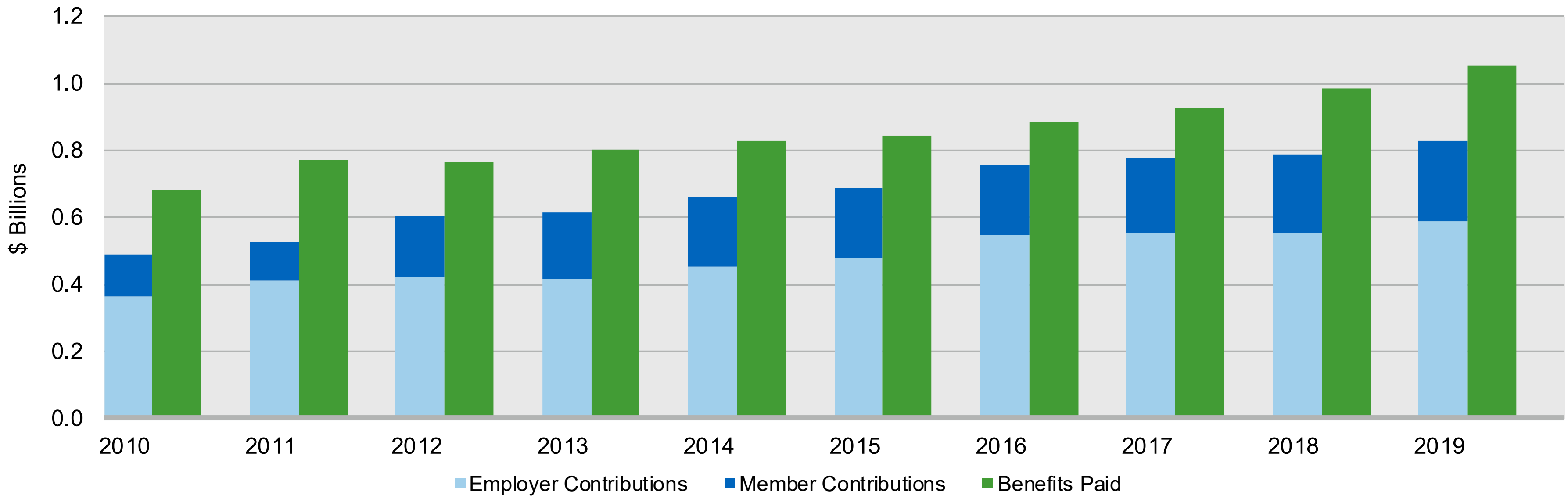
B. Financial Information

Retirement plan funding anticipates that, over the long term, both contributions and investment earnings (less investment fees and administrative expenses) will be needed to cover benefit payments. Retirement plan assets change as a result of the net impact of these income and expense components.

Additional financial information, including a summary of transactions for the valuation year, is presented in *Section 3, Exhibits D, E, and F*.

It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board of Administration has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the valuation asset value and the plan costs are more stable. The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

COMPARISON OF CONTRIBUTIONS WITH BENEFITS FOR YEARS ENDED JUNE 30, 2010 – 2019



DETERMINATION OF ACTUARIAL VALUE OF ASSETS

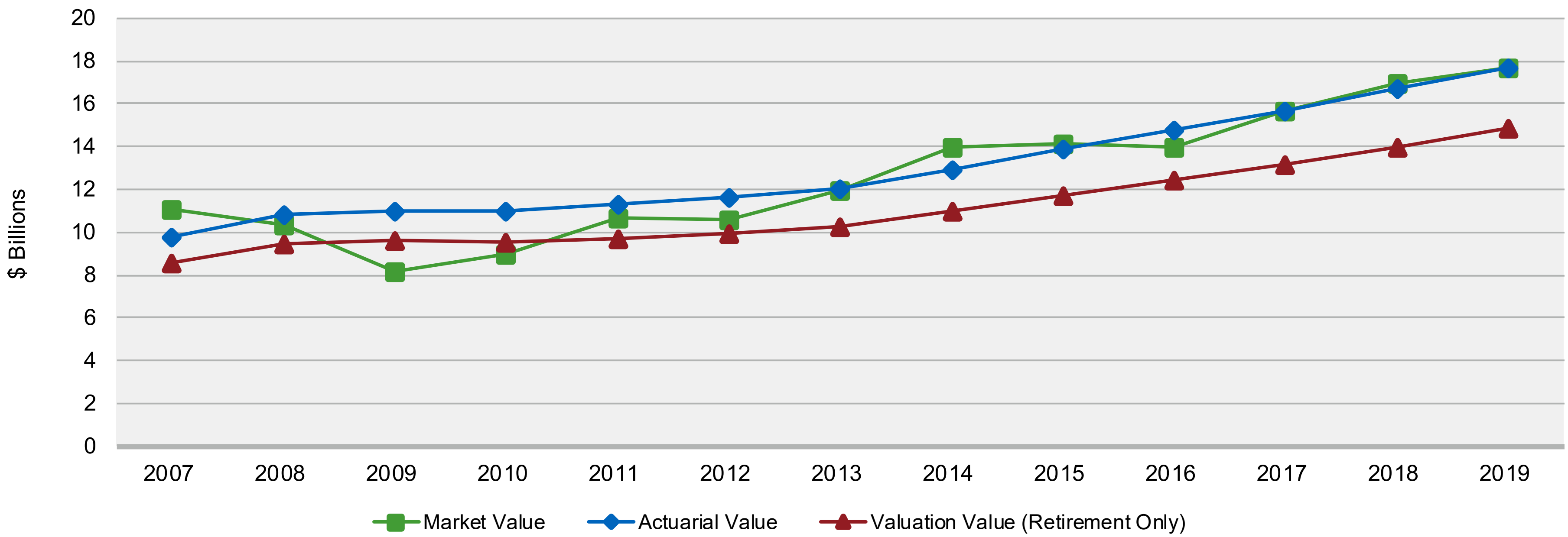
		Actual Return	Expected Return	Investment Gain (Loss)	Portion Not Recognized	Unrecognized Amount
1	**Market Value of Assets**					**$17,707,909,933**
2	Calculation of unrecognized return[1]					
a)	Year ended June 30, 2019	$945,590,839	$1,242,978,109	-$297,387,270	6/7	-$254,903,374
b)	Year ended June 30, 2018	1,498,100,177	1,148,631,872	349,468,305	5/7	249,620,218
c)	Year ended June 30, 2017	1,834,657,728	1,063,688,256	770,969,472		
d)	Year ended June 30, 2016	7,190,895	1,072,214,464	-1,065,023,569	see footnote (2) below	
e)	Year ended June 30, 2015	348,113,908	1,055,874,448	-707,760,540		
f)	Year ended June 30, 2014	2,180,005,303	933,719,722	1,246,285,581		
g)	Combined net deferred loss as of June 30, 2013			-81,571,421	4/6	1,731,453
h)	Total unrecognized return					-$3,551,703
3	Preliminary Actuarial Value of Assets **1 – 2h**					17,711,461,636
4	Adjustment to be within 40% corridor					0
5	**Final Actuarial Value of Assets 3 + 4**					**$17,711,461,636**
6	Actuarial Value of Assets as a percentage of Market Value of Assets **5 ÷ 1**					100.0%
7	Market value of retirement assets					14,815,592,841
8	**Valuation value of retirement assets 5 ÷ 1 x 7**					**$14,818,564,427**
9	Deferred return recognized in each of the next 6 years:					
a)	Amount recognized on 6/30/2020					$7,873,011
b)	Amount recognized on 6/30/2021					7,873,011
c)	Amount recognized on 6/30/2022					7,873,011
d)	Amount recognized on 6/30/2023					7,873,011
e)	Amount recognized on 6/30/2024					7,440,148
f)	Amount recognized on 6/30/2025					-42,483,896
g)	Subtotal (may not total exactly due to rounding)					-$3,551,703

(1) Total return minus expected return on a market value basis.

(2) Based on action taken by the Board on July 24, 2018, the net unrecognized gain as of June 30, 2017 (i.e., $2,597,179) has been recognized in six level amounts, with four years of recognition remaining after the June 30, 2019 valuation.

The Market Value, Actuarial Value and Valuation Value of Assets are representations of the Plan's financial status. As investment gains and losses are gradually taken into account, the Actuarial Value of Assets tracks the Market Value of Assets. The portion of the total actuarial value of assets allocated for retirement benefits, based on a prorated share of market value, is shown as the Valuation Value of Assets. The Valuation Value of Assets is significant because the Plan's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the Unfunded Actuarial Accrued Liability is an important element in determining the contribution requirement.

MARKET VALUE, ACTUARIAL VALUE, AND VALUATION VALUE (RETIREMENT ONLY) OF ASSETS AS OF JUNE 30, 2007 – 2019



C. Actuarial Experience

To calculate any actuarially determined contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the actuarially determined contribution will decrease from the previous year. On the other hand, the actuarially determined contribution will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years. There are no assumption changes reflected in this report.

The total loss is $0.4 million, which includes $13.1 million from investment gains (after smoothing), a loss of $59.5 million from contribution experience and $46.0 million in gains from all other sources. The net experience variation from individual sources other than investments and contributions was 0.22% of the Actuarial Accrued Liability. A discussion of the major components of the actuarial experience is on the following pages.

ACTUARIAL EXPERIENCE FOR YEAR ENDED JUNE 30, 2019

1	Net gain from investments[1]	$13,111,129
2	Net loss from scheduled one-year delay in implementing the higher contribution rate calculated in the June 30, 2018 valuation until fiscal year 2019/2020	-59,540,384
3	Net gain from other experience[2]	46,035,243
4	Net experience loss:[3] 1 + 2 + 3	-$394,012

(1) Details on next page.

(2) See *Subsection E* for further details.

(3) The net loss is attributed to actual liability experience from July 1, 2018 through June 30, 2019 compared to the projected experience based on the actuarial assumptions as of June 30, 2018. Does not include the effect of plan or assumption changes as of June 30, 2019, if any.

Investment Experience

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on LACERS' investment policy. The rate of return on the Market Value of Assets was 5.52% for the year ended June 30, 2019.

For valuation purposes, the assumed rate of return on the Valuation Value of Assets was 7.25% for the June 30, 2018 valuation. The actual rate of return on the valuation value basis for the 2019 plan year was 7.34%. Since the actual return for the year was more than the assumed return, the Plan experienced an actuarial gain during the year ended June 30, 2019 with regard to its investments.

INVESTMENT EXPERIENCE FOR YEAR ENDED JUNE 30, 2019

		Market Value (Includes assets for Retirement, Health, Family Death, and Larger Annuity Benefits)	Actuarial Value (Includes assets for Retirement, Health, Family Death, and Larger Annuity Benefits)	Valuation Value (Includes assets for Retirement Only)
1	Net investment income	$945,590,839	$1,250,851,119	$1,035,517,241
2	Average value of assets	17,144,525,642	16,842,817,065	14,102,153,262
3	Rate of return: 1 ÷ 2	5.52%	7.43%	7.34%
4	Assumed rate of return	7.25%	7.25%	7.25%
5	Expected investment income: 2 x 4	$1,242,978,109	$1,221,104,237	$1,022,406,112
6	Actuarial gain/(loss): 1 – 5	-$297,387,270	$29,746,882	$13,111,129

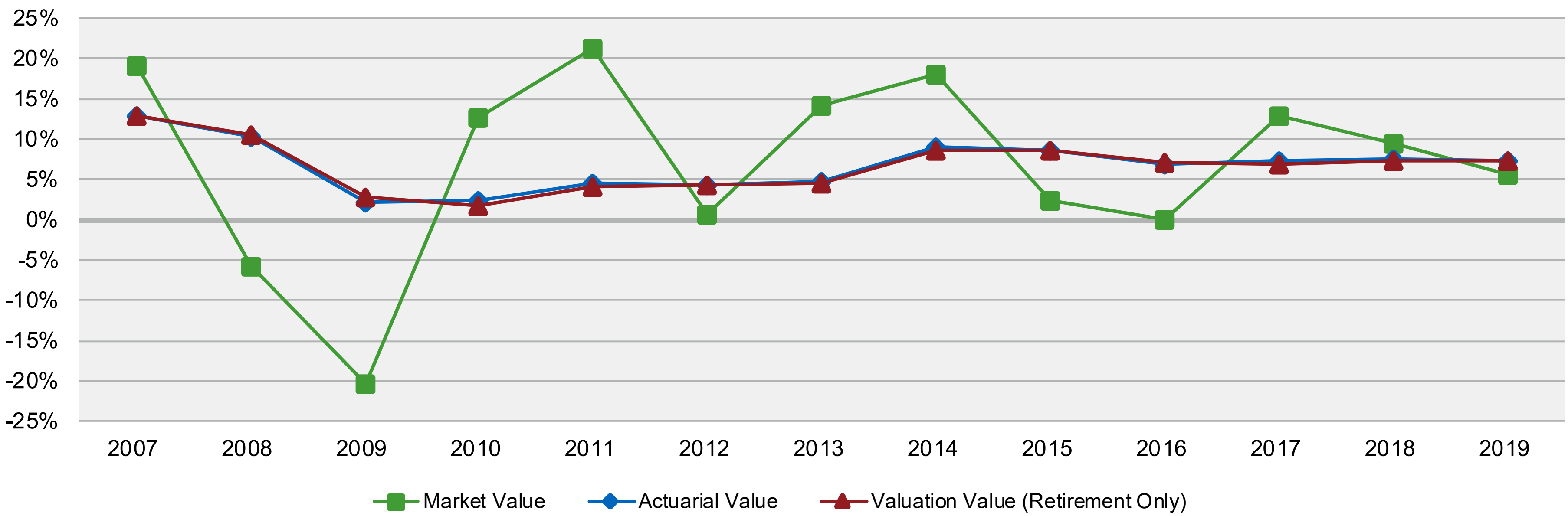
Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an actuarial basis compared to the actual market value investment return for Retirement, Health, Family Death, and Larger Annuity Benefits the last ten years, including the five-year average.

INVESTMENT RETURN – ACTUARIAL VALUE VS. MARKET VALUE: 2010 – 2019

Year Ended June 30	Net Interest and Dividend Income		Recognition of Capital Appreciation		Actuarial Value Investment Return		Market Value Investment Return	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
2010	$190,583,695	1.73%	$71,009,369	0.64%	$261,593,064	2.37%	$1,049,769,484	12.79%
2011	211,685,408	1.91%	291,263,922	2.63%	502,949,330	4.54%	1,934,130,562	21.33%
2012	213,980,878	1.88%	290,831,650	2.55%	504,812,528	4.43%	67,093,447	0.62%
2013	253,877,178	2.17%	315,633,473	2.69%	569,510,651	4.86%	1,512,696,071	14.14%
2014	225,147,763	1.86%	873,017,519	7.19%	1,098,165,282	9.05%	2,180,005,303	18.09%
2015	231,942,743	1.77%	887,268,617	6.79%	1,119,211,360	8.56%	348,113,908	2.47%
2016	240,916,934	1.71%	742,488,219	5.28%	983,405,153	6.99%	7,190,895	0.05%
2017	277,724,021	1.86%	807,293,418	5.41%	1,085,017,439	7.27%	1,834,657,728	12.94%
2018	291,385,736	1.84%	907,603,043	5.73%	1,198,988,779	7.57%	1,498,100,177	9.46%
2019	308,498,344	1.83%	942,352,775	5.60%	1,250,851,119	7.43%	945,590,839	5.52%
			Most recent five-year geometric average return:			7.56%		5.99%
			Most recent ten-year geometric average return:			6.29%		9.52%

Subsection B described the actuarial asset valuation method that gradually recognizes fluctuations in the market value rate of return. The goal of this is to stabilize the actuarial rate of return and to produce more level pension plan costs.

MARKET, ACTUARIAL AND VALUATION (RETIREMENT ONLY) RATES OF RETURN FOR YEARS ENDED JUNE 30, 2007 – 2019



Contributions

Contributions for the year ended June 30, 2019, when adjusted for timing, totaled $757.7 million, compared to the projected amount of $817.2 million (also adjusted for timing). This resulted in a loss of $59.5 million for the year.

Other Experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- the extent of turnover among participants,
- retirement experience (earlier or later than projected),
- mortality (more or fewer deaths than projected),
- the number of disability retirements (more or fewer than projected),
- salary increases (greater or smaller than projected), and
- cost-of-living adjustments (COLAs; higher or lower than anticipated).

The net gain from this other experience for the year ended June 30, 2019 amounted to $46.0 million, which is 0.22% of the Actuarial Accrued Liability. This gain was mainly due to lower than expected individual salary increases for actives offset to some extent by losses due to lower than expected mortality for payees and other losses on demographic experience. See *Subsection E* for a detailed development of the Unfunded Actuarial Accrued Liability.

D. Other Changes in the Actuarial Accrued Liability

The Actuarial Accrued Liability as of June 30, 2019 is $20.8 billion, an increase of $0.8 billion, or 4.3%, from the liability as of the prior valuation date. The Actuarial Accrued Liability is expected to grow each year with Normal Cost and interest, and to decline due to benefit payments made. Additional fluctuations can occur due to actual experience that differs from expected (as discussed in the previous subsection).

Actuarial Assumptions

- There are no assumption changes reflected in this report.
- Details on actuarial assumptions and methods are in *Section 4, Exhibit I*.

Plan Provisions

- There were no changes in plan provisions since the prior valuation.
- A summary of plan provisions is in *Section 4, Exhibit II*.

E. Development of Unfunded/(Overfunded) Actuarial Accrued Liability

DEVELOPMENT FOR YEAR ENDED JUNE 30, 2019

1	**Unfunded Actuarial Accrued Liability at beginning of year**		**$5,962,143,593**
2	Total Normal Cost at beginning of year		370,409,073
3	Expected employer and member contributions at beginning of year[1]		-761,958,070
4	Interest		403,868,108
5	Expected Unfunded Actuarial Accrued Liability at end of year		$5,974,462,704
6	Changes due to:[2]		
	a) Investment gain on smoothed value of assets	-$13,111,129	
	b) Loss due to actual contributions less than expected	59,540,384	
	c) Gain due to lower than expected salary increases for continuing actives	-120,498,219	
	d) Loss due to lower than expected mortality for payees	40,662,931	
	e) Other losses on demographic experience	33,800,045	
	Total loss		$394,012
7	**Unfunded Actuarial Accrued Liability at end of year**		**$5,974,856,716**

(1) Net of the additional expected employer contributions due to the application of the 40-year minimum amortization required for the two GASB 25/27 layers, since the beginning of year UAAL was developed without the liability associated with those two layers. These additional contributions will serve to reduce the contribution loss (if any) from the scheduled one-year delay in implementing the higher contribution rates calculated in the prior valuation.

(2) The “net gain from other experience” of $46,035,243 from Subsection C is equal to the sum of items 6c, 6d, and 6e.

F. Recommended Contribution

The amount of annual contribution required to fund the Retirement Plan is comprised of an employer normal cost payment and a payment on the unfunded actuarial accrued liability. This total amount, adjusted with interest for timing, is then divided by the projected payroll for active members to determine the funding rate of 24.63% of payroll, if received by LACERS on July 15, 2020. The recommended contribution is set equal to the contributions under the current funding policy plus an additional contribution due to the application of the 40-year minimum amortization requirement for fiscal year 2004/2005. The amortization of the 40-year minimum for 2004/2005 will be fully completed in the next valuation. (The amortization of the 40-year minimum for 2003/2004 was fully completed in this valuation.)

The Board sets the funding policy used to calculate the recommended contribution based on layered amortization periods. See *Section 4, Exhibit I* for further details on the funding policy.

The contribution requirement for the June 30, 2019 valuation is based on the data previously described, the actuarial assumptions and Plan provisions described in *Section 4*, including all changes affecting future costs adopted at the time of the actuarial valuation, actuarial gains and losses, and changes in the actuarial assumptions.

A reconciliation of the average recommended employer contribution from June 30, 2018 to June 30, 2019 is shown on the next page. A summary of the recommended contributions by tier is shown on pages 31 through 33.

Reconciliation of Average Recommended Employer Contribution Rate

The chart below details the changes in the average recommended employer contribution from the prior valuation to the current year's valuation.

RECONCILIATION OF AVERAGE RECOMMENDED EMPLOYER CONTRIBUTION RATE[1]
FROM JUNE 30, 2018 TO JUNE 30, 2019

	Contribution Rate
Average Recommended Employer Contribution as of June 30, 2018	**24.75%**
• Effect of decrease in employer normal cost due to payroll and demographic changes (including the enrollment of new employees in Tier 3)	-0.16%
• Effect of anticipated one-year delay in implementing the higher combined contribution rate calculated in the prior valuation	0.23%
• Effect of investment return greater than expected on smoothed value of assets	-0.05%
• Effect of individual salary increases lower than expected for continuing active members	-0.46%
• Effect of amortizing prior year's UAAL over a smaller than expected projected total payroll	0.24%
• Effect of lower than expected mortality for payees	0.15%
• Effect of the 40-year minimum GASB 25/27 amortization layer in 2003/2004 being fully amortized	-0.20%
• Effect of other demographic experience losses on accrued liability	0.13%
Total change	-0.12%
Average Recommended Employer Contribution as of June 30, 2019	**24.63%**

(1) If received on July 15.

Recommended Employer Contribution Rates

		June 30, 2019 Actuarial Valuation		June 30, 2018 Actuarial Valuation	
		Amount	% of Payroll	Amount	% of Payroll
Tier 1					
	Before Reflecting Increase in Contribution Rates due to Enhanced Benefits for APO				
1.	Total normal cost	$323,584,701	17.23%	$336,013,540	17.26%
2.	Expected employee contributions[1]	199,392,948	10.63%	206,802,784	10.63%
3.	Employer normal cost: **1 - 2**	$124,191,753	6.60%	$129,210,756	6.63%
4.	Actuarial accrued liability	20,683,276,763		19,878,462,120	
5.	Valuation value of assets	14,647,297,473		13,908,770,325	
6.	Unfunded actuarial accrued liability: **4 - 5**	$6,035,979,290		$5,969,691,795	
7.	Amortization of unfunded actuarial accrued liability	342,147,940	18.22%[2],[3]	354,180,665	18.19%[2]
8.	Total recommended contribution, beginning of year: **3 + 7**	$466,339,693	24.82%	$483,391,421	24.82%
9.	Total recommended contribution, July 15	467,683,003	24.90%	484,783,849	24.90%
10.	Total recommended contribution, end of pay periods	482,948,735	25.72%	500,607,773	25.71%
	Increase in Contribution Rates due to Enhanced Benefits for APO				
11.	Employer normal cost, July 15		0.07%		0.06%
12.	Unfunded actuarial accrued liability, July 15		0.11%		0.10%
13.	Total recommended contribution, July 15		0.18%		0.16%
	After Reflecting Increase in Contribution Rates due to Enhanced Benefits for APO				
14.	Total recommended contribution, beginning of year	$469,505,178	25.00%	$486,645,060	24.98%
15.	Total recommended contribution, July 15	470,857,606	25.08%	488,046,860	25.06%
16.	Total recommended contribution, end of pay periods	486,226,961	25.90%	503,977,293	25.88%
17.	Projected payroll	$1,877,504,719		$1,947,223,478	

(1) Discounted to beginning of year. The average employee rate for contributions made at the end of each pay period is actually 11.01% for the June 30, 2018 and June 30, 2019 valuations.

(2) In developing the UAAL contribution rate, we have combined the UAAL for Tiers 1 and 3 and amortized that total UAAL over the total payroll for Tiers 1 and 3.

(3) For purposes of purchasing service with the Water and Power Employees' Retirement Plan (WPERP) for Tier 1, the UAAL rate as of June 30, 2019 is 18.22% before reflecting enhanced benefits for APO, plus an additional 0.11% for the cost increase for the enhanced APO benefits for a total of 18.33%, if received at the beginning of the year. If received on July 15, the total UAAL rate of 18.33% increases to 18.38%.

Recommended Employer Contribution Rates (continued)

		June 30, 2019 Actuarial Valuation		June 30, 2018 Actuarial Valuation	
		Amount	% of Payroll	Amount	% of Payroll
Tier 3					
	Before Reflecting Increase in Contribution Rates due to Enhanced Benefits for APO				
1.	Total normal cost	$50,176,576	14.42%	$33,148,485	14.38%
2.	Expected employee contributions[(1)]	36,931,138	10.62%	24,471,538	10.62%
3.	Employer normal cost: **1 - 2**	$13,245,438	3.80%	$8,676,947	3.76%
4.	Actuarial accrued liability	84,801,657		40,943,716	
5.	Valuation value of assets	171,266,954		73,665,140	
6.	Unfunded/(overfunded) actuarial accrued liability: **4 - 5**	-$86,465,297		-$32,721,424	
7.	Amortization of unfunded actuarial accrued liability	63,401,196	18.22%[(2),(3)]	41,919,051	18.19%[(2)]
8.	Total recommended contribution, beginning of year: **3 + 7**	$76,646,634	22.02%	$50,595,998	21.95%
9.	Total recommended contribution, July 15	76,867,418	22.09%	50,741,742	22.02%
10.	Total recommended contribution, end of pay periods	79,376,462	22.81%	52,398,013	22.74%
	Increase in Contribution Rates due to Enhanced Benefits for APO				
11.	Employer normal cost, July 15		0.00%		0.00%
12.	Unfunded actuarial accrued liability, July 15		0.11%		0.10%
13.	Total recommended contribution, July 15		0.11%		0.10%
	After Reflecting Increase in Contribution Rates due to Enhanced Benefits for APO				
14.	Total recommended contribution, beginning of year	$77,009,739	22.13%	$50,833,488	22.05%
15.	Total recommended contribution, July 15	77,231,569	22.20%	50,979,916	22.12%
16.	Total recommended contribution, end of pay periods	79,752,499	22.92%	52,643,961	22.85%
17.	Projected payroll	$347,908,112		$230,463,624	

(1) Discounted to beginning of year. The average employee rate for contributions made at the end of each pay period is actually 11.00% for the June 30, 2018 and June 30, 2019 valuations.

(2) In developing the UAAL contribution rate, we have combined the UAAL for Tiers 1 and 3 and amortized that total UAAL over the total payroll for Tiers 1 and 3.

(3) For purposes of Government Service Buybacks for Tier 3, the cost of the purchase is based, in part, on the "City Contribution Rate," pursuant to the Administrative Code. As Tier 3 has no UAAL as of June 30, 2019, the City's normal cost rate of 3.80% (beginning of year) is used for purposes of these buybacks.

Recommended Employer Contribution Rates (continued)

		June 30, 2019 Actuarial Valuation		June 30, 2018 Actuarial Valuation	
		Amount	% of Payroll	Amount	% of Payroll
Combined					
	Before Reflecting Increase in Contribution Rates due to Enhanced Benefits for APO				
1.	Total normal cost	$373,761,277	16.80%	$369,162,025	16.95%
2.	Expected employee contributions	236,324,086	10.62%	231,274,322	10.63%
3.	Employer normal cost: **1 - 2**	$137,437,191	6.18%	$137,887,703	6.32%
4.	Actuarial accrued liability	20,768,078,420		19,919,405,836	
5.	Valuation value of assets	14,818,564,427		13,982,435,465	
6.	Unfunded actuarial accrued liability: **4 - 5**	$5,949,513,993		$5,936,970,371	
7.	Amortization of unfunded actuarial accrued liability	405,549,136	18.22%	396,099,716	18.19%
8.	Total recommended contribution, beginning of year: **3 + 7**	$542,986,327	24.40%	$533,987,419	24.51%
9.	Total recommended contribution, July 15	544,550,421	24.47%	535,525,591	24.59%
10.	Total recommended contribution, end of pay periods	562,325,197	25.27%	553,005,786	25.39%
	Increase in Contribution Rates due to Enhanced Benefits for APO				
11.	Employer normal cost, July 15		0.05%		0.06%
12.	Unfunded actuarial accrued liability, July 15		0.11%		0.10%
13.	Total recommended contribution, July 15		0.16%		0.16%
	After Reflecting Increase in Contribution Rates due to Enhanced Benefits for APO				
14.	Total normal cost	$374,967,243	16.85%	$370,409,073	17.01%
15.	Expected employee contributions	236,324,086	10.62%	231,274,322	10.63%
16.	Employer normal cost: **14 - 15**	$138,643,157	6.23%	$139,134,751	6.38%
17.	Actuarial accrued liability	20,793,421,143		19,944,579,058	
18.	Valuation value of assets	14,818,564,427		13,982,435,465	
19.	Unfunded actuarial accrued liability: **17 - 18**	$5,974,856,716		$5,962,143,593	
20.	Amortization of unfunded actuarial accrued liability	407,871,760	18.33%	398,343,797	18.29%
21.	Total recommended contribution, beginning of year: **16 + 20**	$546,514,917	24.56%	$537,478,548	24.67%
22.	Total recommended contribution, July 15	548,089,175	24.63%	539,026,776	24.75%
23.	Total recommended contribution, end of pay periods	565,979,460	25.43%	556,621,254	25.56%
24.	Projected payroll	$2,225,412,831		$2,177,687,102	

Recommended Employer Contribution Rates (continued)

		Tier 1	Tier 3	Combined
	Before Reflecting Increase in Contribution Rates due to Enhanced Benefits for APO			
1.	Total normal cost	$323,584,701	$50,176,576	$373,761,277
2.	Expected employee contributions[1]	199,392,948	36,931,138	236,324,086
3.	Employer normal cost: **1 - 2**	$124,191,753	$13,245,438	$137,437,191
4.	Payment on unfunded actuarial accrued liability	342,147,940	63,401,196	405,549,136
5.	Total recommended contribution: beginning of year: **3 + 4**	$466,339,693	$76,646,634	$542,986,327
6.	Total recommended contribution: adjusted for July 15 timing	467,683,003	76,867,418	544,550,421
7.	Total recommended contribution: adjusted for biweekly timing	482,948,735	79,376,462	562,325,197
8.	Item 5 (beginning of year contribution) as a % of projected payroll: **5 ÷ 17**	24.82%	22.02%	24.40%
9.	Item 6 (July 15 contribution) as a % of projected payroll: **6 ÷ 17**	24.90%	22.09%	24.47%
10.	Item 7 (biweekly contribution) as a % of projected payroll: **7 ÷ 17**	25.72%	22.81%	25.27%
	After Reflecting Increase in Contribution Rates due to Enhanced Benefits for APO			
11.	Total recommended contribution: beginning of year	$469,505,178	$77,009,739	$546,514,917
12.	Total recommended contribution: adjusted for July 15 timing	470,857,606	77,231,569	548,089,175
13.	Total recommended contribution: adjusted for biweekly timing	486,226,961	79,752,499	565,979,460
14.	Item 11 (beginning of year contribution) as a % of projected payroll: **11 ÷ 17**	25.00%	22.13%	24.56%
15.	Item 12 (July 15 contribution) as a % of projected payroll: **12 ÷ 17**	25.08%	22.20%	24.63%
16.	Item 13 (biweekly contribution) as a % of projected payroll: **13 ÷ 17**	25.90%	22.92%	25.43%
17.	Projected payroll	$1,877,504,719	$347,908,112	$2,225,412,831

(1) Discounted to beginning of year.

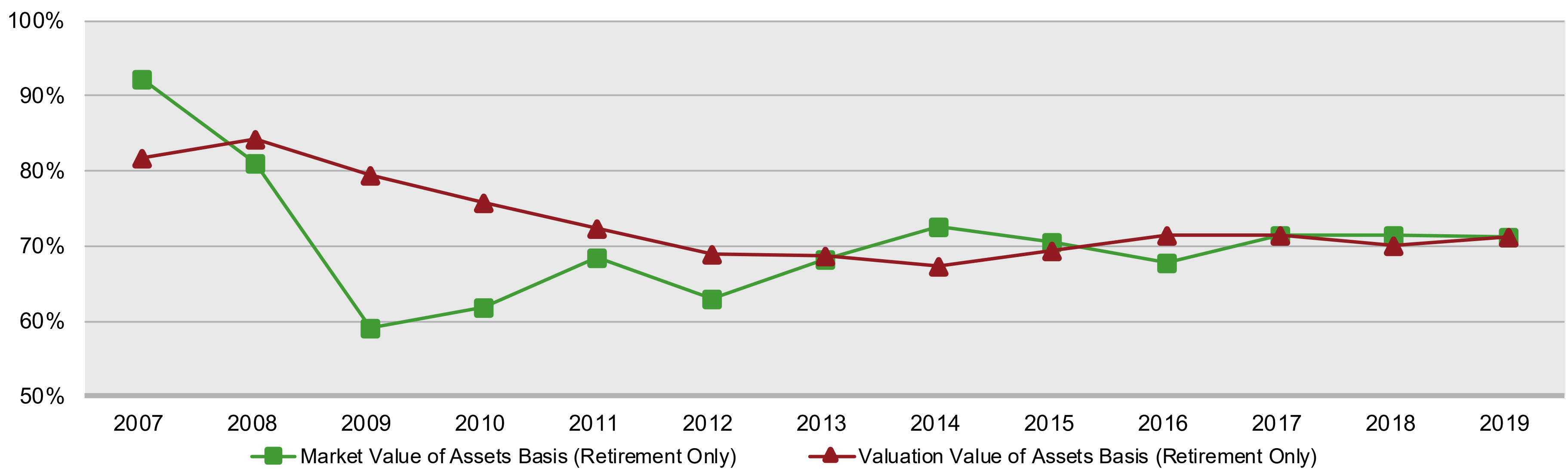
G. Funded Status

A commonly reported piece of information regarding the Plan's financial status is the funded ratio. These ratios compare the Valuation Value and Market Value of Assets to the Actuarial Accrued Liability of the Plan. Higher ratios indicate a relatively well-funded plan, while lower ratios may indicate recent changes to actuarial assumptions, funding of the plan below actuarial requirements, poor asset performance, or a variety of other causes.

The chart below depicts a history of the funded ratio for the Plan. The chart on the next page shows the Plan's schedule of funding progress for the last ten years.

The funded status measures shown in this valuation are appropriate for assessing the need for or amount of future contributions. However, they are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations. As the chart below shows, the measures are different depending on whether the Valuation Value or Market Value of Assets is used.

FUNDED RATIO
FOR YEARS ENDING JUNE 30, 2007 – 2019



SCHEDULE OF FUNDING PROGRESS
FOR YEARS ENDING JUNE 30, 2010 – 2019

Actuarial Valuation Date as of June 30	Valuation Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded/ (Overfunded) AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b) - (a)] / (c)
2010	$9,554,027,411	$12,595,025,119	$3,040,997,708	75.86%	$1,817,662,284	167.30%
2011	9,691,011,496	13,391,704,000	3,700,692,504	72.37%	1,833,392,381	201.85%
2012	9,934,959,310	14,393,958,574	4,458,999,264	69.02%	1,819,269,630	245.10%
2013	10,223,960,886	14,881,663,162	4,657,702,276	68.70%	1,846,970,474	252.18%
2014	10,944,750,574	16,248,853,099	5,304,102,525	67.36%	1,898,064,175	279.45%
2015	11,727,161,378	16,909,996,380	5,182,835,002	69.35%	1,907,664,598	271.68%
2016	12,439,250,206	17,424,996,329	4,985,746,123	71.39%	1,968,702,630	253.25%
2017	13,178,333,884	18,458,187,953	5,279,854,069	71.40%	2,062,316,129	256.02%
2018	13,982,435,465	19,944,579,058	5,962,143,593	70.11%	2,177,687,102	273.78%
2019	14,818,564,427	20,793,421,143	5,974,856,716	71.27%	2,225,412,831	268.48%

H. Actuarial Balance Sheet

An overview of the Plan's funding is given by an Actuarial Balance Sheet. In this approach, first the amount and timing of all future payments that will be made by the Plan for current participants is determined. Then these payments are discounted at the valuation interest rate to the date of the valuation, thereby determining the present value, referred to as the Actuarial Present Value of Future Benefits of the Plan.

Second, this Actuarial Present Value of Future Benefits is compared to the assets. The "assets" for this purpose include the net amount of assets already accumulated by the Plan, the present value of future member contributions, the present value of future employer Normal Cost contributions, and the present value of future employer amortization payments for the Unfunded Actuarial Accrued Liability.

ACTUARIAL BALANCE SHEET

	Year Ended	
	June 30, 2019	**June 30, 2018**
Actuarial Present Value of Future Benefits		
• Present value of benefits for retired members and beneficiaries	$11,620,004,477	$10,778,202,813
• Present value of benefits for inactive vested members	516,719,939	485,374,682
• Present value of benefits for active members	11,598,917,004	11,563,485,382
Total Actuarial Present Value of Future Benefits	**$23,735,641,420**	**$22,827,062,877**
Current and future assets		
• Total Valuation Value of Assets	$14,818,564,427	$13,982,435,465
• Present value of future contributions by members	1,848,423,280	1,791,352,447
• Present value of future employer contributions for:		
» Entry age Normal Cost	1,093,796,997	1,091,131,372
» Unfunded Actuarial Accrued Liability	5,974,856,716	5,962,143,593
Present Value of Current and Future Assets	**$23,735,641,420**	**$22,827,062,877**

I. Volatility Ratios

Retirement plans are subject to volatility in the level of required contributions. This volatility tends to increase as retirement plans become more mature.

The Asset Volatility Ratio (AVR), which is equal to the Market Value of Assets divided by total payroll, provides an indication of the potential contribution volatility for any given level of investment volatility. A higher AVR indicates that the plan is subject to a greater level of contribution volatility. This is a current measurement since it is based on the current level of assets.

The current AVR is about 6.7. This means that a 1% asset gain or loss (relative to the assumed investment return) translates to about 6.7% of one-year's payroll. Since actuarial gains and losses are amortized over 15 years, there would be a 0.6% of payroll decrease/(increase) in the required contribution for each 1% asset gain/(loss).

The Liability Volatility Ratio (LVR), which is equal to the Actuarial Accrued Liability divided by payroll, provides an indication of the longer-term potential for contribution volatility for any given level of investment volatility. This is because, over an extended period of time, the plan's assets should track the plan's liabilities.

The LVR also indicates how volatile contributions will be in response to changes in the Actuarial Accrued Liability due to actual experience or to changes in actuarial assumptions. The current LVR is about 9.3. This is about 39% higher than the AVR. Therefore, we would expect that contribution volatility will increase over the long term.

The chart on the next page shows how the asset and liability volatility ratios have varied over time.

VOLATILITY RATIOS FOR YEARS ENDED 2010 – 2019

Year Ended June 30	Asset Volatility Ratio	Liability Volatility Ratio
2010	4.3	6.9
2011	5.0	7.3
2012	5.0	7.9
2013	5.5	8.1
2014	6.2	8.6
2015	6.2	8.9
2016	6.0	8.9
2017	6.4	9.0
2018	6.5	9.2
2019	6.7	9.3

J. Risk Assessment

Since the actuarial valuation results are dependent on a fixed set of assumptions and data as of a specific date, there is risk that emerging results may differ, perhaps significantly, as actual experience is fluid and will not exactly track current assumptions. This potential divergence may have a significant impact on the future financial condition of the plan.

This section does not contain a detailed analysis of the potential range of future measurements, but does include a concise discussion of some of the primary risks that may affect the Plan's future financial condition. We recommend a more detailed assessment of the risks to provide the Board with a better understanding of the risks inherent in the Plan that can inform both financial preparation and future decision making. This assessment would enable us to work with the Board to highlight and illustrate particular risks or potential future outcomes it may be interested in discussing and could include tailored scenario testing, sensitivity testing, stress testing and stochastic modeling. As noted in the Significant Issues section of this report, we are in discussion with the System's staff regarding specific content for a detailed analysis of the potential range of the impact of risk relative to the System's future financial condition to be provided later in a stand-alone report.

This section provides descriptions and basic assessments of the primary risks that are likely to have an ongoing influence on the Plan's financial health, as well as a discussion of historical trends and maturity measures.

Risk Assessments

- Asset/Liability Mismatch Risk (the potential that future plan experience does not affect asset and liability values in the same way, causing them to diverge)

  The most significant asset/liability mismatch risk to the Plan is investment risk, as discussed below. In fact, investment risk has the potential to impact asset/liability mismatch in two ways. The first mismatch is evident in annual valuations: when asset values deviate from assumptions, they are typically independent from liability changes. The second mismatch can be caused when systemic asset deviations from assumptions may signal the need for an assumption change, which causes liability values and contribution rates to move in the opposite direction from any changes in the expected experience of asset growth rates.

  Asset/liability mismatch can also be caused by demographic assumption risk such as longevity, which affects liabilities but have no impact on asset levels. This risk is also discussed below.

- Investment Risk (the risk that investment returns will be different than expected)

  The investment return assumption is a long-term, static assumption for valuation purposes even though in reality market experience can be quite volatile in any given year. That volatility can cause significant changes in the financial health of the system, affecting both funded status and contribution rates. The inherent year-to-year volatility is reduced by smoothing through the Actuarial Value of Assets, however investment experience can still have a sizable impact. As discussed in *Section 2, Subsection I, Volatility Ratios,* on page 38, a 1% asset gain or loss (relative to the assumed investment return) translates to about 6.7% of one-year's payroll. Since actuarial gains and losses are amortized over 15 years, there would be a 0.6% of payroll decrease/(increase) in the required contribution for each 1% asset gain or loss.

The single year market value rate of return over the last 10 years has ranged from a low of 0.05% to a high of 21.33%.

- Longevity Risk (the risk that mortality experience will be different than expected)

  The actuarial valuation includes current life expectancy assumptions and an expectation of future improvement in life expectancy, which are significant assumptions given the relatively long duration of liabilities for pension plans. Emerging plan experience that does not match these expectations will result in increases or decreases in the actuarially determined contribution over time. This risk can be reduced by using tables appropriate for the Plan (public experience tables) that are weighted by benefit levels, and by using generational mortality projections. We will be discussing the use of such mortality tables with the Board for the upcoming triennial experience study before we complete our next valuation as of June 30, 2020.

- Other Risks

  In addition to longevity, the valuation includes a variety of other assumptions that are unlikely to match future experience exactly. One example is projected salary scales over time. As salary is central to the determination of benefits paid in retirement, deviations from the projected salary scales could have a material impact on the benefits anticipated for each member. Examples of demographic assumptions include retirement, termination and disability assumptions, and will likely vary in significance for different pension plans.

Some plans also carry significant contribution risk, defined as the potential for actual future contributions deviating from expected future contributions. However, the employer has a proven track-record of making the Actuarially Determined Contributions based on the Board's Actuarial Funding Policy, so contribution risk is minimal.

Evaluation of Historical Trends

Past experience can help demonstrate the sensitivity of key results to the Plan's actual experience.

- Over the past ten years, the funded percentage on the Valuation Value of Assets basis has decreased from 75.86% to 71.27%. This is primarily due to changes in the actuarial assumptions. For a more detailed history see *Section 2, Subsection G, Funded Status* starting on page 35.
- The average geometric investment return on the Actuarial Value of Assets over the last 10 years was 6.29%. This includes a high of a 9.05% return and a low of 2.37%. The average over the last 5 years was 7.56%. For more details see the Investment Return table in *Section 2, Subsection C* on page 24.

- The primary source of new UAAL was the strengthening of assumptions through multiple assumption changes. For example, the assumption changes in 2014 changed the discount rate from 7.75% to 7.50% and updated mortality tables, adding $785 million in unfunded liability; the assumption changes in 2017 changed the discount rate from 7.50% to 7.25%, adding $341 million in unfunded liability; and the assumption changes in 2018 included the use of generational mortality tables to better reflect future mortality improvement, adding $484 million in unfunded liability. For more details on the unfunded liability changes see *Section 3, Exhibit G, Table of Amortization Bases* starting on page 53. A graphical representation of historical changes in UAAL by source will be included in the stand-alone risk assessment report.
- The plan's funding policy effectively deals with these unfunded liabilities over time. This can be seen most clearly in *Section 3, Exhibit H, Projection of UAAL Balances and Payments* provided on pages 54 and 55.

Maturity Measures

In the last 10 years the ratio of retired members and beneficiaries to active members has increased from 0.66 to 0.75. An increased ratio indicates that the plan has grown in maturity over time. This is to be expected, but is also informative for understanding plan sensitivity to particular risks. For more details see *Section 2, Subsection A, Member Data* on page 15.

As pension plans mature, the cash needed to fulfill benefit obligations will increase over time. Therefore, cash flow projections and analysis should be performed to assure that the Plan's asset allocation is aligned to meet emerging pension liabilities. For the prior year, benefits paid were $199 million more than contributions received. Plans with high levels of negative cash flows may have a need for a larger allocation to income generating assets, which can create a drag on investment return. However, this plan currently has relatively low levels of negative cash flows. For more details on historical cash flows see the Comparison of Contributions with Benefits in *Section 2, Subsection B, Financial Information* on page 19.

A further discussion of plan maturity measures and how they relate to changes in assets and liabilities is included in *Section 2, Subsection I, Volatility Ratios* starting on page 38.

Section 3: Supplemental Information

EXHIBIT A – TABLE OF PLAN COVERAGE: TOTAL PLAN

Category	Year Ended June 30 2019	Year Ended June 30 2018	Change From Prior Year
Active members in valuation:			
• Number	26,632	26,042	2.3%
• Average age	47.0	47.4	-0.4
• Average years of employment service	13.2	13.7	-0.5
• Total projected compensation[1]	$2,225,412,831	$2,177,687,102	2.2%
• Average projected compensation[1]	$83,562	$83,622	-0.1%
• Account balances	$2,266,740,475	$2,169,501,745	4.5%
• Total active vested members	17,812	18,460	-3.5%
Inactive vested members:			
• Number	8,588	8,028	7.0%
• Average age	44.5	44.6	-0.1
• Average contribution balance for those with under 5 years of service	$6,819	$6,121	11.4%
• Average monthly benefit at age 60 for those with 5 or more years of service[2]	$1,616	$1,538	5.1%
Retired members:			
• Number in pay status	15,165	14,583	4.0%
• Average service at retirement	26.5	26.6	-0.1
• Average age at retirement	60.4	60.3	0.1
• Average age	71.9	71.8	0.1
• Average monthly benefit (includes July COLA)	$4,489	$4,326	3.8%
Disabled members:			
• Number in pay status	888	894	-0.7%
• Average service at retirement	11.6	11.6	0.0
• Average age at retirement	47.6	47.3	0.3
• Average age	67.1	66.5	0.6
• Average monthly benefit (includes July COLA)	$1,762	$1,714	2.8%
Beneficiaries:			
• Number in pay status	3,981	3,902	2.0%
• Average age	76.3	76.2	0.1
• Average monthly benefit (includes July COLA)	$2,342	$2,236	4.7%

(1) Reflects annualized salaries for part-time members.

(2) For June 30, 2018, reflects the average monthly benefit at age 60 provided by LACERS. For June 30, 2019, this was refined to reflect the average monthly benefit at age 60 provided by LACERS, but only for members with a final average monthly compensation also provided by LACERS. Otherwise, Segal's calculation of the benefit (based on prior data provided by LACERS) was used in the average.

EXHIBIT A – TABLE OF PLAN COVERAGE (CONTINUED): TIER 1[1]

Category	Year Ended June 30 2019	Year Ended June 30 2018	Change From Prior Year
Active members in valuation:			
• Number	21,226	22,409	-5.3%
• Average age	49.6	49.2	0.4
• Average years of employment service	16.2	15.7	0.5
• Total projected compensation[2]	$1,877,504,719	$1,947,223,478	-3.6%
• Average projected compensation[2]	$88,453	$86,895	1.8%
• Account balances	$2,213,161,075	$2,143,199,216	3.3%
• Total active vested members	17,715	18,406	-3.8%
Inactive vested members:			
• Number	7,638	7,490	2.0%
• Average age	45.5	45.3	0.2
• Average contribution balance for those with under 5 years of service	$6,941	$6,329	9.7%
• Average monthly benefit at age 60 for those with 5 or more years of service[3]	$1,617	$1,538	5.1%
Retired members:			
• Number in pay status	15,165	14,583	4.0%
• Average service at retirement	26.5	26.6	-0.1
• Average age at retirement	60.4	60.3	0.1
• Average age	71.9	71.8	0.1
• Average monthly benefit (includes July COLA)	$4,489	$4,326	3.8%
Disabled members:			
• Number in pay status	888	894	-0.7%
• Average service at retirement	11.6	11.6	0.0
• Average age at retirement	47.6	47.3	0.3
• Average age	67.1	66.5	0.6
• Average monthly benefit (includes July COLA)	$1,762	$1,714	2.8%
Beneficiaries:			
• Number in pay status	3,981	3,902	2.0%
• Average age	76.3	76.2	0.1
• Average monthly benefit (includes July COLA)	$2,342	$2,236	4.7%

(1) Includes the following number of Airport Peace Officers eligible for enhanced benefits:

	June 30, 2019	June 30, 2018
Active Members	433	457
Inactive Members	17	7
Retired Members	43	31

(2) Reflects annualized salaries for part-time members.

(3) For June 30, 2018, reflects the average monthly benefit at age 60 provided by LACERS. For June 30, 2019, this was refined to reflect the average monthly benefit at age 60 provided by LACERS, but only for members with a final average monthly compensation also provided by LACERS. Otherwise, Segal's calculation of the benefit (based on prior data provided by LACERS) was used in the average.

EXHIBIT A – TABLE OF PLAN COVERAGE (CONTINUED): TIER 3

Category	Year Ended June 30		Change From Prior Year
	2019	2018	
Active members in valuation:			
• Number	5,406	3,633	48.8%
• Average age	37.0	36.6	0.4
• Average years of employment service	1.6	1.2	0.4
• Total projected compensation[1]	$347,908,112	$230,463,624	51.0%
• Average projected compensation[1]	$64,356	$63,436	1.5%
• Account balances	$53,579,400	$26,302,529	103.7%
• Total active vested members	97	54	79.6%
Inactive vested members:			
• Number	950	538	76.6%
• Average age	36.3	36.1	0.2
• Average contribution balance for those with under 5 years of service	$6,152	$4,152	48.2%
• Average monthly benefit at age 60 for those with 5 or more years of service	$438	N/A	N/A
Retired members:			
• Number in pay status	N/A	N/A	N/A
• Average service at retirement	N/A	N/A	N/A
• Average age at retirement	N/A	N/A	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit (includes July COLA)	N/A	N/A	N/A
Disabled members:			
• Number in pay status	N/A	N/A	N/A
• Average service at retirement	N/A	N/A	N/A
• Average age at retirement	N/A	N/A	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit (includes July COLA)	N/A	N/A	N/A
Beneficiaries:			
• Number in pay status	N/A	N/A	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit (includes July COLA)	N/A	N/A	N/A

(1) Reflects annualized salaries for part-time members.

EXHIBIT B – MEMBERS IN ACTIVE SERVICE AS OF JUNE 30, 2019
BY AGE, YEARS OF SERVICE,[1] AND AVERAGE PROJECTED COMPENSATION[2]
TOTAL PLAN

	Years of Service									
Age	Total	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 & over
Under 25	829	829	- -	- -	- -	- -	- -	- -	- -	- -
	$46,369	$46,369	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	2,245	2,125	116	4	- -	- -	- -	- -	- -	- -
	57,030	56,400	$68,608	$55,955	- -	- -	- -	- -	- -	- -
30 - 34	2,425	1,730	363	327	5	- -	- -	- -	- -	- -
	67,698	63,980	77,456	76,757	$52,898	- -	- -	- -	- -	- -
35 - 39	2,843	1,225	346	973	290	9	- -	- -	- -	- -
	80,394	70,026	86,814	89,659	85,288	$85,243	- -	- -	- -	- -
40 - 44	3,085	892	214	936	859	169	15	- -	- -	- -
	87,489	71,918	85,475	91,462	97,318	99,792	$92,706	- -	- -	- -
45 - 49	3,337	702	186	786	916	545	183	19	- -	- -
	90,378	71,476	84,978	85,739	96,893	107,113	105,099	$97,582	- -	- -
50 - 54	3,970	560	156	696	811	576	608	540	23	- -
	94,533	73,496	82,459	81,708	91,618	106,167	115,436	104,648	$98,065	- -
55 - 59	3,683	434	134	600	723	492	534	629	134	3
	93,807	69,577	78,884	78,772	89,596	101,847	110,114	111,162	99,946	$153,994
60 - 64	2,452	252	97	496	532	242	311	364	129	29
	91,240	68,231	73,378	78,999	86,241	95,349	106,848	109,987	115,321	107,923
65 - 69	1,181	68	46	251	296	139	123	173	50	35
	89,146	66,164	84,930	74,105	83,253	101,263	102,928	99,668	110,634	117,773
70 & over	582	32	33	112	169	81	41	68	18	28
	77,201	55,351	66,918	58,350	70,969	88,168	97,396	95,428	94,046	110,916
Total	**26,632**	**8,849**	**1,691**	**5,181**	**4,601**	**2,253**	**1,815**	**1,793**	**354**	**95**
	$83,562	**$63,725**	**$80,944**	**$83,770**	**$91,055**	**$102,779**	**$109,913**	**$107,112**	**$106,636**	**$113,889**

(1) Based on employment service. Average employment service is 13.2 years compared to average benefit service of 12.6 years.

(2) Limited by Internal Revenue Code Section 401(a)(17) compensation limit.

EXHIBIT B – MEMBERS IN ACTIVE SERVICE AS OF JUNE 30, 2019 (CONTINUED)
BY AGE, YEARS OF SERVICE,[1] AND AVERAGE PROJECTED COMPENSATION[2]
TIER 1

	Years of Service									
Age	Total	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 & over
Under 25	269	269	- -	- -	- -	- -	- -	- -	- -	- -
	$43,194	$43,194	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	1,058	939	115	4	- -	- -	- -	- -	- -	- -
	58,093	56,839	$68,406	$55,955	- -	- -	- -	- -	- -	- -
30 - 34	1,400	722	349	324	5	- -	- -	- -	- -	- -
	69,627	63,066	76,852	76,720	$52,898	- -	- -	- -	- -	- -
35 - 39	2,057	459	336	965	288	9	- -	- -	- -	- -
	84,430	71,090	86,511	89,768	85,351	$85,243	- -	- -	- -	- -
40 - 44	2,508	334	208	930	855	166	15	- -	- -	- -
	91,339	75,467	84,650	91,325	97,401	100,385	$92,706	- -	- -	- -
45 - 49	2,877	262	182	778	910	544	182	19	- -	- -
	93,403	73,846	85,165	85,375	96,839	107,161	105,376	$97,582	- -	- -
50 - 54	3,596	200	151	696	806	573	607	540	23	- -
	96,629	73,825	82,624	81,708	91,618	106,198	115,165	104,648	$98,065	- -
55 - 59	3,407	164	133	599	721	492	532	629	134	3
	95,596	67,582	78,834	78,436	89,639	101,847	110,207	111,162	99,946	$153,994
60 - 64	2,328	128	97	496	532	242	311	364	129	29
	92,312	65,429	73,378	78,999	86,241	95,349	106,848	109,987	115,321	107,923
65 - 69	1,151	38	46	251	296	139	123	173	50	35
	89,491	58,468	84,930	74,105	83,253	101,263	102,928	99,668	110,634	117,773
70 & over	575	25	33	112	169	81	41	68	18	28
	77,214	49,538	66,918	58,350	70,969	88,168	97,396	95,428	94,046	110,916
Total	**21,226**	**3,540**	**1,650**	**5,155**	**4,582**	**2,246**	**1,811**	**1,793**	**354**	**95**
	$88,453	**$63,670**	**$80,640**	**$83,653**	**$91,060**	**$102,840**	**$109,877**	**$107,112**	**$106,636**	**$113,889**

(1) Based on employment service. Average employment service for Tier 1 is 16.2 years compared to average benefit service of 15.4 years.

(2) Limited by Internal Revenue Code Section 401(a)(17) compensation limit.

EXHIBIT B – MEMBERS IN ACTIVE SERVICE AS OF JUNE 30, 2019 (CONTINUED)
BY AGE, YEARS OF SERVICE,[1] AND AVERAGE PROJECTED COMPENSATION[2]
TIER 3

		Years of Service								
Age	Total	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 & over
Under 25	560	560	- -	- -	- -	- -	- -	- -	- -	- -
	$47,895	$47,895	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	1,187	1,186	1	- -	- -	- -	- -	- -	- -	- -
	56,083	56,052	$91,908	- -	- -	- -	- -	- -	- -	- -
30 - 34	1,025	1,008	14	3	- -	- -	- -	- -	- -	- -
	65,063	64,635	92,509	$80,731	- -	- -	- -	- -	- -	- -
35 - 39	786	766	10	8	2	- -	- -	- -	- -	- -
	69,831	69,389	97,012	76,555	$76,187	- -	- -	- -	- -	- -
40 - 44	577	558	6	6	4	3	- -	- -	- -	- -
	70,754	69,794	114,071	112,775	79,531	$66,998	- -	- -	- -	- -
45 - 49	460	440	4	8	6	1	1	- -	- -	- -
	71,457	70,064	76,468	121,186	105,156	81,046	$54,690	- -	- -	- -
50 - 54	374	360	5	- -	5	3	1	- -	- -	- -
	74,382	73,313	77,489	- -	91,605	100,240	280,000	- -	- -	- -
55 - 59	276	270	1	1	2	- -	2	- -	- -	- -
	71,727	70,789	85,547	280,000	73,754	- -	85,348	- -	- -	- -
60 - 64	124	124	- -	- -	- -	- -	- -	- -	- -	- -
	71,123	71,123	- -	- -	- -	- -	- -	- -	- -	- -
65 - 69	30	30	- -	- -	- -	- -	- -	- -	- -	- -
	75,912	75,912	- -	- -	- -	- -	- -	- -	- -	- -
70 & over	7	7	- -	- -	- -	- -	- -	- -	- -	- -
	76,111	76,111	- -	- -	- -	- -	- -	- -	- -	- -
Total	**5,406**	**5,309**	**41**	**26**	**19**	**7**	**4**	**- -**	**- -**	**- -**
	$64,356	**$63,762**	**$93,181**	**$106,953**	**$89,840**	**$83,251**	**$126,347**	**- -**	**- -**	**- -**

(1) Based on employment service. Average employment service for Tier 3 is 1.6 years compared to average benefit service of 1.4 years. We understand that some Tier 3 members entered LACERS with incoming reciprocal (i.e., employment) service. Such service is only used for eligibility determination purposes.

(2) Limited by Internal Revenue Code Section 401(a)(17) compensation limit.

EXHIBIT C – RECONCILIATION OF MEMBER DATA

	Active Members	Inactive Vested Members	Retired Members	Disabled Members	Beneficiaries	Total
Number as of June 30, 2018	**26,042**	**8,028**	**14,583**	**894**	**3,902**	**53,449**
• New members	2,440	0	0	0	273	2,713
• Terminations – with vested rights	-1,096	1,096	0	0	0	0
• Contribution refunds	-67	-208	0	0	0	-275
• Retirements	-892	-147	1,039	0	0	0
• New disabilities	-1	-28	0	29	0	0
• Return to work	252	-250	0	-2	0	0
• Died with or without beneficiary	-46	-48	-457	-33	-189	-773
• Data adjustments	0	145[1]	0	0	-5	140
Number as of June 30, 2019	**26,632**	**8,588**	**15,165**	**888**	**3,981**	**55,254**

(1) Includes members who were both hired and terminated during the year.

Note: For the change in the annual benefits from the retirees and beneficiaries added to and removed from the rolls, refer to Exhibit D of the supplemental schedules that accompany this report.

EXHIBIT D – SUMMARY STATEMENT OF INCOME AND EXPENSES ON A MARKET VALUE BASIS FOR RETIREMENT, HEALTH, FAMILY DEATH, AND LARGER ANNUITY BENEFITS

	Year Ended June 30, 2019		Year Ended June 30, 2018	
Net assets at market value at the beginning of the year		**$16,989,616,344**		**$15,689,570,310**
Contribution income:				
• Employer contributions	$586,753,902		$551,247,264	
• Member contributions	240,357,396		236,222,166	
Net contribution income		$827,111,298		$787,469,430
Investment income:				
• Interest, dividends and other income	$416,415,425		$391,326,284	
• Asset appreciation	637,092,495		1,206,714,441	
• Less investment and administrative fees	-107,917,081		-99,940,548	
Net investment income		$945,590,839		$1,498,100,177
Total income available for benefits		**$1,772,702,137**		**$2,285,569,607**
Less benefit payments:				
• Benefits paid	-$1,042,725,029(1)		-$975,112,058	
• Refunds of contributions	-11,683,519		-10,411,515	
Net benefit payments		-$1,054,408,548		-$985,523,573
Change in net assets at market value		**$718,293,589**		**$1,300,046,034**
Net assets at market value at the end of the year		**$17,707,909,933**		**$16,989,616,344**

Note: Results may be slightly off due to rounding.

(1) Includes offsets related to self funded dental insurance premium of $6,090,036 and health insurance premium reserve of $468,153.

EXHIBIT E – SUMMARY STATEMENT OF PLAN ASSETS FOR RETIREMENT, HEALTH, FAMILY DEATH, AND LARGER ANNUITY BENEFITS

	June 30, 2019		June 30, 2018	
Cash equivalents		$440,455,108		$470,390,317
Accounts receivable:				
• Accrued investment income	$62,832,172		$57,236,792	
• Proceeds from sales of investments	234,349,252		86,261,200	
• Other	15,324,165		13,985,260	
Total accounts receivable		$312,505,589		$157,483,252
Investments:				
• Fixed income	4,359,360,084		$4,054,094,716	
• Equities	9,912,472,407		9,783,373,660	
• Real estate and alternative investment	2,801,074,174		2,608,972,084	
• Derivative instruments	-796,982		0	
• Other	918,104,377		911,404,923	
Total investments at market value		17,990,214,060		$17,357,845,383
Capital assets		8,788,596		9,184,627
Total assets		$18,751,963,353		$17,994,903,579
Accounts payable:				
• Accounts payable and accrued expenses	-$54,418,516		-$40,966,628	
• Accrued investment expenses	-9,664,366		-10,455,435	
• Purchases of investments	-274,435,536		-158,788,428	
• Securities lending collateral	-705,535,002		-795,076,744	
Total accounts payable		-$1,044,053,420		-$1,005,287,235
Net assets at market value		**$17,707,909,933**		**$16,989,616,344**
Net assets at actuarial value		**$17,711,461,636**		**$16,687,907,767**
Net assets at valuation value (retirement benefits)		**$14,818,564,427**		**$13,982,435,465**

Note: Results may be slightly off due to rounding.

EXHIBIT F – DEVELOPMENT OF THE FUND THROUGH JUNE 30, 2019 FOR RETIREMENT, HEALTH, FAMILY DEATH, AND LARGER ANNUITY BENEFITS

Year Ended June 30	Employer Contributions	Employee Contributions	Net Investment Return[1]	Benefit Payments	Market Value of Assets at Year-End	Actuarial Value of Assets at Year-End	Actuarial Value as a Percent of Market Value
2010	$362,751,146	$126,961,295	$1,049,769,483	$681,106,189	$9,001,364,526	$11,019,583,518	122.4%
2011	414,133,032	114,731,434	1,934,130,562	770,755,578	10,693,603,976	11,280,641,736	105.5%
2012	423,920,740	178,246,151	67,093,447	767,163,328	10,595,700,986	11,620,457,827	109.7%
2013	419,266,581	197,880,631	1,512,696,071	803,005,352	11,922,538,917	12,004,110,338	100.7%
2014	455,658,786	204,135,914	2,180,005,302	826,566,921	13,935,771,998	12,935,503,398	92.8%
2015	481,765,868	207,564,465	348,113,908	848,455,864[2]	14,124,760,375	13,895,589,227	98.4%
2016	546,687,123	211,344,752	7,190,895	884,923,630	14,005,059,515	14,752,102,625	105.3%
2017	550,961,514	227,531,810	1,834,657,728	928,640,257	15,689,570,310	15,686,973,131	100.0%
2018	551,247,264	236,222,166	1,498,100,177	985,523,573[3]	16,989,616,344	16,687,907,767	98.2%
2019	586,753,902	240,357,396	945,590,839	1,054,408,548[4]	17,707,909,933	17,711,461,636	100.0%

[1] On a market value basis, net of investment fees and administrative expenses.

[2] Includes transfer of $2,614,765 to Fire and Police Pension for Office of Public Safety.

[3] Includes approximately $3.0 million transferred to LAFPP on January 5, 2018 for the APO who transferred from LACERS to LAFPP on January 7, 2018.

[4] Includes offsets related to self funded dental insurance premium of $6,090,036 and health insurance premium reserve of $468,153.

EXHIBIT G – TABLE OF AMORTIZATION BASES

Type	Date Established	Initial Amount	Initial Period	Outstanding Balance	Years Remaining	Annual Payment[1]
Plan amendment (2009 ERIP)	June 30, 2009	$300,225,354	15	$174,336,478	5	$37,392,301
Combined base	June 30, 2012	4,173,548,280	30	4,635,156,828	23	289,952,764
Experience loss	June 30, 2013	116,022,989	15	96,155,626	9	12,266,702
Experience gain	June 30, 2014	-215,549,892	15	-187,434,889	10	-21,884,662
Change in assumptions	June 30, 2014	785,439,114	20	766,528,146	15	64,790,775
Experience gain	June 30, 2015	-185,473,782	15	-167,942,357	11	-18,126,135
Experience gain	June 30, 2016	-255,444,007	15	-238,882,218	12	-24,029,402
Experience gain	June 30, 2017	-99,814,895	15	-95,742,943	13	-9,037,767
Change in assumptions	June 30, 2017	340,717,846	20	339,036,254	18	25,059,890
Experience loss	June 30, 2018	147,418,362	15	144,742,271	14	12,896,653
Change in assumptions	June 30, 2018	483,717,164	20	483,166,785	19	34,374,423
Plan amendment (APO Tier 1 Enhancement)	January 7, 2018	25,170,149	15	25,342,723	13.5	2,322,624
Experience loss	June 30, 2019	394,012	15	394,012	15	33,304
Subtotal before GASB amount				**$5,974,856,716**		$406,011,470
40-year minimum GASB 25/27	June 30, 2004	29,189,615	15	0	0	0
40-year minimum GASB 25/27	June 30, 2005	12,708,684	15	1,860,290	1	1,860,290
Total				$5,976,717,006		**$407,871,760**

[1] Beginning of year payments, based on level percentage of payroll.

Note: the equivalent single amortization period is about 20 years.

EXHIBIT H – PROJECTION OF UAAL BALANCES AND PAYMENTS

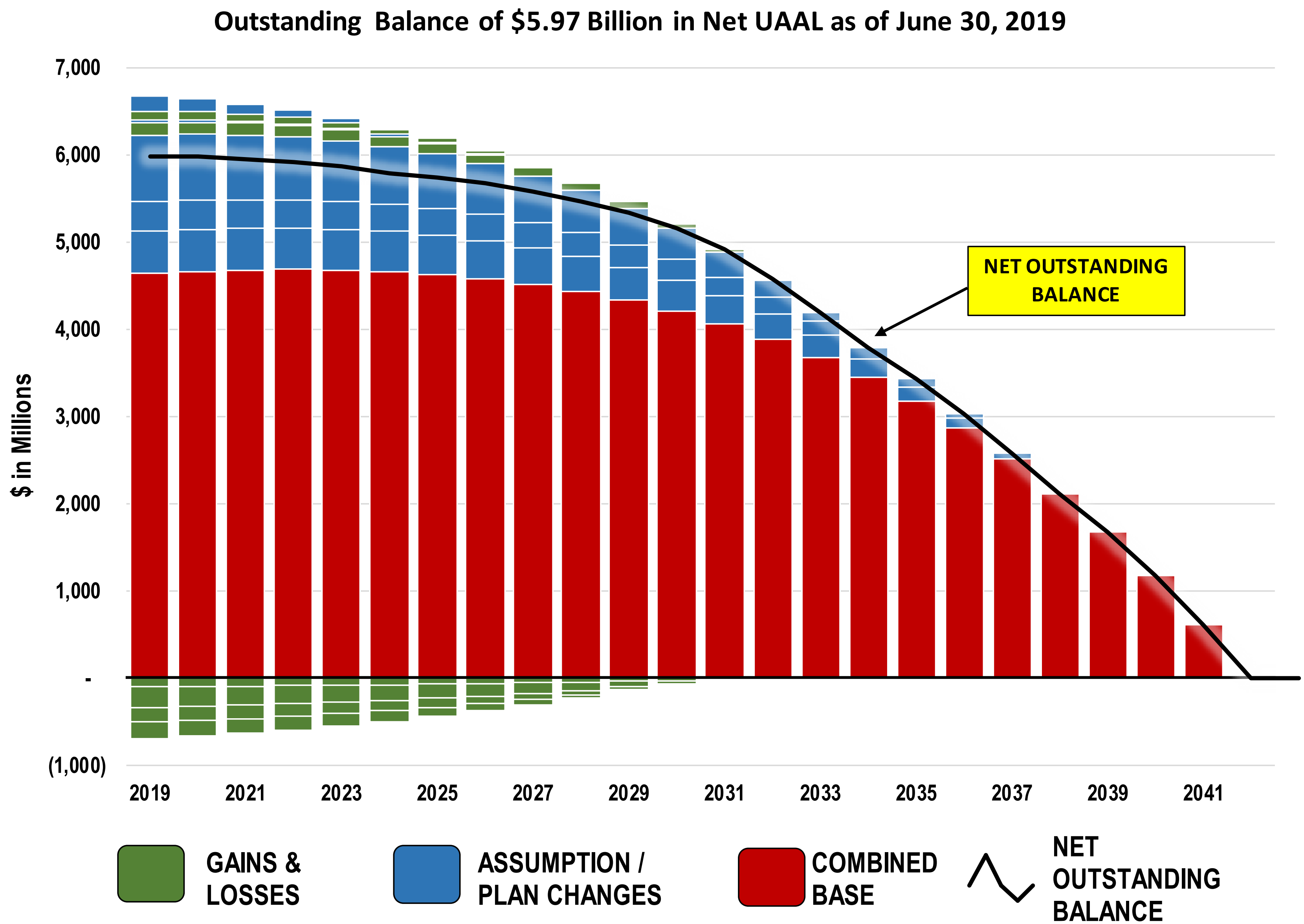


EXHIBIT H – PROJECTION OF UAAL BALANCES AND PAYMENTS (CONTINUED)

Annual Payments Required to Amortize $5.97 Billion in Net UAAL as of June 30, 2019

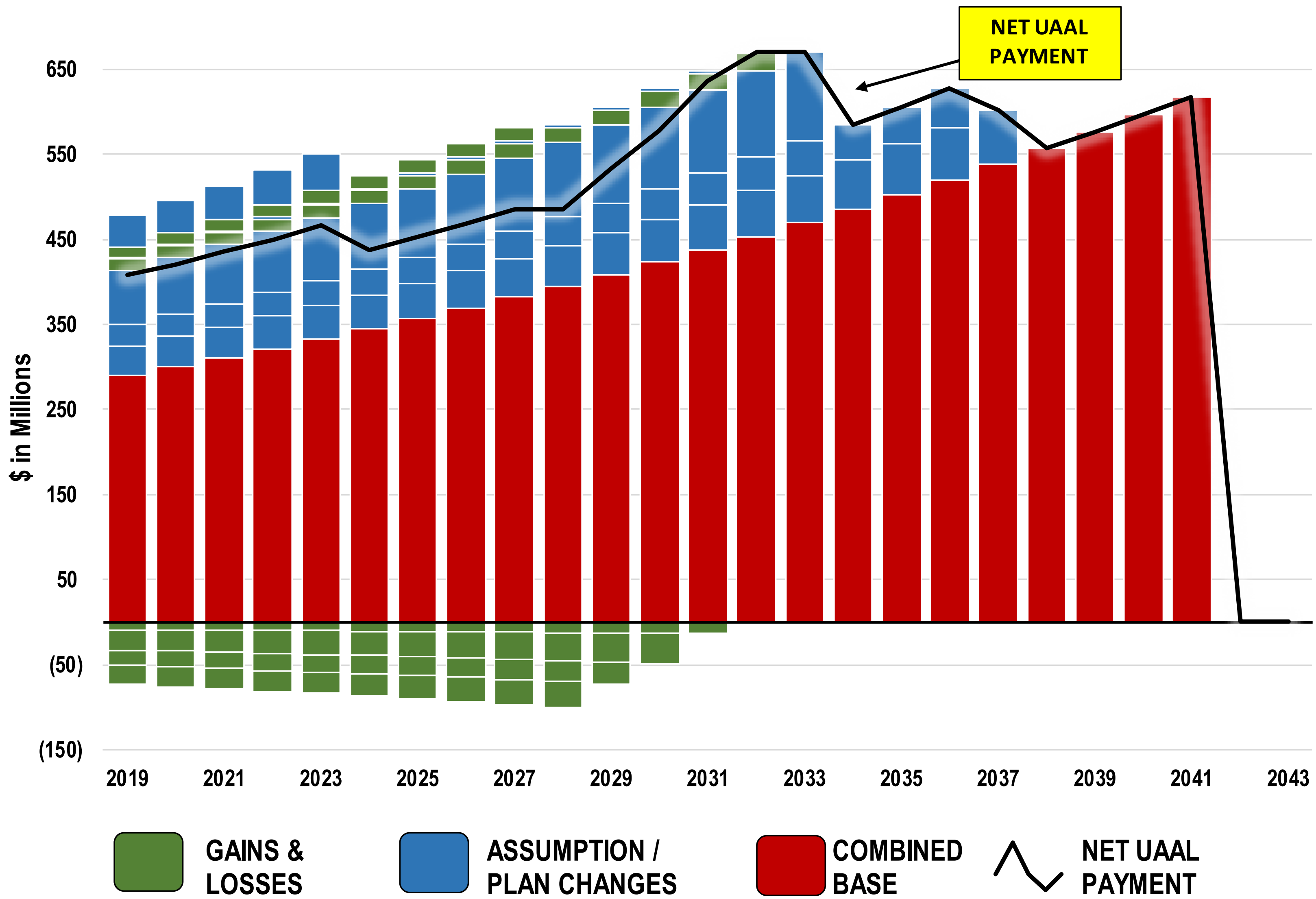


EXHIBIT I – DEFINITION OF PENSION TERMS

The following list defines certain technical terms for the convenience of the reader:

Actuarial Accrued Liability for Actives:	The equivalent of the accumulated Normal Costs allocated to the years before the valuation date.
Actuarial Accrued Liability for Pensioners and Beneficiaries:	Actuarial Present Value of lifetime benefits to existing pensioners and beneficiaries. This sum takes account of life expectancies appropriate to the ages of the annuitants and the interest that the sum is expected to earn before it is entirely paid out in benefits.
Actuarial Cost Method:	A procedure allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability that are used to determine the recommended contribution.
Actuarial Gain or Loss:	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., assets earn more than projected, salary increases are less than assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results yield actuarial liabilities that are larger than projected.
Actuarially Equivalent:	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
Actuarial Present Value (APV):	The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. Each such amount or series of amounts is: Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.) Multiplied by the probability of the occurrence of an event (such as survival, death, disability, withdrawal, etc.) on which the payment is conditioned, and Discounted according to an assumed rate (or rates) of return to reflect the time value of money.

Actuarial Present Value of Future Benefits:	The Actuarial Present Value of benefit amounts expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age, anticipated future compensation, and future service credits. The Actuarial Present Value of Future Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive members entitled to either a refund of member contributions or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
Actuarial Valuation:	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan, as well as Actuarially Determined Contributions.
Actuarial Value of Assets (AVA):	The value of the Plan's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly plans use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the Actuarially Determined Contribution.
Actuarially Determined:	Values that have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the Plan.
Actuarially Determined Contribution (ADC):	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under the Plan's funding policy. The ADC consists of the employer Normal Cost and the Amortization Payment.
Amortization Method:	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the Unfunded Actuarial Accrued Liability. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the Unfunded Actuarial Accrued Liability. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.
Amortization Payment:	The portion of the pension plan contribution, or ADC, that is intended to payoff the Unfunded Actuarial Accrued Liability.

Assumptions or Actuarial Assumptions:	The estimates upon which the cost of the Plan is calculated, including: Investment return - the rate of investment yield that the Plan will earn over the long-term future; Mortality rates - the rate or probability of death at a given age for employees and pensioners; Retirement rates - the rate or probability of retirement at a given age or service; Disability rates – the rate or probability of disability retirement at a given age; Withdrawal rates - the rate or probability at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement; Salary increase rates - the rates of salary increase due to inflation, real wage growth and merit and promotion increases.
Closed Amortization Period:	A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example, if the amortization period is initially set at 20 years, it is 19 years at the end of one year, 18 years at the end of two years, etc. See Open Amortization Period.
Decrements:	Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or withdrawal.
Defined Benefit Plan:	A retirement plan in which benefits are defined by a formula based on the member's compensation, age and/or years of service.
Defined Contribution Plan:	A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.
Experience Study:	A periodic review and analysis of the actual experience of the Plan that may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified based on recommendations from the Actuary.
Funded Ratio:	The ratio of the Valuation Value of Assets (VVA) to the Actuarial Accrued Liability (AAL). Plans sometimes also calculate a market funded ratio, using the Market Value of Assets (MVA), rather than the VVA.
Investment Return:	The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.
Normal Cost:	The portion of the Actuarial Present Value of Future Benefits allocated to a valuation year by the Actuarial Cost Method. Any payment with respect to an Unfunded Actuarial Accrued Liability is not part of the Normal Cost (see Amortization Payment). For pension plan benefits that are provided in part by employee contributions, Normal Cost refers to the total of member contributions and employer Normal Cost unless otherwise specifically stated.

Open Amortization Period:	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. If the initial period is set as 30 years, the same 30-year period is used in each future year in determining the Amortization Period.
Unfunded Actuarial Accrued Liability:	The excess of the Actuarial Accrued Liability over the Valuation Value of Assets. This value may be negative, in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus or an Overfunded Actuarial Accrued Liability.
Valuation Date or Actuarial Valuation Date:	The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Benefits is determined. The expected benefits to be paid in the future are discounted to this date.
Valuation Value of Assets:	The Actuarial Value of Assets reduced by the value of non-valuation reserves.

EXHIBIT I – ACTUARIAL ASSUMPTIONS AND METHODS

Rationale for Assumptions	The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the July 1, 2014 through June 30, 2017 Actuarial Experience Study dated June 29, 2018, and the June 30, 2017 Review of Economic Actuarial Assumptions dated June 30, 2017. Unless otherwise noted, all actuarial assumptions and methods shown below apply to both Tier 1 and Tier 3 members. These assumptions have been adopted by the Board.
Economic Assumptions	
Net Investment Return:	7.25%; net of administrative and investment expenses. Based on the Review of Economic Actuarial Assumptions referenced above, expected administrative and investment expenses represent about 0.60% of the Market Value of Assets.
Employee Contribution Crediting Rate:	Based on average of 5-year Treasury note rate. An assumption of 3.00% is used to approximate that crediting rate in this valuation.
Consumer Price Index (CPI):	Increase of 3.00% per year; benefit increases due to CPI subject to 3.00% maximum for Tier 1 and 2.00% maximum for Tier 3.
Payroll Growth:	Inflation of 3.00% per year plus real “across the board” salary increases of 0.50% per year, used to amortize the UAAL as a level percentage of payroll.
Increase in Internal Revenue Code Section 401(a)(17) Compensation Limit:	Increase of 3.00% per year from the valuation date.

Salary Increases:	The annual rate of compensation increase includes: inflation at 3.00%, plus “across the board” salary increases of 0.50% per year, plus the following merit and promotion increases:

Merit and Promotion Increases	
Years of Service	**Rate (%)**
Less than 1	6.50
1 – 2	6.20
2 – 3	5.10
3 – 4	3.10
4 – 5	2.10
5 – 6	1.10
6 – 7	1.00
7 – 8	0.90
8 – 9	0.70
9 – 10	0.60
10 & Over	0.40

Demographic Assumptions

Post-Retirement Mortality Rates:

Healthy Members and All Beneficiaries

- Headcount-Weighted RP-2014 Healthy Annuitant Mortality Tables (separate tables for males and females), with no setback for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2017.

Disabled Members

- Headcount-Weighted RP-2014 Disabled Retiree Mortality Tables (separate tables for males and females), with no setback for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2017.

The RP-2014 mortality tables and adjustments as shown above reasonably reflect the mortality experience as of the measurement date. The generational projection is a provision for future mortality improvement.

Pre-Retirement Mortality Rates:

- Headcount-Weighted RP-2014 Employee Mortality Tables (separate tables for males and females), with no setback for males and females, multiplied by 90%, projected generationally with the two-dimensional mortality improvement scale MP-2017.

	Rate (%)[1]	
Age	Male	Female
20	0.05	0.02
25	0.06	0.02
30	0.05	0.02
35	0.06	0.03
40	0.07	0.04
45	0.11	0.07
50	0.19	0.12
55	0.31	0.19
60	0.51	0.27
65	0.88	0.40

For Tier 1 Enhanced, 100% of pre-retirement death benefits are assumed to be service-connected.

(1) Generational projections beyond the base year (2014) are not reflected in the above mortality rates.

Disability Incidence:

Disability Incidence	
Age	**Rate (%)**
25	0.01
30	0.02
35	0.05
40	0.07
45	0.13
50	0.19
55	0.20
60	0.20

For Tier 1 Enhanced, 90% of disability retirements are assumed to be service-connected with service-connected disability benefits based on years of service, as follows:

Years of Service	Benefit
Less than 20	55% of Final Average Monthly Compensation
20 – 30	65% of Final Average Monthly Compensation
More than 30	75% of Final Average Monthly Compensation

For Tier 1 Enhanced, 10% of disability retirements are assumed to be nonservice-connected with nonservice-connected disability benefits equal to 40% of Final Average Monthly Compensation.

Termination:

Termination (< 5 Years of Service)	
Years of Service	**Rate (%)**
Less than 1	12.00
1 – 2	10.00
2 – 3	9.00
3 – 4	8.25
4 – 5	7.75

Termination (5+ Years of Service)	
Age	**Rate (%)**
25	7.00
30	7.00
35	5.50
40	3.90
45	3.20
50	2.70
55	2.50
60	2.50

No termination is assumed after a member is eligible for retirement (as long as a retirement rate is present).

Retirement Rates:

	Retirement Rates (%)					
	Tier 1		Tier 1 Enhanced[1]		Tier 3	
Age	Non-55/30	55/30	Non-55/30	55/30	Non-55/30	55/30
50	6.0	0.0	7.0	0.0	6.0	0.0
51	3.0	0.0	4.0	0.0	3.0	0.0
52	3.0	0.0	4.0	0.0	3.0	0.0
53	3.0	0.0	4.0	0.0	3.0	0.0
54	17.0	0.0	18.0	0.0	16.0	0.0
55	6.0	24.0	7.0	25.0	0.0[2]	23.0
56	6.0	16.0	7.0	17.0	0.0[2]	15.0
57	6.0	16.0	7.0	17.0	0.0[2]	15.0
58	6.0	16.0	7.0	17.0	0.0[2]	15.0
59	6.0	16.0	7.0	17.0	0.0[2]	15.0
60	7.0	16.0	8.0	17.0	6.0	15.0
61	7.0	16.0	8.0	17.0	6.0	15.0
62	7.0	16.0	8.0	17.0	6.0	15.0
63	7.0	16.0	8.0	17.0	6.0	15.0
64	7.0	16.0	8.0	17.0	6.0	15.0
65	13.0	20.0	14.0	21.0	12.0	19.0
66	13.0	20.0	14.0	21.0	12.0	19.0
67	13.0	20.0	14.0	21.0	12.0	19.0
68	13.0	20.0	14.0	21.0	12.0	19.0
69	13.0	20.0	14.0	21.0	12.0	19.0
70 & Over	100.0	100.0	100.0	100.0	100.0	100.0

(1) Consistent with the cost study prepared for the adoption of enhanced Tier 1 benefits, we have estimated the rates above by increasing the retirement rates for Tier 1 by a flat 1%.

(2) Not eligible to retire under the provisions of the Tier 3 plan.

Retirement Age and Benefit for Inactive Vested Members: Pension benefit paid at the later of age 59 or the current attained age. For reciprocals, 3.90% compensation increases per annum.

Other Reciprocal Service: 5% of future inactive vested members will work at a reciprocal system.

Service: Employment service is used for eligibility determination purposes. Benefit service is used for benefit calculation purposes.

Future Benefit Accruals: 1.0 year of service credit per year.

Unknown Data for Members: Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.

Form of Payment:	All active and inactive Tier 1 and Tier 3 members who are assumed to be married or with domestic partners at retirement are assumed to elect the 50% Joint and Survivor Cash Refund Annuity. For Tier 1 Enhanced, the continuance percentage is 70% for service retirement and nonservice-connected disability, and 80% for service-connected disability. Those members who are assumed to be un-married or without domestic partners are assumed to elect the Single Cash Refund Annuity.
Percent Married/Domestic Partner:	76% of male participants; 50% of female participants.
Age and Gender of Spouse:	For all active and inactive members, male members are assumed to have a female spouse who is 3 years younger than the member, and female members are assumed to have a male spouse who is 2 years older than the member.
Actuarial Funding Policy	
Actuarial Cost Method:	Entry Age Cost Method, level percent of salary. Entry age is calculated as age on the valuation date minus years of employment service. Both the normal cost and the actuarial accrued liability are calculated on an individual basis.
Actuarial Value of Assets:	Market value of assets (MVA) less unrecognized returns in each of the last seven years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a seven-year period. The actuarial value of assets (AVA) is limited by a 40% corridor; the AVA cannot be less than 60% of MVA, nor greater than 140% of MVA.
Valuation Value of Assets:	The portion of the total actuarial value of assets allocated for retirement benefits, based on a prorated share of market value.
Amortization Policy:	The amortization method for the UAAL is a level percent of payroll, assuming annual increases in total covered payroll equal to inflation plus across the board increases (other than inflation). Changes in the UAAL due to actuarial gains/losses are amortized over separate 15-year periods. Changes in the UAAL due to assumption or method changes are amortized over separate 20-year periods. Plan changes, including the 2009 ERIP, are amortized over separate 15-year periods. Future ERIPs will be amortized over 5 years. Any actuarial surplus is amortized over 30 years. All the bases on or before June 30, 2012, except those arising from the 2009 ERIP and the two (at that time) GASB 25/27 layers, were combined and amortized over 30 years effective June 30, 2012.

Other Actuarial Methods	
Employer Contributions:	Employer contributions consist of two components: *Normal Cost* The annual contribution rate that, if paid annually from a member's first year of membership through the year of retirement, would accumulate to the amount necessary to fully fund the member's retirement-related benefits. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution rate is expressed as a level percentage of the member's compensation. *Contribution to the Unfunded Actuarial Accrued Liability (UAAL)* The annual contribution rate that, if paid annually over the UAAL amortization period, would accumulate to the amount necessary to fully fund the UAAL. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution (or rate credit in the case of a negative UAAL) is calculated to remain as a level percentage of future active member payroll (including payroll for new members as they enter the System) assuming a constant number of active members. In order to remain as a level percentage of payroll, amortization payments (credits) are scheduled to increase at the annual rate of 3.50% (i.e., 3.00% inflation plus 0.50% across-the-board salary increase). The amortization policy is described on the previous page. The recommended employer contributions are provided in *Section 2, Subsection F.*
Internal Revenue Code Section 415:	Section 415 of the Internal Revenue Code (IRC) specifies the maximum benefits that may be paid to an individual from a defined benefit plan and the maximum amounts that may be allocated each year to an individual's account in a defined contribution plan. A qualified pension plan may not pay benefits in excess of the Section 415 limits. The ultimate penalty for non-compliance is disqualification: active members could be taxed on their vested benefits and the IRS may seek to tax the income earned on the plan's assets. In particular, Section 415(b) of the IRC limits the maximum annual benefit payable at the Normal Retirement Age to a dollar limit of $160,000 indexed for inflation. That limit is $225,000 for 2019. Normal Retirement Age for these purposes is age 62. These are the limits in simplified terms. They must be adjusted based on each participant's circumstances, for such things as age at retirement, form of benefits chosen and after tax contributions. Benefits in excess of the limits may be paid through a qualified governmental excess plan that meets the requirements of Section 415(m). Legal Counsel's review and interpretation of the law and regulations should be sought on any questions in this regard. Contribution rates determined in this valuation have not been reduced for the Section 415 limitations. Actual limitations will result in gains as they occur.
Changes in Actuarial Assumptions:	There have been no changes in actuarial assumptions since the last valuation.

EXHIBIT II – SUMMARY OF PLAN PROVISIONS

This exhibit summarizes the major provisions of the Plan included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year:	July 1 through June 30
Census Date:	June 30
Membership Eligibility:	
Tier 1 (§ 4.1002(a))	All employees who became members of the System before July 1, 2013, and certain employees who became members of the System on or after July 1, 2013. In addition, pursuant to Ordinance No. 184134, all Tier 2 employees who became members of the System between July 1, 2013 and February 21, 2016 were transferred to Tier 1 effective February 21, 2016. Includes Airport Peace Officers who did not pay for enhanced benefits.
Tier 1 Enhanced (§4.1002(e))	All Tier 1 Airport Peace Officers (including certain fire fighters) appointed to their positions before January 7, 2018 who elected to remain at LACERS after January 6, 2018, and who paid their mandatory additional contribution of $5,700 to LACERS before January 8, 2019, or prior to their retirement date, whichever was earlier.
Tier 3 (§4.1080.2(a))	All employees who became members of the System on or after February 21, 2016, except as provided otherwise in Section 4.1080.2(b) of the Los Angeles Administrative Code.
Normal Retirement Benefit:	
Tier 1 & Tier 1 Enhanced	
Age & Service Requirement (§ 4.1005(a))	Age 70; or Age 60 with 10 years of continuous City service; or Age 55 with at least 30 years of City service.
Tier 1	
Amount (§ 4.1007(a))	2.16% per year of service credit (not greater than 100%) of the Final Average Monthly Compensation.
Tier 1 Enhanced	
Amount (§ 4.1007(a))	2.30% per year of service credit (not greater than 100%) of the Final Average Monthly Compensation.
Tier 3	
➤ *With less than 30 Years of Service (§ 4.1080.5(a)(2)(i))*	
Age & Service Requirement	Age 60 with 10 years of service, including 5 years of continuous City service.
Amount	1.50% per year of service credit at age 60 (not greater than 80%[(1)]) of the Final Average Monthly Compensation.

Normal Retirement Benefit: (continued)

Tier 3 (continued)

- *With 30 or more Years of Service (§ 4.1080.5(a)(2)(ii))*

Age & Service Requirement	Age 60 with 30 years of service, including 5 years of continuous City service.
Amount	2.00% per year of service credit at age 60 (not greater than 80%[(1)]) of the Final Average Monthly Compensation.

[(1)] Except when benefit is based solely on the annuity component funded by the member's contributions.

Early Retirement Benefit:

Tier 1 & Tier 1 Enhanced

Age & Service Requirement (§ 4.1005(b))	Age 55 with 10 years of continuous City service; or Any age with 30 years of City service.
Amount (§ 4.1007(a) & (b))	2.16% and 2.30% per year of service credit for Tier 1 and Tier 1 Enhanced, respectively, (not greater than 100%) of the Final Average Monthly Compensation, reduced for retirement ages below age 60 using the following Early Retirement benefit adjustment factors:

Age	Factor	Age	Factor
45	0.6250	53	0.8650
46	0.6550	54	0.8950
47	0.6850	55	0.9250
48	0.7150	56	0.9400
49	0.7450	57	0.9550
50	0.7750	58	0.9700
51	0.8050	59	0.9850
52	0.8350	60	1.0000

Early Retirement Benefit: (continued)

Tier 3

Age & Service Requirement (§ 4.1080.5(a)(1)): Prior to age 60 with 30 years of service, including 5 years of continuous City service.

Amount (§ 4.1080.5(a)(1)): 2.00% per year of service credit (not greater than 80%[(1)]) of the Final Average Monthly Compensation, reduced for retirement ages below age 55 using the following Early Retirement benefit adjustment factors:

Age	Factor	Age	Factor
45	0.6250	50	0.7750
46	0.6550	51	0.8050
47	0.6850	52	0.8350
48	0.7150	53	0.8650
49	0.7450	54	0.8950
		55 - 60	1.0000

[(1)] Except when benefit is based solely on the annuity component funded by the member's contributions.

Enhanced Retirement Benefit:

Tier 1 & Tier 1 Enhanced

Age & Service Requirement: Not applicable - see Normal Retirement age and service requirement.

Amount: Not applicable - see Normal Retirement amount.

Tier 3

- *With less than 30 Years of Service (§ 4.1080.5(a)(3)(i))*

Age & Service Requirement: Age 63 with 10 years of service, including 5 years of continuous City service.

Amount: 2.00% per year of service credit at age 63 (not greater than 80%[(1)]) of the Final Average Monthly Compensation.

- *With 30 or more Years of Service (§ 4.1080.5(a)(3)(ii))*

Age & Service Requirement: Age 63 with 30 years of service, including 5 years of continuous City service.

Amount: 2.10% per year of service credit at age 63 (not greater than 80%[(1)]) of the Final Average Monthly Compensation.

[(1)] Except when benefit is based solely on the annuity component funded by the member's contributions.

Service Credit:	
Tier 1, Tier 1 Enhanced, & Tier 3 (§ 4.1001(a) & § 4.1080.1(a))	The time component of the formula used by LACERS for purposes of calculating benefits.
Final Average Monthly Compensation:	
Tier 1 & Tier 1 Enhanced (§ 4.1001(b))	Equivalent of monthly average salary of highest continuous 12 months (one year); includes base salary plus regularly assigned pensionable bonuses or premium pay.(1)
Tier 3 (§ 4.1080.1(b))	Equivalent of monthly average salary of highest continuous 36 months (three years); limited to base salary and any items of compensation that are designated as pension based.(1)
	(1) IRC Section 401(a)(17) compensation limit would apply to all employees who began membership in LACERS after June 30, 1996.
Post-Retirement Cost-of-Living Benefits:	
Tier 1 & Tier 1 Enhanced (§ 4.1022)	Based on changes to Los Angeles area(1) Consumer Price Index, to a maximum of 3% per year; excess banked.
Tier 3 (§ 4.1080.17)	Based on changes to Los Angeles area(1) Consumer Price Index, to a maximum of 2% per year; excess not banked.
	(1) Currently referred to as the Los Angeles-Long Beach-Anaheim Area, by the Bureau of Labor Statistics.
Death after Retirement:	
Tier 1 & Tier 3 (§ 4.1010(c), § 4.1080.10(c), & § 4.1012(c))	(i) 50% of retiree's unmodified allowance continued to an eligible spouse or a domestic partner; or a modified continuance to an eligible spouse or a domestic partner at the time of member's death (or a designated beneficiary selected by member at the time of retirement);(1) (ii) $2,500 lump sum death benefit paid to a designated beneficiary; and (iii) Any unused contributions if the member has elected the cash refund annuity option.
	(1) The retiree may elect at the time of retirement to take a reduced allowance in order to provide for a higher continuance percentage pursuant to the provisions of either Section 4.1015 (Tier 1) or Section 4.1080.14 (Tier 3).

Death after Retirement: (continued)	
Tier 1 Enhanced	
(§ 4.1010.1(b), § 4.1010.1(i), and § 4.1010.1(j))	
➤ *While on service-connected disability*	(i) 80% of retiree's unmodified allowance continued to an eligible spouse or a domestic partner; or a modified continuance to an eligible spouse or a domestic partner at the time of member's death (or a designated beneficiary selected by member at the time of retirement) [(1),(2)] (ii) $2,500 lump sum death benefit paid to a designated beneficiary; and (iii) Any unused contributions if the member has elected the cash refund annuity option. (1) If the death occurs within three years of the retiree's retirement, the eligible survivor shall receive 80% of the Final Average Monthly Compensation (adjusted with Cost of Living benefit). (2) The retiree may elect at the time of retirement to take a reduced allowance in order to provide for a higher continuance percentage pursuant to the provision of Section 4.1010.1(c).
➤ *While on nonservice-connected disability or service retirement*	(i) 70% of retiree's unmodified allowance continued to an eligible spouse or a domestic partner; or a modified continuance to an eligible spouse or a domestic partner at the time of member's death (or a designated beneficiary selected by member at the time of retirement)[(3)] (ii) $2,500 lump sum death benefit paid to a designated beneficiary; and (iii) Any unused contributions if the member has elected the cash refund annuity option. (3) The retiree may elect at the time of retirement to take a reduced allowance in order to provide for a higher continuance percentage pursuant to the provision of Section 4.1010.1(c).

Death before Retirement:	
Tier 1, Tier 1 Enhanced & Tier 3 (*§ 4.1010(a), § 4.1010.1(b), & § 4.1080.10(a)*)	Greater of: Option #1: (i) Eligibility – None. (ii) Benefit – Refund of employee contributions plus a limited pension benefit equal to 50% of monthly salary paid, according to the following schedule:

Service Credit	**Total Number of Monthly Payments**
Less than 1 year	0
1 year	2
2 years	4
3 years	6
4 years	8
5 years	10
6+ years	12

Tier 1 & Tier 3	Option #2: (i) Eligibility – Duty-related death or after 5 years of continuous service. (ii) Benefit – Continuance of service or disability benefit payable under 100% joint and survivor option to an eligible spouse or qualified domestic partner.
Tier 1 Enhanced	
Service-Connected Death	Option #2: (i) Eligibility – None. (ii) Benefit – 80% of member’s Final Average Monthly Compensation.
Nonservice-Connected Death	(i) Eligibility – 5 years of service (unless on military leave and killed while on military duties). (ii) Benefit – 50% of member’s Final Average Monthly Compensation.

Member Contributions:	
Tier 1 & Tier 1 Enhanced *(§ 4.1003)*	Effective July 1, 2011, the member contribution rate became 7% for all employees. Of the 7% rate, 0.5% is the survivor contribution portion and 6.5% is the normal contribution. The 7% member rate shall be paid until June 30, 2026 or until the ERIP Cost Obligation (defined in ERIP Ordinance No. 180926) is fully paid, whichever comes first.[(1)] Beginning January 1, 2013, all non-represented members and members in certain bargaining groups are required to pay an additional 4% member contribution rate to defray the cost of providing a Retiree Medical Plan premium subsidy (this additional rate has increased to 4.5% for certain members). For Tier 1 (excluding Tier 1 Enhanced), members with no eligible spouse or domestic partner at retirement can request a refund of the survivor portion of the member contributions (i.e., generally based on a contribution rate of 0.5% of pay). [(1)] The member contribution rate will drop down to 6% afterwards.
Tier 3 *(§ 4.1080.3)*	The member contribution rate is 7% for all employees. Of the 7% rate, 0.5% is the survivor contribution portion and 6.5% is the normal contribution. All members are required to pay an additional 4% member contribution rate to defray the cost of providing a Retiree Medical Plan premium subsidy. Members with no eligible spouse or domestic partner at retirement can request a refund of the survivor portion of the member contributions (i.e., generally based on a contribution rate of 0.5% of pay).
Disability:	
Tier 1 & Tier 3	
Service Requirement *(§ 4.1008(a) & § 4.1080.8(a))*	5 years of continuous service
Amount[(1)] *(§ 4.1008(c) & § 4.1080.8(c))*	1/70 (1.43%) of the Final Average Monthly Compensation per year of service or 1/3 of the Final Average Monthly Compensation, if greater.

Disability: (continued)	
<u>Tier 1 Enhanced</u>	
Service Requirement	
(§ 4.1008.1)	
Service-Connected Disability	None
Nonservice-Connected Disability	5 years of continuous service
Amount[(1)]	
(§ 4.1008.1)	
Service-Connected Disability	30% to 90% of the Final Average Monthly Compensation depending on severity of disability, with a minimum of 2% of the Final Average Monthly Compensation per year of service.
Nonservice-Connected Disability	30% to 50% of the Final Average Monthly Compensation depending on severity of disability.
	(1) The benefit calculated using the service retirement formula will be paid if the member is eligible and that benefit is greater than that calculated under the disability retirement formula.
Deferred Retirement Benefit (Vested):	
<u>Tier 1 & Tier 1 Enhanced</u>	
(§ 4.1006)	
Age & Service Requirement	Age 70 with 5 years of continuous City service; or Age 60 with 5 years of continuous City service and at least 10 years elapsed from first date of membership; or Age 55 with at least 30 years of service. Deferred employee who meets part-time eligibility: age 60 and at least 10 years elapsed from first date of membership.
Amount	Normal retirement benefit (or refund of contributions and accumulated interest).
Age & Service Requirement	Age 55 with 5 years of continuous City service and at least 10 years elapsed from first date of membership. Deferred employee who meets part-time eligibility: age 55 and at least 10 years elapsed from first date of membership.

Deferred Retirement Benefit (Vested): (continued)	
Amount	Early retirement benefit (or refund of contributions and accumulated interest), using the following Early Retirement benefit adjustment factors: **Age** / **Factor** 55 / 0.9250 56 / 0.9400 57 / 0.9550 58 / 0.9700 59 / 0.9850
Tier 3	
(§ 4.1080.6)	
Age & Service Requirement	Age 60 with 5 years of continuous City service and at least 10 years elapsed from first date of membership; or Age 70 with 5 years of continuous City service, regardless of the number of years that have elapsed from first date of membership.
Amount	Normal retirement benefit (based on a Retirement Factor of 1.50%; or refund of contributions and accumulated interest).
Age & Service Requirement	Age 60 with 30 years of continuous City service and at least 10 years elapsed from first date of membership; or Age 63 with 10 years of service, including 5 years of continuous City service.
Amount	Normal retirement benefit (based on a Retirement Factor of 2.00%; or refund of contributions and accumulated interest).
Age & Service Requirement	Age 63 with 30 years of continuous City service and at least 10 years elapsed from first date of membership.
Amount	Enhanced retirement (benefit based on a Retirement Factor of 2.10%; or refund of contributions and accumulated interest).
Age & Service Requirement	Age 55 (but not yet 60) with 5 years of continuous City service and at least 10 years elapsed from first date of membership.
Amount	Early retirement benefit (based on a Retirement Factor of 1.50% instead of 2.00%; or refund of contributions and accumulated interest), using the following Early Retirement benefit adjustment factors: **Age** / **Factor** 55 / 0.9250 56 / 0.9400 57 / 0.9550 58 / 0.9700 59 / 0.9850

Withdrawal of Contributions Benefit (Ordinary Withdrawal):	Refund of employee contributions with interest.
Changes in Plan Provisions:	There have been no changes in plan provisions since the last valuation.

Note: The summary of major plan provisions is designed to outline principal plan benefits as interpreted for purposes of the actuarial valuation. If the System should find the plan summary not in accordance with the actual provisions, the System should alert the actuary so they can both be sure the proper provisions are valued.

5590655v4/05806.002

BOARD Meeting: 11/12/19
Item IX - B
Attachment 3

Segal Consulting

Los Angeles City Employees' Retirement System

Funding Actuarial Valuation and Review of Other Postemployment Benefits (OPEB) as of June 30, 2019

Segal Consulting

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T 415.263.8200 www.segalco.com

November 6, 2019

Board of Administration
Los Angeles City Employees' Retirement System
202 W. 1st Street, Suite 500
Los Angeles, CA 90012-4401

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review of Other Postemployment Benefits (OPEB) as of June 30, 2019. The report summarizes the actuarial data used in the valuation, establishes the Actuarially Determined Contribution (ADC) for the Fiscal Year 2020/2021, and analyzes the preceding year's experience. This report was based on the census and unaudited financial data provided by the System and the terms of the Plan as summarized in Exhbit III. The actuarial calculations were completed under the supervision of Thomas Bergman, ASA, MAAA, Enrolled Actuary and Andy Yeung, ASA, MAAA, FCA, Enrolled Actuary. The health care trend and other related medical assumptions have been reviewed by Paul Sadro, ASA, MAAA.

This actuarial valuation has been completed in accordance with generally accepted actuarial principles and practices. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. Further, in our opinion, the assumptions used in this valution and described in Exhibit II are reasonably related to the experience of and the expectations for the Plan. The actuarial projections are based on these assumptions and the plan of benefits as summarized in Exhibits II and III.

Sincerely,

Segal Consulting, a Member of the Segal Group, Inc.

Paul Angelo, FSA, MAAA, FCA, EA	*Andy Yeung, ASA, MAAA, FCA, EA*
Senior Vice President and Actuary	*Vice President and Actuary*

JAC/jl

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PURPOSE

This report presents the results of our actuarial valuation of the City of Los Angeles Employees' Retirement System OPEB plan as of June 30, 2019 for funding purposes. The results of the valuation for financial reporting purposes consistent with GASB Statement No. 74 are provided in a separate report.

HIGHLIGHTS OF THE VALUATION

- The recommended contribution rate has decreased from 4.91% of payroll to 4.49% of payroll while the recommended contribution amount has decreased from $106.8 million to $100.0 million, assuming contributions are received by LACERS on July 15. The main reasons for the decline in the contribution rate were: (i) investment gain (after smoothing) and (ii) 2019/2020 premium and subsidy levels lower than expected, offset to some degree by (iii) updated trend for projecting Medicare Part B premiums after 2019/2020, and (iv) miscellaneous demographic and other losses.[1] A complete reconciliation of the change in the recommended contribution rate is provided in Exhibit H. Rates are shown separately for Tier 1 and Tier 3 in Chart 4.
- The ratio of the actuarial value of assets to actuarial accrued liabilities increased from 80.72% to 84.36%. On a market value of assets basis, the funded ratio increased from 82.18% to 84.34%. The unfunded actuarial accrued liability decreased from $628.0 million to $521.6 million. A complete reconciliation of the System's unfunded actuarial accrued liability is provided in Chart 2.
- As noted above, the GAS 74 report with a measurement date of June 30, 2019 for financial reporting purposes for the Plan was provided as a separate report.
- The GAS 75 report with a measurement date of June 30, 2019 for financial reporting purposes for the employer (with a reporting date of June 30, 2020) will be provided in the next few months.
- The actuarial valuation report as of June 30, 2019 is based on financial information as of that date. Changes in the value of assets subsequent to that date are not reflected. Declines in asset values will increase the actuarial cost of the Plan, while increases will decrease the actuarial cost of the Plan.
- As in prior years, the employer contribution rates provided in this report have been developed assuming they will be received by LACERS on any of the following dates:

  (1) The beginning of the fiscal year, or

  (2) On July 15, 2020, or

  (3) Throughout the year (i.e., LACERS will receive contributions at the end of every pay period).

[1] *Other losses include the recognition for the first time of the liability for about 250 retirees receiving a premium reimbursement for health plans not sponsored by LACERS. Data for those retirees are not included in the regular retiree membership data as members receiving a medical subsidy from LACERS, and were provided separately for the first time for this valuation.*

The key valuation results for the current and prior years are shown.

SUMMARY OF VALUATION RESULTS

	June 30, 2019	June 30, 2018
Actuarial Accrued Liability (AAL)	$3,334,298,549	$3,256,827,847
Actuarial Value of Assets	2,812,661,894	2,628,843,511
Unfunded Actuarial Accrued Liability	521,636,655	627,984,336
Funded Ratio on Actuarial Value Basis	84.36%	80.72%
Market Value of Assets	$2,812,097,867	$2,676,371,615
Funded Ratio on Market Value Basis	84.34%	82.18%
Actuarially Determined Contribution (ADC)		
Normal cost (beginning of year)	$76,422,769	$74,477,507
Amortization of the unfunded actuarial accrued liability	23,236,922	32,047,427
Total Actuarially Determined Contribution (beginning of year)	$99,659,691	$106,524,934
Total Actuarially Determined Contribution (July 15)	$99,950,758	$106,836,051
Total Actuarially Determined Contribution (end of each pay period)	$103,209,147	$110,318,900
Total projected compensation[1]	$2,225,412,831	$2,177,687,102
ADC as a percentage of pay (there is a 12-month delay until the rate is effective)[2]		
Beginning of year	4.47%	4.89%
July 15	4.49%	4.91%
End of each pay period	4.64%	5.07%
Total Participants	49,221	47,731

(1) *Reflects amount calculated in the pension valuation.*

(2) *A breakdown of the ADC by tier is provided in Chart 4.*

IMPORTANT INFORMATION ABOUT ACTUARIAL VALUATIONS

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of an OPEB plan. It is an estimated forecast – the actual cost of the plan will be determined by the benefits and expenses paid, and the actual investment experience of the plan.

In order to prepare an actuarial valuation, Segal Consulting ("Segal") relies on a number of input items. These include:

- **Plan of benefits** Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan description in this report to confirm that Segal has correctly interpreted the plan of benefits.
- **Participant data** An actuarial valuation for a plan is based on data provided to the actuary by the System. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
- **Assets** This valuation is based on the market value of assets as of the valuation date, as provided by the System.
- **Actuarial assumptions** In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to health care trends and member enrollment in retiree health benefits. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan's assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results, that does not mean that the previous assumptions were unreasonable.

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The valuation is prepared at the request of LACERS. Segal is not responsible for the use or misuse of its report, particularly by any other party.

- An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.
- If LACERS is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. LACERS should look to their other advisors for expertise in these areas.

As Segal has no discretionary authority with respect to the management or assets of LACERS, it is not a fiduciary in its capacity as actuaries and consultants with respect to LACERS.

November 6, 2019

ACTUARIAL CERTIFICATION

This is to certify that Segal Consulting (Segal) has conducted an actuarial valuation of certain benefit obligations of Los Angeles City Employees' Retirement System's other postemployment benefit programs as of June 30, 2019, in accordance with generally accepted actuarial principles and practices. In particular, it is our understanding that the assumptions and methods used for funding purposes meet the parameters set by the Actuarial Standards of Practice (ASOPs). Actuarial valuations are performed annually for this other postemployment benefit program with the last valuation completed as of June 30, 2018.

The actuarial valuation is based on the plan of benefits verified by LACERS and on participant, premium, claims and financial data provided by LACERS. Segal did not audit LACERS' financial statements, but conducted an examination of all participant data for reasonableness and we concluded that it was reasonable and consistent with the prior year's data.

One of the general goals of an actuarial valuation is to establish contributions that fully fund the System's liabilities, and that, as a percentage of payroll, remain as level as possible for each generation of active members. Both the Normal Cost and the Actuarial Accrued Liability are determined under the Entry Age cost method.

The actuarial computations made are for funding plan benefits. Accordingly, additional determinations will be needed for other purposes, such as satisfying financial accounting requirements under Governmental Accounting Standards Board (GASB) Statements No. 74 and judging benefit security at termination of the plan.

Segal prepared all of the supporting schedules for the Actuarial Section of the Comprehensive Annual Financial Report (CAFR) and certain supporting schedules in the Financial Section, based on the results of the June 30, 2019 actuarial valuation. A listing of the supporting schedules Segal prepared for inclusion in the Financial Section, and in the Actuarial Section, is provided below:

<u>Financial Section</u>

1) Schedule of Net OPEB Liability*
2) Schedule of Changes in Net OPEB Liability and Related Ratios*
3) Schedule of Contribution History*

November 6, 2019

ACTUARIAL CERTIFICATION (CONTINUED)

Actuarial Section

4) Summary of Significant Valuation Results
5) Active Member Valuation Data
6) Retirees and Beneficiaries Added to and Removed from Retiree Payroll
7) Schedule of Funded Liabilities by Type
8) Schedule of Funding Progress
9) Actuarial Analysis of Financial Experience
10) Actuarial Balance Sheet
11) Schedule of Changes in Net OPEB Liability and Related Ratios*

* Source: Segal's GASB Statement No. 74 valuation report as of June 30, 2019.

LACERS' staff prepared other trend data schedules in the Statistical Section based on information supplied in Segal's valuation report.

To the best of our knowledge, this report is complete and accurate and in our opinion presents the plan's current funding information. The signing actuaries are members of the American Academy of Actuaries and collectively are qualified to render the actuarial opinion contained herein.

Thomas Bergman, ASA, MAAA, EA
Retiree Health Actuary

Andy Yeung, ASA, MAAA, FCA, EA
Vice President and Actuary

The actuarial present value of total projected benefits uses the actuarial assumptions disclosed in Section 4 to calculate the value today of all benefits expected to be paid to current actives and retired plan members. The actuarial balance sheet shows the expected breakdown of how these benefits will be financed.

CHART 1

Actuarial Present Value of Total Projected Benefits (APB) and Actuarial Balance Sheet

	Actuarial Present Value of Total Projected Benefits (APB)	
	June 30, 2019	**June 30, 2018**
Participant Category		
Current retirees, beneficiaries, and dependents	$1,600,130,890	$1,497,370,105
Current active members	2,315,499,364	2,315,910,753
Terminated members entitled but not yet eligible	65,887,248	67,137,848
Total	$3,981,517,502	$3,880,418,706

	June 30, 2019	June 30, 2018
Actuarial Balance Sheet		
The actuarial balance sheet as of the valuation date is as follows:		
Assets		
1. Actuarial value of assets	$2,812,661,894	$2,628,843,511
2. Present value of future normal costs	647,218,953	623,590,859
3. Unfunded actuarial accrued liability	521,636,655	627,984,336
4. Present value of current and future assets	$3,981,517,502	$3,880,418,706
Liabilities		
5. Actuarial Present Value of total Projected Benefits	$3,981,517,502	$3,880,418,706

The actuarial accrued liability shows that portion of the APB (Chart 1) allocated to periods prior to the valuation date by the actuarial cost method. The chart below shows the portion of the liability for active and inactive members, and reconciles the unfunded actuarial accrued liability from last year to this year.

CHART 2

Actuarial Accrued Liability (AAL) and Unfunded AAL (UAAL)

	June 30, 2019	June 30, 2018
Participant Category		
Current retirees, beneficiaries, and dependents	$1,600,130,890	$1,497,370,105
Current active members	1,668,280,411	1,692,319,894
Terminated members entitled but not yet eligible	65,887,248	67,137,848
Total actuarial accrued liability	$3,334,298,549	$3,256,827,847
Unfunded Actuarial Accrued Liability		
Total actuarial accrued liability	$3,334,298,549	$3,256,827,847
Actuarial value of assets	2,812,661,894	2,628,843,511
Unfunded actuarial accrued liability	$521,636,655	$627,984,336

Development of Unfunded Actuarial Accrued Liability for the Year Ended June 30, 2019

1.	Unfunded actuarial accrued liability as of June 30, 2018	$627,984,336
2.	Employer normal cost as of June 30, 2018	74,477,507
3.	Expected employer contributions during 2018/2019 fiscal year	-106,524,934
4.	Interest	43,205,425
5.	Expected unfunded actuarial accrued liability as of June 30, 2019 (1 + 2 + 3 + 4)	$639,142,334
6.	Change due to investment gain, after smoothing	-16,214,973
7.	Change due to actual contributions more than expected	-1,177,631
8.	Change due to miscellaneous demographic gains and other losses*	38,443,686
9.	Change due to updated 2019/2020 premium and subsidy levels	-172,496,463
10.	Change due to updating trend to project future Medicare Part B premiums after 2019/2020	33,939,702
11.	Unfunded actuarial accrued liability as of June 30, 2019 (5 + 6 + 7 + 8 + 9 + 10)	$521,636,655

* *Other losses include the recognition for the first time of the liability for about 250 retirees receiving a premium reimbursement for health plans not sponsored by LACERS. Data for those retirees are not included in the regular retiree membership data as members receiving a medical subsidy from LACERS, and were provided separately for the first time for this valuation.*

Amortization payments may be calculated as level dollar amounts or as amounts designed to remain level as a percent of a growing payroll base. Los Angeles City Employees' Retirement System has elected to amortize the unfunded actuarial accrued liability using the following rules: The costs associated with the 2009 ERIP have been amortized over 15 years beginning with the June 30, 2009 valuation date. The unfunded actuarial accrued liability as of June 30, 2012 is amortized over a fixed period of 30 years beginning July 1, 2012. Assumption changes resulting from the triennial experience study will be amortized over 20 years.

Health trend and premium assumption changes, plan changes, and gains and losses will be amortized over 15 years.

CHART 3

Table of Amortization Bases

Type	Date Established	Initial Amount	Initial Period	Outstanding Balance	Years Remaining	Annual Payment*
Plan Amendment (2009 ERIP)	06/30/2009	$54,735,645	15	$31,784,191	5	$6,817,185
Combined Base**	06/30/2012	597,984,614	30	664,123,736	23	41,544,336
Experience Loss	06/30/2013	16,206,142	15	13,431,061	9	1,713,418
Change in Assumptions	06/30/2014	135,287,549	20	132,030,239	15	11,159,853
Experience Gain	06/30/2014	-101,972,860	15	-88,672,145	10	-10,353,248
Experience Gain	06/30/2015	-193,346,818	15	-175,071,214	11	-18,895,557
Plan Change	06/30/2015	17,466,894	15	15,815,880	11	1,707,019
Experience Gain	06/30/2016	-21,878,470	15	-20,459,973	12	-2,058,089
Change in Assumptions	06/30/2017	121,183,087	20	120,584,996	18	8,913,049
Experience Gain	06/30/2017	-109,999,503	15	-105,512,070	13	-9,959,935
Change in Assumptions	06/30/2018	109,882,560	20	109,757,534	19	7,808,591
Experience Gain	06/30/2018	-59,754,629	15	-58,669,901	14	-5,227,535
Experience Gain	06/30/2019	-117,505,679	15	-117,505,679	15	-9,932,165
Total				$521,636,655		$23,236,922

* *Level percentage of payroll.*

** *On October 23, 2012, the Board elected to combine all amortization bases as of June 30, 2012, except for the base associated with the 2009 ERIP, which remains on its original schedule. In addition, the Board adopted an initial amortization period of 30 years for the combined bases as of June 30, 2012.*

The Actuarially Determined Contribution (ADC) is the amount calculated to determine the annual cost of the OPEB plan for funding purposes on an accrual basis. The calculation consists of adding the Normal Cost of the plan to an amortization payment. Both are determined as of the start of the funding period and adjusted as if the annual cost were to be received throughout the fiscal year or on July 15th.

CHART 4

Determination of Actuarially Determined Contribution (ADC)

Tier 1 - Cost Element		Determined as of June 30, 2019		June 30, 2018	
		Amount	**Percentage of Compensation**	**Amount**	**Percentage of Compensation**
1.	Normal cost	$61,834,858	3.29%	$65,056,794	3.34%
2.	Amortization of the unfunded actuarial accrued liability	19,604,197	1.04%	28,655,863	1.47%
3.	Total Actuarially Determined Contribution (beginning of year)	$81,439,055	4.33%	$93,712,657	4.81%
4.	Total Projected Compensation[1]	$1,877,504,719		$1,947,223,478	
5.	Adjustment for timing (July 15)	$237,851	0.02%	$273,698	0.02%
6.	Total Actuarially Determined Contribution (July 15)	$81,676,906	4.35%	$93,986,355	4.83%
7.	Adjustment for timing (end of pay period)	$2,900,514	0.16%	$3,337,647	0.17%
8.	Total Actuarially Determined Contribution (end of pay period)	$84,339,569	4.49%	$97,050,304	4.98%

[1] *Reflects amount calculated in the pension valuation.*

CHART 4 (continued)

Determination of Actuarially Determined Contribution (ADC)

Tier 3 - Cost Element		Determined as of June 30, 2019		June 30, 2018	
		Amount	**Percentage of Compensation**	**Amount**	**Percentage of Compensation**
1.	Normal cost	$14,587,911	4.19%	$9,420,713	4.09%
2.	Amortization of the unfunded actuarial accrued liability	3,632,725	1.04%[2][3]	3,391,564	1.47%[2]
3.	Total Actuarially Determined Contribution (beginning of year)	$18,220,636	5.23%	$12,812,277	5.56%
4.	Total Projected Compensation[1]	$347,908,112		$230,463,624	
5.	Adjustment for timing (July 15)	$53,216	0.02%	$37,419	0.02%
6.	Total Actuarially Determined Contribution (July 15)	$18,273,852	5.25%	$12,849,696	5.58%
7.	Adjustment for timing (end of pay period)	$648,942	0.19%	$456,319	0.20%
8.	Total Actuarially Determined Contribution (end of pay period)	$18,869,578	5.42%	$13,268,596	5.76%

(1) *Reflects amount calculated in the pension valuation.*

(2) *In developing the UAAL contribution rate, we have combined the UAAL for Tier 1 and Tier 3 and amortized that total UAAL over the total payroll for Tier 1 and Tier 3.*

(3) *For purposes of Government Service Buybacks for Tier 3, the cost of the purchase is based, in part, on the "City Contribution Rate," pursuant to the Administrative Code. As Tier 3 has no UAAL as of June 30, 2019, the City's normal cost rate of 4.19% (beginning of year) is used for purposes of these buybacks.*

CHART 4 (continued)

Determination of Actuarially Determined Contribution (ADC)

Combined - Cost Element		**Determined as of June 30, 2019**		**June 30, 2018**	
		Amount	**Percentage of Compensation**	**Amount**	**Percentage of Compensation**
1.	Normal cost	$76,422,769	3.43%	$74,477,507	3.42%
2.	Amortization of the unfunded actuarial accrued liability	23,236,922	1.04%	32,047,427	1.47%
3.	Total Actuarially Determined Contribution (beginning of year)	$99,659,691	4.47%	$106,524,934	4.89%
4.	Total Projected Compensation[1]	$2,225,412,831		$2,177,687,102	
5.	Adjustment for timing (July 15)	$291,067	0.02%	$311,117	0.02%
6.	Total Actuarially Determined Contribution (July 15)	$99,950,758	4.49%	$106,836,051	4.91%
7.	Adjustment for timing (end of pay period)	$3,549,456	0.17%	$3,793,966	0.18%
8.	Total Actuarially Determined Contribution (end of pay period)	$103,209,147	4.64%	$110,318,900	5.07%

[1] *Reflects amount calculated in the pension valuation.*

The schedule of employer contributions compares actual contributions to the Actuarially Determined Contributions.

CHART 5

Schedule of Employer Contributions

Fiscal Year Ended June 30	Actuarially Determined Contributions[1]	Actual Contributions	Percentage Contributed
2014	$97,840,554	$97,840,554	100.00%
2015	100,466,945	100,466,945	100.00%
2016	105,983,112	105,983,112	100.00%
2017	97,457,455	97,457,455	100.00%
2018	100,909,010	100,909,010	100.00%
2019	107,926,949	107,926,949	100.00%

[1] *Prior to plan year ending June 30, 2018, this amount was the Annual Required Contribution (ARC).*

This schedule of funding progress presents multi-year trend information about whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liability for benefits.

CHART 6

Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll* (c)	UAAL as a Percentage of Covered Payroll [(b) - (a) / (c)]
06/30/2014	$1,941,224,810	$2,662,853,153	$721,628,343	72.90%	$1,898,064,175	38.02%
06/30/2015	2,108,924,651	2,646,989,367	538,064,716	79.67%	1,907,664,598	28.21%
06/30/2016	2,248,753,480	2,793,688,955	544,935,475	80.49%	1,968,702,630	27.68%
06/30/2017	2,438,458,132	3,005,806,234	567,348,102	81.12%	2,062,316,129	27.51%
06/30/2018	2,628,843,511	3,256,827,847	627,984,336	80.72%	2,177,687,102	28.84%
06/30/2019	2,812,661,894	3,334,298,549	521,636,655	84.36%	2,225,412,831	23.44%

* *Reflects amount calculated in the pension valuation.*

VOLATILITY RATIOS

OPEB plans are subject to volatility in the level of determined contributions. This volatility tends to increase as OPEB plans become more mature.

The Asset Volatility Ratio (AVR), which is equal to the market value of assets divided by total payroll, provides an indication of the potential contribution volatility for any given level of investment volatility. A higher AVR indicates that the plan is subject to a greater level of contribution volatility. This is a current measure since it is based on the current level of assets.

For LACERS, the current AVR is about 1.26. This means that a 1% asset gain/(loss) (relative to the assumed investment return) translates to about 1.26% of one-year's payroll. Since LACERS amortizes actuarial gains and losses over a period of 15 years, there would be a 0.1% of payroll decrease/(increase) in the determined contribution for each 1% asset gain/(loss).

The Liability Volatility Ratio (LVR), which is equal to the Actuarial Accrued Liability divided by payroll, provides an indication of the longer-term potential for contribution volatility for any given level of investment volatility. This is because, over an extended period of time, the plan's assets should track the plan's liabilities. For example, if a plan is 50% funded on a market value basis, the liability volatility ratio would be double the asset volatility ratio and the plan sponsor should expect contribution volatility to increase over time as the plan becomes better funded.

The LVR also indicates how volatile contributions will be in response to changes in the Actuarial Accrued Liability due to actual experience or to changes in actuarial assumptions.

For LACERS, the current LVR is about 1.50. This is about 19% higher than the AVR. Therefore, we would expect that contribution volatility will increase over the long-term.

This chart shows how the asset and liability volatility ratios have varied over time.

CHART 7

Volatility Ratios for Years Ended June 30, 2011 – 2019

Year Ended June 30	Asset Volatility Ratio	Liability Volatility Ratio
2011	0.80	1.07
2012	0.82	1.26
2013	0.93	1.31
2014	1.10	1.40
2015	1.12	1.39
2016	1.08	1.42
2017	1.18	1.46
2018	1.23	1.50
2019	1.26	1.50

The Actuarial Valuation and Review considers the number and demographic characteristics of covered members, including active members, inactive non-vested members (entitled to a refund of member contributions), inactive vested members, retired members and beneficiaries.

This section presents a summary of significant statistical data on these member groups.

More detailed information for this valuation year and the preceding valuation can be found in Section 3, Exhibit A.

A historical perspective of how the member population has changed over the past ten valuations can be seen in this chart.

CHART 8

Member Population: 2010 – 2019

Year Ended June 30	Active Members	Inactive Vested Members	Retired Members and Beneficiaries*	Total Non-Actives	Ratio of Non-Actives to Actives	Ratio of Retired Members and Beneficiaries to Actives
2010	26,245	806	13,442	14,248	0.54	0.51
2011	25,449	813	13,436	14,249	0.56	0.53
2012	24,917	858	13,431	14,289	0.57	0.54
2013	24,441	861	13,592	14,453	0.59	0.56
2014	24,009	955	13,686	14,641	0.61	0.57
2015	23,895	1,032	14,012	15,044	0.63	0.59
2016	24,446	1,119	14,313	15,432	0.63	0.59
2017	25,457	1,280	14,652	15,932	0.63	0.58
2018	26,042	1,401	15,144	16,545	0.64	0.58
2019	26,632	1,474	15,791	17,265	0.65	0.59

* *Excludes retirees and surviving spouses not yet enrolled in retiree health benefits.*

This exhibit summarizes the participant data used for the current and prior valuations.

EXHIBIT A
Summary of Participant Data
All

Category	Year Ended June 30 2019	Year Ended June 30 2018	Change From Prior Year
Active members in valuation:			
Number	26,632	26,042	2.3%
Average age	47.0	47.5	-0.5
Average service	13.2	13.7	-0.4
Total projected compensation	$2,225,412,831	$2,177,687,102	2.2%
Inactive members:			
Number	1,474	1,401	5.2%
Average age	50.9	50.9	0.0
Retirees:*			
Number of non-disabled	13,609	13,029	4.5%
Number of disabled	334	326	2.5%
Total number of retirees	13,943	13,355	4.4%
Average age of retirees	71.9	71.9	0.0
Number of spouses	5,324	5,144	3.5%
Average age of spouses	68.5	68.5	0.0
Surviving Spouses:*			
Number in pay status	1,848	1,789	3.3%
Average age	79.6	79.6	0.0

** Excludes retirees and surviving spouses not receiving health benefits.*

EXHIBIT A (continued)
Summary of Participant Data
Tier 1*

Category	Year Ended June 30 2019	Year Ended June 30 2018	Change From Prior Year
Active members in valuation:			
Number	21,226	22,409	-5.3%
Average age	49.6	49.2	0.4
Average service	16.2	15.7	0.5
Total projected compensation	$1,877,504,719	$1,947,223,478	-3.6%
Inactive members:			
Number	1,466	1,397	4.9%
Average age	51.0	50.9	0.1
Retirees:**			
Number of non-disabled	13,609	13,029	4.5%
Number of disabled	334	326	2.5%
Total number of retirees	13,943	13,355	4.4%
Average age of retirees	71.9	71.9	0.0
Number of spouses	5,324	5,144	3.5%
Average age of spouses	68.5	68.5	0.0
Surviving Spouses:**			
Number in pay status	1,848	1,789	3.3%
Average age	79.6	79.6	0.0

**Includes the following number of Airport Peace Officers eligible for enhanced retirement benefits:*

	June 30, 2019	*June 30, 2018*
Active Members	*433*	*457*
Inactive Members	*17*	*7*
Retired Members	*43*	*31*

***Excludes retirees and surviving spouses not receiving health benefits.*

EXHIBIT A (continued)

Summary of Participant Data

Tier 3

Category	Year Ended June 30 2019	Year Ended June 30 2018	Change From Prior Year
Active members in valuation:			
Number	5,406	3,633	48.8%
Average age	37.0	36.6	0.4
Average service	1.6	1.3	0.3
Total projected compensation	$347,908,112	$230,463,624	51.0%
Inactive members:			
Number	8	4	100.0%
Average age	46.7	48.0	-1.3
Retirees:			
Number of non-disabled	0	0	0
Number of disabled	0	0	0
Total number of retirees	0	0	0
Average age of retirees	N/A	N/A	N/A
Number of spouses	0	0	0
Average age of spouses	N/A	N/A	N/A
Surviving Spouses:			
Number in pay status	0	0	0
Average age	N/A	N/A	N/A

EXHIBIT B
Reconciliation of Participant Data with Pension Valuation

	Year Ended June 30	
	2019	**2018**
Active		
Pension valuation	26,632	26,042
Health valuation	26,632	26,042
Retirees		
Pension valuation	15,165	14,583
Retirees with no subsidy due to service or decision not to enroll	-1,540	-1,532
Deferred retirees eligible for future health benefits	-16	-22
Health valuation	13,609	13,029
Disableds		
Pension valuation	888	894
Disabled with no subsidy due to service or decision not to enroll	-500	-512
Deferred disableds eligible for future health benefits	-54	-56
Health valuation	334	326
Surviving Spouses		
Pension valuation	3,981	3,902
Surviving spouses with no subsidy due to service or decision not to enroll	-2,057	-2,043
Deferred surviving spouses eligible for future health benefits	-76	-70
Health valuation	1,848	1,789
Inactive Vested		
Pension valuation	8,588	8,028
Inactive vesteds with less than 10 years of service	-7,114	-6,627
Health valuation	1,474	1,401

EXHIBIT C

Retirees and Beneficiaries Added to and Removed from Health Benefits

Year Ended 6/30	No. of New Retirees/ Beneficiaries	Annual Allowances Added*	No. of Retirees/ Beneficiaries Removed	Annual Allowances Removed	No. of Retirees/ Beneficiaries at 6/30	Annual Allowances at 6/30	Percent Increase in Annual Allowances	Average Annual Allowance
2014	616	$7,160,148	522	$3,047,436	13,686	$104,959,232	4.1	$7,669
2015	860	10,844,333	534	3,174,045	14,012	112,629,520	7.3	8,038
2016	837	2,185,058	536	3,102,492	14,313	111,712,086	-0.8	7,805
2017	913	13,706,185	574	3,316,380	14,652	122,101,891	9.3	8,333
2018	1,104	17,413,241	612	3,649,382	15,144	135,865,750	11.3	8,972
2019	1,195	12,323,187	548	3,780,696	15,791	144,408,241	6.3	9,145

**Also reflects changes in subsidies for continuing retirees and beneficiaries.*

EXHIBIT D
Cash Flow Projections

The ADC generally exceeds the current pay-as-you-go ("paygo") cost of an OPEB plan. Over time the paygo cost will tend to grow and may even eventually exceed the ADC in a well-funded plan. The following table projects the paygo cost as the projected payment over the next ten years.

Year Ending June 30	Projected Number of Retirees*			Projected Benefit Payments		
	Current	Future	Total	Current	Future	Total
2020	21,115	1,738	22,853	$135,864,490	$12,440,868	$148,305,358
2021	20,709	2,847	23,556	133,899,212	22,619,825	156,519,037
2022	20,063	3,961	24,024	134,814,430	34,238,398	169,052,828
2023	19,414	5,037	24,451	135,148,661	47,361,523	182,510,184
2024	18,755	6,112	24,867	134,834,872	60,665,697	195,500,569
2025	18,095	7,125	25,220	133,604,021	74,215,901	207,819,922
2026	17,430	8,102	25,532	132,043,113	87,658,864	219,701,977
2027	16,757	9,032	25,789	130,067,964	101,045,231	231,113,195
2028	16,086	9,940	26,026	127,789,136	114,124,032	241,913,168
2029	15,410	10,822	26,232	126,064,747	126,590,563	252,655,310

* *Includes spouses of retirees, but excludes those not receiving a subsidy from LACERS.*

EXHIBIT E
Summary Statement of Income and Expenses on an Market Value Basis for Retirement, Health, Family Death, and Larger Annuity Benefits

	Year Ended June 30, 2019		Year Ended June 30, 2018	
Contribution income:				
Employer contributions	$586,753,902		$551,247,264	
Member contributions	240,357,396		236,222,166	
Net contribution income		$827,111,298		$787,469,430
Investment income:				
Interest, dividends and other income	$416,415,425		$391,326,284	
Asset appreciation	637,092,495		1,206,714,441	
Less investment and administrative fees	-107,917,081		-99,940,548	
Net investment income		$945,590,839		$1,498,100,177
Total income available for benefits		**$1,772,702,137**		**$2,285,569,607**
Less benefit payments:				
Benefits paid	-$1,042,725,029[1]		-$975,112,058	
Refunds of contributions	-11,683,519		-10,411,515	
Net benefit payments		-$1,054,408,548		-$985,523,573
Change in net assets at market value		**$718,293,589**		**$1,300,046,034**
Net assets at market value at the end of the year		**$17,707,909,933**		**$16,989,616,344**

Note: Results may be slightly off due to rounding.

[1]Includes offsets related to self-funded dental insurance premium of $6,090,036 and health insurance premium reserve of $468,153.

EXHIBIT F

Summary Statement of Plan Assets for Retirement, Health, Family Death, and Larger Annuity Benefits

	June 30, 2019		June 30, 2018	
Cash equivalents		$440,455,108		$470,390,317
Accounts receivable:				
Accrued investment income	$62,832,172		$57,236,792	
Proceeds from sales of investments	234,349,252		86,261,200	
Other	15,324,165		13,985,260	
Total accounts receivable		$312,505,589		$157,483,252
Investments:				
Fixed income	$4,359,360,084		$4,054,094,716	
Equities	9,912,472,407		9,783,373,660	
Real estate and alternative investment	2,801,074,174		2,608,972,084	
Derivative instruments	-796,982		0	
Other	918,104,377		911,404,923	
Total investments at market value		$17,990,214,060		$17,357,845,383
Capital assets		8,788,596		9,184,627
Total assets		$18,751,963,353		$17,994,903,579
Accounts payable:				
Accounts payable and accrued expenses	-$54,418,516		-$40,966,628	
Accrued investment expenses	-9,664,366		-10,455,435	
Purchases of investments	-274,435,536		-158,788,428	
Securities lending collateral	-705,535,002		-795,076,744	
Total accounts payable		-$1,044,053,420		-$1,005,287,235
Net assets at market value		**$17,707,909,933**		**$16,989,616,344**
Net assets at actuarial value		**$17,711,461,636**		**$16,687,907,767**
Net assets at valuation value (health benefits)		**$2,812,661,894**		**$2,628,843,511**

Note: Results may be slightly off due to rounding.

It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board of Administration has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable.

The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

The chart shows the determination of the actuarial value of assets as of the valuation date.

EXHIBIT G

Determination of Actuarial Value of Assets as of June 30, 2019

		Actual Return	Expected Return	Investment Gain (Loss)	Portion Not Recognized	Unrecognized Amount
1.	Market value of assets					$17,707,909,933
2.	Calculation of unrecognized return[1]					
	(a) Year ended June 30, 2019	$945,590,839	$1,242,978,109	-$297,387,270	6/7	-$254,903,374
	(b) Year ended June 30, 2018	1,498,100,177	1,148,631,872	349,468,305	5/7	249,620,218
	(c) Year ended June 30, 2017	1,834,657,728	1,063,688,256	770,969,472		
	(d) Year ended June 30, 2016	7,190,895	1,072,214,464	-1,065,023,569	See footnote (2) below	
	(e) Year ended June 30, 2015	348,113,908	1,055,874,448	-707,760,540		
	(f) Year ended June 30, 2014	2,180,005,303	933,719,722	1,246,285,581		
	(g) Combined net deferred loss as of June 30, 2013			-81,571,421	4/6	1,731,453
	(h) Total unrecognized return					-$3,551,703
3.	Preliminary actuarial value: (1) - (2h)					17,711,461,636
4.	Adjustment to be within 40% corridor					0
5.	Final actuarial value of assets: (3) + (4)					$17,711,461,636
6.	Actuarial value as a percentage of market value: (5) ÷ (1)					100.0%
7.	Market value of health assets					$2,812,097,867
8.	Valuation value of health assets (5) ÷ (1) x (7)					$2,812,661,894
9.	Deferred return recognized in each of the next 6 years:					
	(a) Amount recognized on 6/30/2020					$7,873,011
	(b) Amount recognized on 6/30/2021					7,873,011
	(c) Amount recognized on 6/30/2022					7,873,011
	(d) Amount recognized on 6/30/2023					7,873,011
	(e) Amount recognized on 6/30/2024					7,440,148
	(f) Amount recognized on 6/30/2025					-42,483,896
	(g) Subtotal (may not total exactly due to rounding)					-$3,551,703

[1] *Total return minus expected return on a market value basis.*

[2] *Based on action taken by the Board on July 24, 2018, the net unrecognized gain as of June 30, 2017 (i.e., $2,597,179) has been recognized in six level amounts, with four years of recognition remaining after the June 30, 2019 valuation.*

The chart below details the changes in the ADC from the prior valuation to the current year's valuation.

EXHIBIT H

Reconciliation of Recommended Contribution from June 30, 2018 to June 30, 2019[1]

Recommended Contribution as of June 30, 2018[1]	4.91%
Change due to investment gain, after smoothing	-0.06
Change due to miscellaneous demographic and other losses[2]	0.23
Change due to updated 2019/2020 premium and subsidy levels	-0.84
Change due to updating trend to project future Medicare Part B premiums after 2019/2020	0.19
Effect of increase in UAAL rate from lower than expected increase in payroll	0.06
Recommended Contribution as of June 30, 2019[1]	4.49%

[1] *If received on July 15.*

[2] *Other losses include the recognition for the first time of the liability for about 250 retirees receiving a premium reimbursement for health plans not sponsored by LACERS. Data for those retirees are not included in the regular retiree membership data as members receiving a medical subsidy from LACERS, and were provided separately for the first time for this valuation.*

EXHIBIT I
Member Benefit Coverage Information for OPEB

	Aggregate Actuarial Accrued Liabilities For				Portion of Accrued Liabilities Covered by Reported Assets		
	(1)	(2)	(3)		(1)	(2)	(3)
Valuation Date	Terminated Members	Retirees, Beneficiaries, & Dependents	Active Members	Valuation Value of Retiree Health Assets	Terminated Members	Retirees, Beneficiaries, & Dependents	Active Members
06/30/2014	$41,188,181	$1,196,769,321	$1,424,895,651	$1,941,224,810	100%	100%	49%
06/30/2015	42,943,089	1,210,066,527	1,393,979,751	2,108,924,651	100	100	61
06/30/2016	50,413,399	1,275,604,225	1,467,671,331	2,248,753,480	100	100	63
06/30/2017	62,252,306	1,379,356,850	1,564,197,078	2,438,458,132	100	100	64
06/30/2018	67,137,848	1,497,370,105	1,692,319,894	2,628,843,511	100	100	63
06/30/2019	65,887,248	1,600,130,890	1,668,280,411	2,812,661,894	100	100	69

EXHIBIT I

Summary of Supplementary Information

Valuation date	June 30, 2019
Actuarial cost method	Entry Age Cost Method, level percent of salary.
Amortization method	Level percent of payroll – assuming a 3.50% increase in total covered payroll.
Amortization period	Multiple Layers: 2009 ERIP 15 years 2012 Combined Base 30 years Actuarial Experience 15 years Change in non-health related assumptions 20 years Change in health related assumptions 15 years Future ERIP 5 years AVA in excess of AAL 30 years Plan Amendment 15 years
Asset valuation method	Market value of assets less unrecognized returns in each of the last seven years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a seven-year period. The actuarial value of assets cannot be less than 60% or greater than 140% of the market value of assets.
Actuarial assumptions:	
Investment rate of return	7.25%
Inflation rate	3.00%
Real across-the-board salary increase	0.50%
Projected salary increases	Ranges from 10.00% to 3.90%
Medical, dental, Medicare Part B trend rates	See table on page 37.

Plan participants:	June 30, 2019	June 30, 2018
Current retirees, beneficiaries, and dependents receiving benefits	21,115	20,288
Current active participants	26,632	26,042
Terminated participants entitled but not yet eligible	1,474	1,401
Total	49,221	47,731

EXHIBIT II

Actuarial Assumptions and Actuarial Cost Method

Rationale for Assumptions:	The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the July 1, 2014 through June 30, 2017 Actuarial Experience Study dated June 29, 2018, economic assumption review dated June 30, 2017 and retiree health assumptions letter dated September 17, 2019. Unless otherwise noted, all actuarial assumptions and methods shown below apply to both Tier 1 and Tier 3 members. These assumptions have been adopted by the Board.
Measurement Date:	June 30, 2019
Data:	LACERS provided detailed census data and financial data for post-employment benefits.
Post-Retirement Mortality Rates:	
Healthy Members and All Beneficiaries:	Headcount-Weighted RP-2014 Healthy Annuitant Mortality Tables (separate tables for males and females), with no setback for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2017.
Disabled Members:	Headcount-Weighted RP-2014 Disabled Retiree Mortality Tables (separate tables for males and females), with no setback for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2017.

The RP-2014 mortality tables and adjustments as shown above reasonably reflect the mortality experience as of the measurement date. The generational projection is a provision for future mortality improvement.

Termination Rates Before Retirement:

Pre-Retirement Mortality:

Headcount-Weighted RP-2014 Employee Mortality Tables (separate tables for males and females), with no setback for males and females, multiplied by 90%, projected generationally with the two-dimensional mortality improvement scale MP-2017.

	Rate (%)	
Age	**Disability**	**Termination***
25	0.01	7.00
30	0.02	7.00
35	0.05	5.50
40	0.07	3.90
45	0.13	3.20
50	0.19	2.70
55	0.20	2.50
60	0.20	2.50

* *Rates for members with five or more years of service.*

Rates of termination for members with less than 5 years of service are as follows:

	Rate (%)
Service	**Termination (Based on Service)**
0	12.00
1	10.00
2	9.00
3	8.25
4	7.75

Retirement Rates:

	Rate (%)					
	Tier 1		APO Tier 1[1]		Tier 3	
Age	Non-55/30	55/30	Non-55/30	55/30	Non-55/30	55/30
50	6.0	0.0	7.0	0.0	6.0	0.0
51	3.0	0.0	4.0	0.0	3.0	0.0
52	3.0	0.0	4.0	0.0	3.0	0.0
53	3.0	0.0	4.0	0.0	3.0	0.0
54	17.0	0.0	18.0	0.0	16.0	0.0
55	6.0	24.0	7.0	25.0	0.0[2]	23.0
56	6.0	16.0	7.0	17.0	0.0[2]	15.0
57	6.0	16.0	7.0	17.0	0.0[2]	15.0
58	6.0	16.0	7.0	17.0	0.0[2]	15.0
59	6.0	16.0	7.0	17.0	0.0[2]	15.0
60	7.0	16.0	8.0	17.0	6.0	15.0
61	7.0	16.0	8.0	17.0	6.0	15.0
62	7.0	16.0	8.0	17.0	6.0	15.0
63	7.0	16.0	8.0	17.0	6.0	15.0
64	7.0	16.0	8.0	17.0	6.0	15.0
65	13.0	20.0	14.0	21.0	12.0	19.0
66	13.0	20.0	14.0	21.0	12.0	19.0
67	13.0	20.0	14.0	21.0	12.0	19.0
68	13.0	20.0	14.0	21.0	12.0	19.0
69	13.0	20.0	14.0	21.0	12.0	19.0
70	100.0	100.0	100.0	100.0	100.0	100.0

(1) *Consistent with the cost study prepared for the adoption of enhanced Tier 1 retirement benefits, we have estimated the rates above by increasing the retirement rates for Tier 1 by a flat 1%.*

(2) *Not eligible to retire under the provisions of the Tier 3 plan.*

Retirement Age and Benefit for Inactive Vested Participants:	Assume retiree health benefit will be paid at the later of age 59 or the current attained age.
Exclusion of Inactive Vested:	Inactive vested with less than 10 years of service are excluded.
Definition of Active Members:	First day of biweekly payroll following employment for new department employees or immediately following transfer from other city department.
Unknown Data for Members:	Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.
Service:	Employment service is used for eligibility determination purposes. Benefit service is used for benefit calculation purposes.
Future Benefit Accruals:	1.0 year of service per year.
Net Investment Return:	7.25%
Salary Increases:	Inflation: 3.00%; plus additional 0.50% "across the board" salary increases (other than inflation); plus the following merit and promotional increases:

Service	Rate (%)
0	6.50
1	6.20
2	5.10
3	3.10
4	2.10
5	1.10
6	1.00
7	0.90
8	0.70
9	0.60
10+	0.40

Actuarial Value of Assets: The market value of assets less unrecognized returns in each of the last seven years. Unrecognized return is equal to the difference between the actual and expected returns on a market value basis and is recognized over a seven-year period. The actuarial value of assets cannot be less than 60% or greater than 140% of the market value of assets.

Actuarial Cost Method: Entry Age Cost Method, level percent of salary. Entry age is calculated as age on the valuation date minus years of employment service. Both the normal cost and the actuarial accrued liability are calculated on an individual basis.

Per Capita Cost Development: The assumed costs on a composite basis are the future costs of providing postemployment health care benefits at each age. To determine the assumed costs on a composite basis, historical premiums are reviewed and adjusted for increases in the cost of health care services.

Maximum Dental Subsidy

Carrier	Election Percent	Monthly 2019-2020 Fiscal Year Subsidy
Delta Dental PPO	79.4%	$44.60
DeltaCare USA	20.6%	$13.98

Medicare Part B Premium Subsidy*

Actual monthly premium for calendar year 2019	$135.50
Projected monthly premium for calendar year 2020	$141.60
Projected average monthly premium for plan year 2019/2020	$138.55

**LACERS will not reimburse Medicare Part B premiums for Spouse/Domestic Partners, unless they are LACERS retired Members with Medicare Parts A and B enrolled as a dependent in a LACERS medical plan. This valuation does does not reflect Medicare Part B reimbursement for any spouse/domestic partners enrolled in Medicare Parts A and B.*

Per Capita Cost Development – Tier 1, Not Subject to Medical Subsidy Cap, and Tier 3:

Participant Under Age 65 or Not Eligible for Medicare A & B

2019-2020 Fiscal Year		**Single Party**			**Married/With Domestic Partner**			**Eligible Survivor**		
CARRIER	Observed and Assumed Election Percent	Monthly Premium*	Maximum Subsidy	**Subsidy**	Monthly Premium*	Maximum Subsidy	**Subsidy**	Monthly Premium*	Maximum Subsidy	**Subsidy**
Kaiser HMO	**61.9%**	$853.39	$1,790.80	**$853.39**	$1,706.78	$1,790.80	**$1,706.78**	$853.39	$853.39	**$853.39**
Anthem Blue Cross PPO	**21.5%**	$1,271.19	$1,790.80	**$1,271.19**	$2,537.56	$1,790.80	**$1,790.80**	$1,271.19	$853.39	**$853.39**
Anthem Blue Cross HMO	**16.6%**	$996.03	$1,790.80	**$996.03**	$1,987.24	$1,790.80	**$1,790.80**	$996.03	$853.39	**$853.39**

* With the exception of Kaiser, the amounts above reflect the inclusion of the vision insurance plan premium.

Participant Eligible for Medicare A & B

2019-2020 Fiscal Year		**Single Party**			**Married/With Domestic Partner**			**Eligible Survivor**		
CARRIER	Observed and Assumed Election Percent	Monthly Premium*	Maximum Subsidy	**Subsidy**	Monthly Premium*	Maximum Subsidy	**Subsidy**	Monthly Premium*	Maximum Subsidy	**Subsidy**
Kaiser Senior Advantage HMO	**57.6%**	$262.47	$262.47	**$262.47**	$524.94	$524.94	**$524.94**	$262.47	$262.47	**$262.47**
Anthem Blue Cross Medicare Supplement	**31.4%**	$546.54	$546.54	**$546.54**	$1,088.27	$1,066.16	**$1,066.16**	$546.54	$546.54	**$546.54**
UHC Medicare Advantage Plan**	**11.0%**	$275.98	$275.98	**$275.98**	$547.14	$547.14	**$547.14**	$275.98	$275.98	**$275.98**

* With the exception of Kaiser, the amounts above reflect the inclusion of the vision insurance plan premium.
** Rates for CA plan.

Members who are subject to the retiree medical subsidy cap will have monthly health insurance subsidy maximums capped at the levels in effect at July 1, 2011, as shown in the table below:

	Single Party	Married/With Domestic Partner	Eligible Survivor
Under 65 – All Plans	$1,190.00	$1,190.00	$593.62
<u>Over 65</u>			
Kaiser Senior Advantage HMO	$203.27	$406.54	$203.27
Blue Cross Medicare Supplement	$478.43	$478.43	$478.43
UHC Medicare Advantage Plan	$219.09	$433.93	$219.09

These rates only apply to a few inactive members. No active members are subject to the retiree medical subsidy cap.

Adjustments to per-capita costs (as shown on page 34) based on age, gender, and status, are as follows:

	Retiree		Spouse	
Age	**Male**	**Female**	**Male**	**Female**
55	0.9019	0.9312	0.7098	0.8040
60	1.0711	1.0037	0.9503	0.9324
64	1.2288	1.0647	1.1996	1.0495
65	0.9187	0.7809	0.9187	0.7809
70	1.0648	0.8415	1.0648	0.8415
75	1.1475	0.9058	1.1475	0.9058
80+	1.2357	0.9766	1.2357	0.9766

Spouse/Domestic Partner Coverage:

60% of male and 35% of female retirees who receive a subsidy are assumed to be married or have a qualified domestic partner and elect dependent coverage. Of these covered spouses/domestic partners, 100% are assumed to continue coverage if the retiree predeceases the spouse/domestic partner.

Male retirees are assumed to be 4 years older than their female spouses/domestic partners. Female retirees are assumed to be 2 years younger than their male spouses/domestic partners.

Participation:

Retiree Medical and Dental Coverage Participation:

Service Range	Percent Covered*
10 – 14	60%
15 – 19	80%
20 – 24	90%
25 and Over	95%

* *Inactive members are assumed to elect coverages at 50% of the rates shown above.*

100% of retirees becoming eligible for Medicare are assumed to be covered by both Parts A and B.

Health Care Cost Subsidy Trend Rates:

MEDICAL TRENDS FOR THE JUNE 30, 2019 VALUATION

Trends to be applied in following fiscal years, to all health plans.

Trend is to be applied to premium for shown fiscal year to calculate next fiscal year's projected premium

First Fiscal Year (July 1, 2019 through June 30, 2020)

Plan	Anthem Blue Cross PPO, Under Age 65	Anthem Blue Cross Medicare Supplement	Kaiser HMO, Under Age 65	Kaiser Senior Advantage	Anthem Blue Cross HMO, Under 65	UHC Medicare Advantage Plan
Trend to be applied to 2019-2020 Fiscal Year premium	3.40%	3.88%	3.37%	3.12%	7.89%	3.96%

The fiscal year trend rates are based on the following calendar year trend rates:

	Trend (Approx.)			Trend (applied to calculate following year premium)	
Fiscal Year	Non-Medicare	Medicare	Calendar Year	Non-Medicare	Medicare
2020-2021	6.62%	6.12%	2020	6.75%*	6.25%*
2021-2022	6.37%	5.87%	2021	6.50%	6.00%
2022-2023	6.12%	5.62%	2022	6.25%	5.75%
2023-2024	5.87%	5.37%	2023	6.00%	5.50%
2024-2025	5.62%	5.12%	2024	5.75%	5.25%
2025-2026	5.37%	4.87%	2025	5.50%	5.00%
2026-2027	5.12%	4.62%	2026	5.25%	4.75%
2027-2028	4.87%	4.50%	2027	5.00%	4.50%
2028-2029	4.62%	4.50%	2028	4.75%	4.50%
2029 and later	4.50%	4.50%	2029	4.50%	4.50%

Dental Premium Trend	4.00% for all years
Medicare Part B Premium Trend	4.50% for all years.

** For example, the 6.75% assumption when applied to the 2020 non-Medicare medical premiums would provide the projected 2021 non-Medicare medical premiums. This trend would also be applied to the maximum medical subsidy, based on the non-Medicare Kaiser premium.*

Health Care Reform:	As directed by LACERS, we have reflected in the current valuation the impact of potential excise tax imposed on high-cost health care plans by the Affordable Care Act (ACA) and related statutes on certain health plans in calculating the contribution rates for the employer. We understand that Statements No. 74 and No. 75 by the Governmental Accounting Standards Board (GASB) for financial reporting purposes require the inclusion of the excise tax in the liability. We have allocated the potential tax liability to the Plan and member in the same proportion as the proportion of the total medical premium paid by the Plan and member.
Administrative Expenses:	No administrative expenses were valued separately from the premium costs.
Plan Design:	Development of plan liabilities was based on the substantive plan of benefits in effect as described in Exhibit III.
Assumption Changes Since Prior Valuation:	The trend used to project future Medicare Part B premiums was increased from 4.00% to 4.50%. Starting premium costs and first year trends were updated to reflect 2020 calendar year premium data.

EXHIBIT III

Summary of Plan

This exhibit summarizes the major benefit provisions as included in the valuation. To the best of our knowledge, the summary represents the substantive plans as of the measurement date. It is not intended to be, nor should it be interpreted as, a complete statement of all benefit provisions.

Membership Eligibility:

Tier 1 (§4.1002(a))	All employees who became members of the System before July 1, 2013, and certain employees who became members of the System on or after July 1, 2013. In addition, pursuant to Ordinance No. 184134, all Tier 2 employees who became members of the System between July 1, 2013 and February 21, 2016 were transferred to Tier 1 effective February 21, 2016.
Tier 3 (§4.1080.2(a))	All employees who became members of the System on or after February 21, 2016, except as provided otherwise in Section 4.1080.2(b) of the Los Angeles Administrative Code.

Benefit Eligibility:

Tier 1 (§4.1111(a)) and Tier 3 (§4.1126(a))	Retired age 55 or older with at least 10 years of service (including deferred vested members who terminate employment and receive a retirement benefit from LACERS), or if retirement date is between October 2, 1996, and September 30, 1999 at age 50 or older with at least 30 years of service. Benefits are also payable to spouses, domestic partners, or other qualified dependents while the retiree is alive. Please note that the health subsidy is not payable to a disabled retiree before the member reaches age 55.

Medical Subsidy for Members Not Subject to Cap:

Under Age 65 or Over Age 65 Without Medicare Part A

Tier 1 (§4.1111(d)) and Tier 3 (§4.1126(c))

The System will pay 4% of the maximum health subsidy (limited to actual premium) for each year of Service Credit, up to 100% of the maximum health subsidy. As of July 1, 2019, the maximum health subsidy is $1,790.80 per month, remaining unchanged in calendar year 2020. This amount includes coverage of dependent premium costs.

Over Age 65 and Enrolled in Both Medicare Parts A and B

Tier 1 (§4.1111(e)) and Tier 3 (§4.1126(d))

For retirees, a maximum health subsidy shall be paid in the amount of the single-party monthly premium of the approved Medicare supplemental or coordinated plan in which the retiree is enrolled, subject to the following vesting schedule:

Completed Years of Service	Vested Percentage
1-14	75%
15-19	90%
20+	100%

Subsidy Cap for Tier 1:

(§4.1111(b))

As of the June 30, 2011 valuation, the retiree health benefits program was changed to cap the medical subsidy for non-retired members who do not contribute an additional 4.00% or 4.50% of employee contributions to the Pension Plan.

The capped subsidy is different for Medicare and non-Medicare retirees.

The cap applies to the medical subsidy limits at the 2011 calendar year level.

The cap does not apply to the dental subsidy or the Medicare Part B premium reimbursement.

Dependents:

Tier 1 (§4.1111(e)(4)) and Tier 3 (§4.1126(d)(4))

An additional amount is added for coverage of dependents which shall not exceed the amount provided to a retiree not enrolled in Medicare Parts A and B and covered by the same medical plan with the same years of service. The combined member and dependent subsidy shall not exceed the actual premium. This refers to dependents of retired members with Medicare Parts A and B. It does not apply to those without Medicare or Part B only.

Dental Subsidy for Members:

Tier 1 (§4.1114(b)) and Tier 3 (§4.1129(b))

The System will pay 4% of the maximum dental subsidy (limited to actual premium) for each year of Service Credit, up to 100% of the maximum dental subsidy. As of July 1, 2019, the maximum dental subsidy is $44.60 per month; remaining unchanged in calendar year 2020.

There is no subsidy available to dental plan dependents or surviving spouses/domestic partners. There is also no reimbursement for dental plans not sponsored by the System.

Medicare Part B Reimbursement for Members:

Tier 1 (§4.1113) and Tier 3 (§4.1128)

If a Retiree is covered by both Medicare Parts A and B, and enrolled in a LACERS' medical plan or participates in the LACERS Retiree Medical Premium Reimbursement Program, LACERS will reimburse the retiree the basic Medicare Part B premium.

Surviving Spouse Medical Subsidy:

Tier 1 (§4.1115) and Tier 3 (§4.1129.1)

The surviving spouse or domestic partner will be entitled to a health subsidy based on the member's years of service and the surviving dependent's eligibility for Medicare.

Under Age 65 or Over Age 65 Without Medicare Part A

The maximum health subsidy available for survivors is the lowest cost plan available (currently Kaiser) single-party premium ($853.39 per month as of July 1, 2019, remaining unchanged in calendar year 2020).

Over Age 65 and Enrolled in Both Medicare Parts A and B

For survivors, a maximum health subsidy limited to the single-party monthly premium of the plan in which the survivor is enrolled, is provided subject to the following vesting schedule:

Completed Years of Service	Vested Percentage
1-14	75%
15-19	90%
20+	100%

Changes in Plan Provisions: None.

NOTE: *The summary of major Plan provisions is designed to outline principal plan benefits as interpreted for purposes of the actuarial valuation. If the System should find the plan summary not in accordance with the actual provisions, the System should alert the actuary so that both parties can be sure the proper provisions are valued.*

EXHIBIT IV

Definitions of Terms

The following list defines certain technical terms for the convenience of the reader:

Assumptions or Actuarial Assumptions: The estimates on which the cost of the Plan is calculated including:

(a) Investment return — the rate of investment yield that the Plan will earn over the long-term future;

(b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates;

(c) Retirement rates — the rate or probability of retirement at a given age;

(d) Turnover rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

Actuarial Present Value of Total Projected Benefits (APB): Present value of all future benefit payments for current retirees and active employees taking into account assumptions about demographics, turnover, mortality, disability, retirement, health care trends, and other actuarial assumptions.

Normal Cost: The amount of contributions required to fund the benefit allocated to the current year of service.

Actuarial Accrued Liability For Actives: The equivalent of the accumulated normal costs allocated to the years before the valuation date.

Actuarial Accrued Liability For Retirees: The single sum value of lifetime benefits to existing retirees. This sum takes account of life expectancies appropriate to the ages of the retirees and of the interest which the sum is expected to earn before it is entirely paid out in benefits.

Actuarial Value of Assets (AVA):	The value of assets used by the actuary in the valution. These may be at market value or some other method used to smooth variations in market value from one valuation to the next.
Funded Ratio:	The ratio AVA/AAL.
Unfunded Actuarial Accrued Liability (UAAL):	The extent to which the actuarial accrued liability of the Plan exceeds the assets of the Plan. There is a wide range of approaches to paying off the unfunded actuarial accrued liability, from meeting the interest accrual only to amortizing it over a specific period of time.
Amortization of the Unfunded Actuarial Accrued Liability:	Payments made over a period of years equal in value to the Plan's unfunded actuarial accrued liability.
Investment Return (discount rate):	The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next. If the plan is funded on a pay-as-you-go basis, the discount rate is tied to the expected rate of return on day-to-day employer funds.
Covered Payroll:	Annual reported salaries for all active participants on the valuation date.
ADC as a Percentage of Covered Payroll:	The ratio of the actuarially determined contribution to covered payroll.
Health Care Cost Trend Rates:	The annual rate of increase in net claims costs per individual benefiting from the Plan.
Actuarially Determined Contribution (ADC):	The ADC is equal to the sum of the normal cost and the amortization of the unfunded actuarial accrued liability.

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November 6, 2019

Board of Administration
Los Angeles City Employees' Retirement System
202 West First Street, Suite 500
Los Angeles, CA 90012-4401

Re: Los Angeles City Employees' Retirement System
Family Death Benefit Plan (FDBP) Costs as of June 30, 2019

Dear Board Members:

We have developed our recommended contribution rates for the voluntary Family Death Benefit Plan ("Plan") as of June 30, 2019. If adopted by the Board, these rates will be effective for the two plan years beginning July 1, 2020 and ending June 30, 2022. The last review of the Plan was conducted as part of the June 30, 2017 actuarial valuation. That study yielded the current employee monthly contribution rate of $3.00. The City matches the employees' cost at the same level.

RECOMMENDATIONS

Based on the census data and the actuarial assumptions used for the June 30, 2019 actuarial valuation, our observations and recommendations are as follows:

- The current employee monthly rate is $3.00 through June 30, 2020. Based on this rate, the estimated total annual contributions would be about $192,000 ($96,000 each for the members and the City) for plan year 2019/2020. The current monthly rate of $3.00 previously adopted by the Board was a result of a reduction by about 20% from the prior monthly rate of $3.70.
- It is our understanding that the earnings credited to the Family Death Benefits Reserve include realized and unrealized gains or losses. Therefore, the crediting procedure for the Family Death Benefits Reserve is in line with the procedure utilized for the Retirement Plan reserves (with the exceptions of the Reserve for Member Contributions and the Annuity Reserve). Since the future payment liability for this program has been discounted at the valuation assumed earnings rate of 7.25% per year for this valuation, we believe the crediting procedure is consistent with the valuation discount rate assumption.

- For several years, Plan assets have exceeded the Plan's liability reserve. The Plan does not currently have a formal policy on how the monthly premium rate should be adjusted to reflect any such funding surplus. However, after discussions with LACERS in 2017, we recommended two action items for reducing surplus in the FDBP liability reserve for the June 30, 2017 FDBP valuation, and those action items were adopted by the Board and implemented by LACERS. We have continued presenting similar action items for the Board to consider for the June 30, 2019 FDBP valuation and those two items are provided as an Appendix to this report.
- We recommend that the current employee monthly rate of $3.00 be decreased by 20% to $2.40 for the two plan years beginning July 1, 2020 and ending June 30, 2022. This is developed using Action Item 2 in the Appendix to this report, where the surplus is amortized over 30 years.

ANALYSIS AND ASSUMPTIONS

It is our understanding that the Plan is funded on a term cost basis and the premium charged for the current year is only supposed to be sufficient to pay for the present value of the projected death benefits for those expected to die in the same period. However, there is an adjustment in the monthly premium based on the Plan's funded status to reflect the relative value of the actual plan reserve compared to the actual present value of death benefits in pay status for those who previously died. As of June 30, 2019, the Plan's term cost is $236,561 for the 2,672 active members participating at June 30, 2019. This translates to a monthly rate of $3.69 for both the employee and the City. However, the Plan is in a surplus position as of June 30, 2019, with the Plan's actuarial value of assets of $16,686,626 exceeding the liability reserve of $7,209,746 by $9,476,880.[1] This surplus is about $1.2 million higher than the surplus as of the last review as of June 30, 2017.

We anticipate that the surplus reserve of $9,476,880 will be more than sufficient to sustain the recommended monthly premium rates of $2.40 for the employee and the City for the two plan years beginning July 1, 2020. As the surplus would be depleted at the rate of about $83,000 per year, which is substantially less than the expected investment return on the surplus assets of $9,476,880, we expect that at June 30, 2022 there would be an even larger surplus remaining from the June 30, 2019 surplus balance of $9,476,880. The

[1] If the Plan's June 30, 2019 market value of assets of $16,683,280 were to be used in the above analysis, the Plan would have a surplus of $9,473,534 instead of $9,476,880.

surplus continues to grow, in part, because some active FDBP members are paying premiums even though their survivors may not receive benefits from the Plan. This is discussed in item 5 below and under Action Item 1 in the Appendix.

As noted, all of the calculations are based on the June 30, 2019 actuarial valuation participant data and actuarial assumptions shown in the Retirement Plan valuation report. In addition, this Plan requires further assumptions in the valuation as shown below:

1) Each participating active member is assumed to have two children with an average age of about 13.
2) The children are assumed to be eligible for a monthly benefit of about $938 each until they reach age 18.
3) A surviving spouse is assumed to be eligible for a monthly benefit of about $312 until the children reach age 16.
4) A surviving spouse of a member who has paid FDBP premiums for 10 or more years is assumed to be eligible for an additional monthly benefit of about $613 starting at age 60.[2]
5) As previously discussed with LACERS and included in our 2017 valuation report, we understood that survivors may not receive benefits from the FDBP if they receive a service retirement survivorship benefit from the Retirement Plan. Therefore, those FDBP participants who are currently eligible to retire under the Retirement Plan do not have an FDBP liability in our valuation even though it is assumed that they would continue to pay premiums to the FDBP. We believe this is one of the contributors to the increase in the surplus balance of $9,476,880 as of June 30, 2019, because 1,177 of the 2,672 active participants in the Plan as of June 30, 2019 will not be eligible for a benefit from the FDBP based on this criterion. Additionally, based on a recent conversation with LACERS, we now understand that for the active members who are enrolled in the FDBP and who have no surviving spouse/domestic partner upon death, FDBP payments may be made to the members' eligible children and/or dependent parents, if any. We will work with LACERS prior to the next FDBP biennial valuation to determine if Segal Consulting can collect census data from LACERS for FDBP active members who are in this situation. It is anticipated that including any such members in the next valuation would not have a material effect on the valuation results.

   Another contributor to the increase in the surplus balance as of June 30, 2019 is the higher than expected return on the actuarial value of FDBP assets for the years ended June 30, 2018 and June 30, 2019, as discussed in the Appendix.

---

2 Larger amounts are available if the surviving spouse begins receiving payments after age 60.

The above costs were certified by Andy Yeung, ASA, Enrolled Actuary. The undersigned are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

Sincerely,

Paul Angelo, FSA, MAAA, FCA, EA
Senior Vice President and Actuary

Andy Yeung, ASA, MAAA, FCA, EA
Vice President and Actuary

DNA/jl

5598771v6/05806.007

Los Angeles City Employees' Retirement System
FDBP Costs as of June 30, 2019

APPENDIX

Possible Action Items On How To Adjust The Monthly Premium Rate In Years Where There Is A Surplus

SURPLUS HISTORY

Below we provide the historical progression of the surplus Family Death Benefit Reserves, based on the actuarial (smoothed) value of assets, for the last five biennial valuations:

Valuation Date	Actuarial Value of FDBP Assets	FDBP Liability Reserve	Excess FDBP Reserves
June 30, 2011	$15,085,615	$9,542,709	$5,542,906
June 30, 2013	14,456,893	8,453,914	6,002,979
June 30, 2015	15,402,402	8,378,370	7,024,032
June 30, 2017	15,858,684	7,576,611	8,282,073
June 30, 2019	16,686,626	7,209,746	9,476,880(1)

(1) The increase in the excess FDBP reserves is due to, in part, the higher than expected returns on the actuarial value of FDBP assets for the years ended June 30, 2018 and 2019. The actual rates of return were 8.86% for the year ended June 30, 2018 and 7.99% for the year ended June 30, 2019, compared to the assumed annual rate of return of 7.25%. This resulted in an actuarial gain of about $367,000 for the two years.

ACTION ITEMS FOR REDUCING SURPLUS IN FDBP

Following are two possible action items on how to reduce the FDBP surplus and to adjust the monthly premium rate for the FDBP when there is a surplus:

Action Item 1. Permanent Cessation of Contributions to FDBP for Certain Members

As previously discussed with LACERS and included in our 2017 valuation report, we understood that current or future survivors may not receive any benefits from the FDBP if they are currently receiving a service retirement survivorship benefit from the Retirement Plan because the member has already passed away, or will become entitled to a future service retirement survivorship benefit because

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the active member has already satisfied the requirements under the Retirement Plan to receive a benefit. Following up on the action item we recommended in the June 30, 2017 FDBP valuation, we were informed that LACERS sent letters to members who were contributing to the FDBP, but who were retirement eligible, to consider de-selecting the voluntary FDBP contributions.[3] Since the campaign to advise those members to de-select their contributions is still in progress as of the date of this valuation on June 30, 2019, there are still FDBP active participants who are currently eligible to retire under the Retirement Plan (and whose potential survivors may not receive any benefits from the FDBP) and who are continuing to pay employee premiums. We have estimated the number of such members for the last two valuations to be as follows:

	Active FDBP Members in the June 30, 2017 Valuation	No Longer Active FDBP Members	New Active FDBP Members	Active FDBP Members in the June 30, 2019 Valuation
Eligible to Retire[(1)]	1,397			1,177
Not Eligible to Retire	1,678			1,495
Total	3,075	-652	+249	2,672

(1) Whose potential survivors may not receive any benefits from the FDBP.

As alluded to above, it will take some time for the full effect of the de-selection recommendation to be realized in a subsequent valuation. With that said, we have observed that approximately 525 of the 1,397 members who were participating in the FDBP as of June 30, 2017 and whose current or future survivors may not receive any benefits from the FDBP were no longer participating in the FDBP as of June 30, 2019.

Note that, based on a recent conversation with LACERS, we now understand that for active members enrolled in the FDBP who have no surviving spouse/domestic partner upon death, FDBP payments may be made to the members' eligible children and/or dependent parents, if any. Accordingly, for this action item, Segal proposes that <u>if</u> LACERS can determine exactly which remaining FDBP

3 LACERS has indicated that 808 such letters were sent on August 3, 2018, 773 letters were sent on January 31, 2019, and 685 letters were sent after the date of the June 30, 2019 valuation, on August 20, 2019.

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participants are currently eligible for service retirement and are married or with domestic partners or have no eligible children and/or dependent parents that LACERS consider an annual program to inform these participants to consider de-selecting the voluntary FDBP contributions. (This would have the added effect of allowing the City to suspend matching contributions to the FDBP for these participants.) As noted on page 2 in the body of this report, the Plan's term cost of $236,561 as of June 30, 2019 for the 2,672 active members participating in the Plan as of that date translates to an employee and City monthly rate of $3.69 each. This term cost reflects no liabilities for the 1,177 members who are eligible to retire under the Retirement Plan. Should these 1,177 members terminate their participation in the FDBP, the term cost as of June 30, 2019 for the remaining 1,495 members would translate to an employee and City monthly rate of $6.59 each. In this case, maintaining the current monthly premium at $3.00 would mean that the surplus is depleted at a rate of about $129,000 per year, which is less than the expected investment return on the surplus of about $687,000.

While this action item may be considered to be more of a communication issue than a funding policy issue, it would help to prevent the Plan from accumulating even more surplus going forward.

Action Item 2. Reduction in Contributions

Under the Retirement Plan's funding policy, actuarial surplus is amortized over a 30-year open (non-decreasing) period. For the FDBP, the Board may want to consider amortizing actuarial surplus over the same 30-year open period. In addition, since the benefits and the associated employer and employee contributions for FDBP are not dependent on salary, we would suggest amortizing the surplus as a level dollar amount, rather than a level percentage of salary. The amortization of the surplus would serve as a reduction in the current $3.00 per month charge to the FDBP. An annual amortization credit of about $730,000 would be available at the beginning of the year by amortizing over 30 years the surplus of $9,476,880 available as of June 30, 2019. We note this credit would be more than the $3.00 monthly charge. This credit would be approximately $11.38 per month each (for the employee and for the City), assuming for this calculation that the same 2,672 active employees as of June 30, 2019 would continue to participate in the Plan (i.e., before considering Action Item 1).

Los Angeles City Employees' Retirement System
FDBP Costs as of June 30, 2019

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Possible Action Items On How To Adjust The Monthly Premium Rate In Years Where There Is A Surplus

For the June 30, 2017 FDBP valuation, we recommended a decrease in the monthly charge from $3.70 to $3.00, or by about 20%, and that recommendation was adopted by the Board. Under this action item for the June 30, 2019 valuation, we propose that the monthly charge be reduced below the current $3.00 by another 20%, or to $2.40 for the two plan years beginning July 1, 2020 and ending June 30, 2022. However, before the Board considers this action item, the following ramification should be considered. As of the June 30, 2019 valuation date, there were about 26,600 active members. Of those, we have roughly estimated that about 7,400 members were eligible to retire as of the valuation date, leaving about 19,200 not yet eligible. Of those not yet eligible to retire, about 1,500 members are currently contributing FDBP premiums. This leaves approximately 17,700 (i.e., 19,200 - 1,500) additional active employees who may want to participate in the FDBP if contributions are temporarily reduced, which is about a twelve-fold increase over the number of retirement ineligible members currently contributing.

For an extreme illustration, if all of the 17,700 active employees referenced above were to enroll in the FDBP in the next two years and there is no change to the current $3.00 employee monthly rate, there would be a reduction in the excess FDBP reserves by about $1.53 million. This represents slightly more than two years of the annual surplus amortization credits of $730,000.

Alternatively, we have reviewed the sensitivity of enrolling new members for purposes of applying the annual surplus amortization credit of $730,000 to reduce the excess FDBP reserves. For instance, if we were to recommend no change in the current $3.00 employee monthly rate, we have estimated that approximately 7,000 new FDBP participants out of the remaining 17,700 eligible participants mentioned above would need to enroll in the FDBP in order to reduce the excess FDBP reserves by the entire annual credit of $730,000. These hypothetical 7,000 new FDBP participants would represent about 40% of all remaining eligible participants. Considering that there were only 249 new members who elected to participate in the FDBP between the June 30, 2017 and June 30, 2019 valuations (when the employee monthly rate was reduced from $3.70 to $3.00), enrolling about another 7,000 new participants in the short term may not be realistic. The 249 new members represented about 1.5% of those not yet in the plan and not yet eligible to retire as of June 30, 2017.

If, instead, we were to recommend a large change in the current $3.00 employee monthly rate, such as a 50% reduction to $1.50, we have estimated that approximately 4,500 new FDBP participants would need to enroll in the FDBP in order for the surplus to be

APPENDIX

Possible Action Items On How To Adjust The Monthly Premium Rate In Years Where There Is A Surplus

reduced by the annual credit of $730,000. These hypothetical 4,500 new FDBP participants would represent about 25% of all remaining eligible participants.

These scenario results reflect the assumption that the current participants who will not have a survivor eligible for FDBP benefits (i.e., the 1,177 participants mentioned above in Action Item 1) will opt out of the Plan.

Based on the information discussed above, we recommend that the current employee monthly rate of $3.00 be decreased to $2.40 per month. This 20% reduction in the monthly rate is in line with the recommended decrease in the monthly rate for the last June 30, 2017 FDBP valuation and it would mean that about 5,800 new participants would need to enroll in the FDBP in order for the surplus reserves to be reduced by the annual credit of $730,000.[4] While this represents a large population of new participants, we feel it may be prudent at this time to let the full effect of the actions adopted from the June 30, 2017 FDBP valuation, combined with the actions recommended for this June 30, 2019 valuation, to take effect, before considering discussions on possible changes to the Plan for future valuations.

It should be noted that in preparing the above premium reduction amounts, we have assumed the term cost of the new FDBP participants to be the same as the $6.59 calculated above based on 1,495 members covered under the Plan as of June 30, 2019.

RECOMMENDATION

As noted above, we recommend a reduction to the current monthly premiums, from the current $3.00 to $2.40, for 2020/2021 and 2021/2022 (Action Item 2). In addition, we recommend that, if possible, it be communicated to the remaining members who are currently contributing to the FDBP but who are currently retirement eligible and are married or with domestic partners or have no eligible children and/or dependent parents to cease contributing to the Plan (Action Item 1).

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[4] The 5,800 count assumes that none of the 1,177 FDBP active members who are currently eligible to retire under the Retirement Plan are single or without a domestic partner and have eligible children and/or dependent parents and will remain in the plan.

BOARD Meeting: 11/12/19
Item IX - B
Attachment 5

Segal Consulting

Los Angeles City Employees' Retirement System

Governmental Accounting Standards (GAS) 67 Actuarial Valuation as of June 30, 2019

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November 6, 2019

Board of Administration
Los Angeles City Employees' Retirement System
202 W. 1st Street, Suite 500
Los Angeles, CA 90012-4401

Dear Board Members:

We are pleased to submit this Governmental Accounting Standards (GAS) 67 Actuarial Valuation as of June 30, 2019. It contains various information that will need to be disclosed in order to comply with GAS 67.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist LACERS in preparing items related to the retirement plan in their financial report. The census and financial information on which our calculations were based was prepared by LACERS. That assistance is gratefully acknowledged.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law.

The actuarial calculations were completed under the supervision of Andy Yeung, ASA, MAAA, FCA, Enrolled Actuary. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in the actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and expectations for the System.

We look forward to reviewing this report with you and to answering any questions.

Sincerely,

Segal Consulting, a Member of The Segal Group, Inc.

By:

Paul Angelo, FSA, MAAA, FCA, EA	*Andy Yeung, ASA, MAAA, FCA, EA*
Senior Vice President and Actuary	*Vice President and Actuary*

DNA/jl

SECTION 1

VALUATION SUMMARY

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Purpose

This report has been prepared by Segal Consulting ("Segal") to present certain disclosure information required by Statement No. 67 of the Governmental Accounting Standards Board as of June 30, 2019. This valuation is based on:

- The benefit provisions of the Pension Plan, as administered by the Board of Administration;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of June 30, 2019, provided by LACERS;
- The assets of the Plan as of June 30, 2019, provided by LACERS;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc. that the Board has adopted for the June 30, 2019 valuation.

General Observations on GAS 67 Valuation

The following points should be considered when reviewing this GAS 67 report:

- The Governmental Accounting Standards Board (GASB) rules only define pension liability and expense for financial reporting purposes, and do not apply to contribution amounts for pension funding purposes. Employers and plans still develop and adopt funding policies under current practices.
- When measuring pension liability, GASB uses the same actuarial cost method (Entry Age) and the same type of discount rate (expected return on assets) as LACERS uses for funding. This means that the Total Pension Liability (TPL) measure for financial reporting shown in this report is determined on the same basis as LACERS' Actuarial Accrued Liability (AAL) measure for funding. We note that the same is true for the Normal Cost component of the annual plan cost for funding and financial reporting.
- The Net Pension Liability (NPL) is equal to the difference between the TPL and the Plan's Fiduciary Net Position. The Plan's Fiduciary Net Position is equal to the market value of assets and therefore, the NPL measure is the same as the Unfunded Actuarial Accrued Liability (UAAL) calculated on a market value basis. The NPL reflects all investment gains and losses as of the measurement date. This is different from the UAAL calculated on an actuarial value of assets basis in the funding valuation that reflects investment gains and losses over a seven-year period.
- The NPLs measured as of June 30, 2019 and 2018 have been determined from the actuarial valuations as of June 30, 2019 and June 30, 2018, respectively.

Significant Issues in Valuation Year

The following key findings were the result of this actuarial valuation:

- The NPL increased from $5.71 billion as of June 30, 2018 to $5.98 billion as of June 30, 2019 mainly due to the return on the market value of retirement plan assets of 5.57%[1] during 2018/2019 that was less than the assumption of 7.25% used in the June 30, 2018 valuation (that loss was about $0.24 billion), and other miscellaneous gains. Changes in these values during the last two fiscal years ending June 30, 2018 and June 30, 2019 can be found in Exhibit 3.
- The discount rate used to determine the TPL and NPL as of June 30, 2019 and 2018 was 7.25% following the same assumption used by the System in the pension funding valuations as of the same dates. The detailed calculations used in the derivation of the discount rate of 7.25% used in the calculation of the TPL and NPL as of June 30, 2019 can be found in Exhibit 5 of Section 2. Various other information that is required to be disclosed can be found throughout Exhibits 1 through 4 in Section 2.

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[1] *Net of investment expenses only.*

Summary of Key Valuation Results

	2019	2018
Disclosure elements for fiscal year ending June 30:		
Service cost[1]	$370,409,073	$352,282,612
Total Pension Liability	20,793,421,143	19,944,579,058
Plan Fiduciary Net Position	14,815,592,841	14,235,230,528
Net Pension Liability	5,977,828,302	5,709,348,530
Schedule of contributions for fiscal year ending June 30:		
Actuarially determined contributions	$478,716,953	$450,195,254
Actual contributions	478,716,953	450,195,254
Contribution deficiency / (excess)	0	0
Demographic data for plan year ending June 30:		
Number of retired members and beneficiaries	20,034	19,379
Number of vested terminated members[2]	8,588	8,028
Number of active members	26,632	26,042
Key assumptions as of June 30:		
Investment rate of return	7.25%	7.25%
Inflation rate	3.00%	3.00%
Projected salary increases[3]	Ranges from 10.00% to 3.90%, based on years of service	Ranges from 10.00% to 3.90%, based on years of service

(1) *The service cost is based on the previous year's valuation, meaning the 2019 and 2018 values are based on the valuations as of June 30, 2018 and June 30, 2017, respectively. Both service costs have been calculated using the economic actuarial assumptions shown in the 2018 column, as there had been no changes in the economic actuarial assumptions between the June 30, 2017 and June 30, 2018 valuations.*

(2) *Includes terminated members due a refund of employee contributions.*

(3) *Includes inflation at 3.00% plus real across the board salary increase of 0.50%, plus merit and promotional increases.*

Important Information about Actuarial Valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare an actuarial valuation, Segal relies on a number of input items. These include:

- **Plan of benefits** Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in this report (as well as the plan summary included in our funding valuation report) to confirm that Segal has correctly interpreted the plan of benefits.

- **Participant data** An actuarial valuation for a plan is based on data provided to the actuary by the System. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.

- **Assets** This valuation is based on the market value of assets as of the valuation date, as provided by the System. The System uses an "actuarial value of assets" that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining contribution requirements.

- **Actuarial assumptions** In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, termination, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan's assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results, that does not mean that the previous assumptions were unreasonable.

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The actuarial valuation is prepared at the request of the Board to assist the sponsors of the Fund in preparing items related to the pension plan in their financial reports. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.
- If the System is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Board should look to their other advisors for expertise in these areas.

As Segal Consulting has no discretionary authority with respect to the management or assets of the Plan, it is not a fiduciary in its capacity as actuaries and consultants with respect to the System.

EXHIBIT 1

General Information – "Financial Statements", Note Disclosures and Required Supplementary Information for a Single-Employer Pension Plan

Plan Description

Plan administration. The Los Angeles City Employees' Retirement System (LACERS) was established by City Charter in 1937. LACERS is a single employer public employee retirement system whose main function is to provide retirement benefits to the civilian employees of the City of Los Angeles.

Under the provisions of the City Charter, the Board of Administration (the "Board") has the responsibility and authority to administer the Plan and to invest its assets. The Board members serve as trustees and must act in the exclusive interest of the Plan's members and beneficiaries. The Board has seven members: four members, one of whom shall be a retired member of the system, shall be appointed by the Mayor subject to the approval of the Council; two members shall be active employee members of the system elected by the active employee members; one shall be a retired member of the system elected by the retired members of the system.

Plan membership. At June 30, 2019, pension plan membership consisted of the following:

Retired members or beneficiaries currently receiving benefits	20,034
Vested terminated members entitled to, but not yet receiving benefits[1]	8,588
Active members	26,632
Total	55,254

[1] *Includes terminated members due a refund of employee contributions.*

Benefits provided. LACERS provides service retirement, disability, death and survivor benefits to eligible retirees and beneficiaries. Employees of the City become members of LACERS on the first day of employment in a position with the City in which the employee is not excluded from membership. Members employed prior to July 1, 2013 are designated as Tier 1. All Tier 1 Airport Peace Officers (including certain fire fighters) appointed to their positions before January 7, 2018 who elected to remain at LACERS after January 6, 2018, and who paid their mandatory additional contribution of $5,700 to LACERS before January 8, 2019, or prior to their retirement date, whichever was earlier, are designated as Tier 1 Enhanced. Those employed on or after February 21, 2016 are designated as Tier 3 (unless a specific exception applies to the employee, providing a right to Tier 1 status).

Tier 1 and Tier 1 Enhanced members are eligible to retire for service with a normal retirement benefit once they attain the age of 70, or the age of 60 with 10 or more years of continuous City service, or the age of 55 with 30 or more years of City service. Tier 3 members are eligible to retire for service with a normal retirement benefit at 1.50% of final average monthly compensation per year of service credit once they attain the age of 60 with 10 years of service (but with less than 30 years of service), including 5 years of continuous City service, or at 2.00% of final average monthly compensation per year of service credit once they attain the age of 60 with 30 years of service, including 5 years of continuous City service.

Tier 1 and 3 members are eligible to retire for disability once they have 5 or more years of continuous service. Tier 1 Enhanced members are eligible to retire for service-connected disability without a service requirement, and once they have 5 or more years of continuous service for a nonservice-connected disability.

Under the Tier 1 formula, the monthly service retirement allowance at normal retirement age is 2.16% of final average monthly compensation per year of service credit. Under the Tier 1 Enhanced formula, the monthly service retirement allowance at normal retirement age is 2.30% of final average monthly compensation per year of service credit. Reduced retirement allowances are available for early retirement for Tier 1 and Tier 1 Enhanced members reaching age 55 with 10 or more years of continuous City service, or with 30 or more years of City service at any age. The Tier 1 and Tier 1 Enhanced early retirement reduction factors, for retirement below age 60, are as follows:

Age	Factor	Age	Factor
45	0.6250	53	0.8650
46	0.6550	54	0.8950
47	0.6850	55	0.9250
48	0.7150	56	0.9400
49	0.7450	57	0.9550
50	0.7750	58	0.9700
51	0.8050	59	0.9850
52	0.8350	60	1.0000

Under the Tier 3 formula, the monthly service retirement allowance at normal retirement age is 2.00% of final average monthly compensation per year of service credit. Reduced retirement allowances are available for early retirement for Tier 3 members prior to reaching age 60 with 30 years of service, including 5 years of continuous City service.

The Tier 3 retirement reduction factors at early retirement ages are as follows:

Age	Factor	Age	Factor
45	0.6250	50	0.7750
46	0.6550	51	0.8050
47	0.6850	52	0.8350
48	0.7150	53	0.8650
49	0.7450	54	0.8950
		55-60	1.0000

Tier 3 members are eligible to retire with an enhanced retirement benefit at 2.00% of final average monthly compensation per year of service credit once they attain the age of 63 with 10 years of service (but with less than 30 years of service), including 5 years of continuous City service, or at 2.10% of final average monthly compensation per year of service credit once they attain the age of 63 with 30 years of service, including 5 years of continuous City service.

Under Tier 1 and Tier 1 Enhanced, pension benefits are calculated based on the highest average salary earned during a 12-month period (including base salary plus regularly assigned pensionable bonuses or premium pay). Under Tier 3, pension benefits are calculated based on the highest average salary earned during a 36-month period (limited to base salary and any items of compensation that are designated as pension based). The IRC Section 401(a)(17) compensation limit applies to all employees who began membership in LACERS after June 30, 1996.

For Tier 1 and Tier 1 Enhanced members, the maximum monthly retirement allowance is 100% of the final average monthly compensation. For Tier 3 members, the maximum monthly retirement allowance is 80% of the final average monthly compensation, except when the benefit is based solely on the annuity component funded by the member's contributions.

In lieu of the service retirement allowance under the Tier 1, Tier 1 Enhanced, and Tier 3 formulas ("unmodified option"), the member may choose an optional retirement allowance. The unmodified option provides the highest monthly benefit and a 50% continuance to an eligible surviving spouse or domestic partner for Tier 1, Tier 1 Enhanced, and Tier 3 members. The optional retirement allowances require a reduction in the unmodified option amount in order to allow the member the ability to provide various benefits to a surviving spouse, domestic partner, or named beneficiary.

LACERS provides annual cost-of-living adjustments (COLAs) to all retirees. The cost-of-living adjustments are made each July 1 based on the percentage change in the average of the Consumer Price Index for the Los Angeles-Long Beach-Anaheim Area[2]--All Items For All Urban Consumers. It is capped at 3.0% for Tier 1 and Tier 1 Enhanced, and at 2.0% for Tier 3.

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[2] *Formerly the Los Angeles-Riverside-Orange County Area.*

The City of Los Angeles contributes to the retirement plan based upon actuarially determined contribution rates adopted by the Board of Administration. Employer contribution rates are adopted annually based upon recommendations received from LACERS' actuary after the completion of the annual actuarial valuation. The combined employer contribution rate as of June 30, 2019 was 22.71% of compensation.[3]

All members are required to make contributions to LACERS regardless of the tier in which they are included. Currently, all Tier 1 members contribute at 11.0% or 11.5% of compensation, and all Tier 1 Enhanced and Tier 3 members contribute at 11.0% of compensation.

[3] *Based on the June 30, 2017 funding valuation which established funding requirements for fiscal year 2018/2019. Exhibit 4 in Section 2 of this report provides details on how this rate was calculated.*

EXHIBIT 2

Net Pension Liability

The components of the Net Pension Liability of LACERS are as follows:

	June 30, 2019	June 30, 2018
Total Pension Liability	$20,793,421,143	$19,944,579,058
Plan Fiduciary Net Position	-14,815,592,841	-14,235,230,528
System's Net Pension Liability	$5,977,828,302	$5,709,348,530
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	71.25%	71.37%

The NPL was measured as of June 30, 2019 and 2018. The Plan's Fiduciary Net Position was valued as of the measurement date, while the TPL was determined based upon the results of the actuarial valuations as of June 30, 2019 and 2018, respectively.

Plan provisions. The plan provisions used in the measurement of the NPL as of June 30, 2019 and 2018 are the same as those used in the LACERS funding valuations as of June 30, 2019 and 2018, respectively.

Actuarial assumptions. The TPLs as of June 30, 2019 and June 30, 2018 were determined by actuarial valuations as of June 30, 2019 and June 30, 2018, respectively. The actuarial assumptions used in both the June 30, 2019 and June 30, 2018 valuations were based on the results of an experience study for the period from July 1, 2014 through June 30, 2017 and the June 30, 2017 review of economic actuarial assumptions. They are the same as the assumptions used in the June 30, 2019 funding actuarial valuation for LACERS. In particular, the following actuarial assumptions were applied to all periods included in the measurement:

Inflation	3.00%
Salary increases	Ranges from 10.00% to 3.90% based on years of service, including inflation
Investment rate of return	7.25%, net of pension plan investment expense and including inflation
Other assumptions	Same as those used in the June 30, 2019 actuarial valuation

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation and subtracting expected investment expenses and a risk margin. The target allocation and projected arithmetic real rates of return for each major asset class, after deducting inflation but before deducting investment expenses, are summarized in the following table. These values were used in the derivation of the long-term expected investment rate of return assumption that was used in the actuarial valuation as of June 30, 2019. This information is subject to change every three years based on the actuarial experience study.

Asset Class	Target Allocation	Long-Term (Arithmetic) Expected Real Rate of Return
U.S. Large Cap Equity	14.00%	5.32%
U.S. Small Cap Equity	5.00%	6.07%
Developed International Large Cap Equity	17.00%	6.67%
Developed International Small Cap Equity	3.00%	7.14%
Emerging Market Equity	7.00%	8.87%
Core Bond	13.75%	1.04%
High Yield Bond	2.00%	3.09%
Bank Loan	2.00%	3.00%
TIPS	3.50%	0.97%
Emerging Market Debt (External)	4.50%	3.44%
Real Estate	7.00%	4.68%
Cash	1.00%	0.01%
Commodities	1.00%	3.36%
Additional Public Real Assets	1.00%	4.76%
Real Estate Investment Trust (REIT)	0.50%	5.91%
Private Debt	3.75%	5.50%
Private Equity	14.00%	8.97%
Total	100.00%	

Discount rate: The discount rate used to measure the Total Pension Liability was 7.25% as of June 30, 2019 and June 30, 2018. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially determined contribution rates. For this purpose, only employee and employer contributions that are intended to fund benefits for current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs for future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the Pension Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the Total Pension Liability as of both June 30, 2019 and June 30, 2018.

Sensitivity of the Net Pension Liability to changes in the discount rate. The following presents the Net Pension Liability of LACERS as of June 30, 2019, calculated using the discount rate of 7.25%, as well as what LACERS' Net Pension Liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.25%) or 1-percentage-point higher (8.25%) than the current rate:

	1% Decrease (6.25%)	Current Discount Rate (7.25%)	1% Increase (8.25%)
Net Pension Liability as of June 30, 2019	$8,797,245,998	$5,977,828,302	$3,652,816,107

EXHIBIT 3

Schedules of Changes in LACERS Net Pension Liability – Last Two Fiscal Years

	2019	2018
Total Pension Liability		
Service cost[1]	$370,409,073	$352,282,612
Interest	1,439,660,906	1,332,878,299
Change of benefit terms	0	25,173,222
Differences between expected and actual experience	-46,035,243	144,224,403
Changes of assumptions	0	483,717,164
Benefit payments, including refunds of employee contributions	-915,192,651	-851,884,595
Net change in Total Pension Liability	$848,842,085	$1,486,391,105
Total Pension Liability – beginning	19,944,579,058	18,458,187,953
Total Pension Liability – ending (a)	$20,793,421,143	$19,944,579,058
Plan Fiduciary Net Position		
Contributions – employer	$478,716,953	$450,195,254
Contributions – employee	237,087,419	230,756,920
Net investment income	799,350,708	1,243,817,173
Benefit payments, including refunds of employee contributions	-915,192,651	-851,884,595
Administrative expense	-19,600,116	-17,698,803
Other	0	-471,146[2]
Net change in Plan Fiduciary Net Position	$580,362,313	$1,054,714,803
Plan Fiduciary Net Position – beginning	14,235,230,528	13,180,515,725
Plan Fiduciary Net Position – ending (b)	$14,815,592,841	$14,235,230,528
System's Net Pension Liability – ending (a) – (b)	$5,977,828,302	$5,709,348,530
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	71.25%	71.37%
Covered payroll[3]	$2,108,171,088	$2,057,565,478
Plan Net Pension Liability as percentage of covered payroll	283.56%	277.48%

(1) *The service cost is based on the previous year's valuation, meaning the 2019 and 2018 values are based on the valuations as of June 30, 2018 and June 30, 2017, respectively. Both service costs have been calculated using the economic actuarial assumptions shown in the 2018 column on page iii, as there had been no changes in the economic actuarial assumptions between the June 30, 2017 and June 30, 2018 valuations.*

(2) *Correction made by LACERS to beginning of year interest posted to member reserves.*

(3) *Covered payroll is defined as the payroll on which contributions to a pension plan are based.*

EXHIBIT 4

Schedule of Employer Contributions – Last Ten Fiscal Years

Year Ended June 30	Actuarially Determined Contributions	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency / (Excess)	Covered Payroll[1]	Contributions as a Percentage of Covered Payroll
2010	$258,642,795	$258,642,795	$0	$1,827,864,283	14.15%
2011	303,560,953	303,560,953	0	1,678,059,440	18.09%
2012	308,539,905	308,539,905	0	1,715,197,133	17.99%
2013	346,180,852	346,180,852	0	1,736,112,598	19.94%
2014	357,649,232	357,649,232	0	1,802,931,195	19.84%
2015	381,140,923	381,140,923	0	1,835,637,409	20.76%
2016	440,546,011	440,546,011	0	1,876,946,179	23.47%
2017	453,356,059	453,356,059	0	1,973,048,633	22.98%
2018	450,195,254	450,195,254	0	2,057,565,478	21.88%
2019	478,716,953	478,716,953	0	2,108,171,088	22.71%

[1] Covered payroll is defined as the payroll on which contributions to a pension plan are based.

Notes to Exhibit 4

Methods and assumptions used to establish "actuarially determined contribution" (ADC) rates:	
Valuation date	Actuarially determined contribution rates are calculated as of June 30, two years prior to the end of the fiscal year in which contributions are reported
Actuarial cost method	Entry Age Cost Method (individual basis)
Amortization method	Level percent of payroll
Amortization period	Multiple layers, closed amortization periods. Actuarial gains/losses are amortized over 15 years. Assumption or method changes are amortized over 20 years. Plan changes, including the 2009 ERIP, are amortized over 15 years. Future ERIPs will be amortized over 5 years. Actuarial surplus is amortized over 30 years. The existing layers on June 30, 2012, except those arising from the 2009 ERIP and the two (at that time) GASB 25/27 layers, were combined and amortized over 30 years.
Asset valuation method	Market value of assets less unrecognized returns in each of the last seven years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a seven-year period. The actuarial value of assets cannot be less than 60% or greater than 140% of the market value of assets.
Actuarial assumptions:	June 30, 2019 valuation date
Investment rate of return	7.25%
Inflation rate	3.00%
Real across-the-board salary increase	0.50%
Projected salary increases[1]	Ranges from 10.00% to 3.90%, based on years of service
Cost of living adjustments	3.00% for Tier 1; 2.00% for Tier 3 (actual increases are contingent upon CPI increases with a 3.00% maximum for Tier 1 and a 2.00% maximum for Tier 3)
Mortality	Healthy: Headcount-Weighted RP-2014 Healthy Annuitant Mortality Tables (separate tables for males and females) with no setback for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2017.
Other assumptions	Same as those used in the June 30, 2019 funding actuarial valuation

[1] *Includes inflation at 3.00% plus across the board salary increases of 0.50% plus merit and promotional increases.*

EXHIBIT 5

Projection of Pension Plan's Fiduciary Net Position for Use in Calculation of Discount Rate as of June 30, 2019

($ in millions)

Year Beginning July 1,	Projected Beginning Plan Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Plan Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2018	$14,235	$716	$915	$20	$799	$14,816
2019	14,816	771	1,075	20	1,058	15,549
2020	15,549	773	1,099	21	1,110	16,312
2021	16,312	777	1,161	22	1,163	17,068
2022	17,068	783	1,224	24	1,216	17,819
2023	17,819	788	1,288	25	1,268	18,562
2024	18,562	749	1,350	26	1,317	19,253
2025	19,253	759	1,415	27	1,365	19,935
2026	19,935	766	1,481	27	1,412	20,605
2045	27,789	124 *	2,441	38	1,919	27,353
2046	27,353	118 *	2,452	38	1,887	26,869
2047	26,869	112 *	2,461	37	1,851	26,334
2048	26,334	105 *	2,468	36	1,812	25,747
2049	25,747	99 *	2,474	35	1,769	25,105
2082	2,656	17 *	524	4	172	2,318
2083	2,318	16 *	471	3	149	2,009
2084	2,009	14 *	420	3	129	1,729
2085	1,729	13 *	373	2	111	1,477
2086	1,477	12 *	329	2	94	1,252
2102	29	1 *	11	0	2	21
2103	21	1 *	8	0	1	15
2104	15	1 *	6	0	1	11
2105	11	1 *	4	0	1	8
2106	8	0 *,**	3	0	0	6
2107	6	0 *,**	2	0	0	4
2108	4	0 *,**	2	0	0	3
2109	3	0 *,**	1	0	0	2
2110	2	0 *,**	1	0	0	2
2111	2	0 *,**	1	0	0	1
2112	1	0 *,**	1	0	0	1
2113	1	0 *,**	0 **	0	0	0
2114	0	0 *,**	0 **	0	0	0
2115	0	0 *,**	0 **	0	0	0
2116	0	0 *,**	0 **	0	0	0
2117	0	0 *,**	0 **	0	0	0

* Mainly attributable to employer contributions to fund each year's annual administrative expenses.

** Less than $1 million, when rounded.

Note that in preparing the above projections, we have not taken into consideration the one-year delay between the date of the contribution rate calculation and the implementation.

EXHIBIT 5

Projection of Pension Plan's Fiduciary Net Position for Use in Calculation of Discount Rate as of June 30, 2019

($ in millions) – continued

Notes:

(1) Amounts may not total exactly due to rounding.

(2) Amounts shown for the year beginning July 1, 2018 row are actual amounts, based on the unaudited financial statements provided by LACERS.

(3) Years 2027-2044, 2050-2081, and 2087-2101 have been omitted from this table.

(4) Column (a): None of the projected beginning Plan Fiduciary Net Position amounts shown have been adjusted for the time value of money.

(5) Column (b): Projected total contributions include employee and employer normal cost contributions based on closed group projections (based on covered active members as of June 30, 2019); plus employer contributions to the unfunded actuarial accrued liability; plus contributions to fund each year's annual administrative expenses reflecting a 15-year amortization schedule. Contributions are assumed to occur halfway through the year, on average.

(6) Column (c): Projected benefit payments have been determined in accordance with paragraph 39 of GAS Statement No. 67, and are based on the closed group of active, inactive vested, retired members, and beneficiaries as of June 30, 2019. The projected benefit payments reflect the cost of living increase assumptions used in the June 30, 2019 funding valuation report. Benefit payments are assumed to occur halfway through the year, on average. In accordance with paragraph 31.b.(1)(e) of GASB Statement No. 67, the long-term expected rate of return on Plan investments of 7.25% was applied to all periods of projected benefit payments to determine the discount rate.

(7) Column (d): Projected administrative expenses are calculated as approximately 0.14% of the projected beginning Plan Fiduciary Net Position amount. The 0.14% portion was based on the actual fiscal year 2018 - 2019 administrative expenses as a percentage of the beginning Plan Fiduciary Net Position amount as of July 1, 2018. Administrative expenses are assumed to occur halfway through the year, on average.

(8) Column (e): Projected investment earnings are based on the assumed investment rate of return of 7.25% per annum.

(9) As illustrated in this Exhibit, the Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments for current Plan members. In other words, there is no projected 'cross-over date' when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on Plan investments of 7.25% per annum was applied to all periods of projected benefit payments to determine the Total Pension Liability as of June 30, 2019 shown earlier in this report, pursuant to paragraph 44 of GASB Statement No. 67.

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BOARD Meeting: 11/12/19
Item IX - B
Attachment 6

Segal Consulting

Los Angeles City Employees' Retirement System

Governmental Accounting Standards (GAS) 74 Actuarial Valuation of Other Postemployment Benefits (OPEB) as of June 30, 2019

This report has been prepared at the request of the Board of Administration to assist in administering the Fund. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Administration and may only be provided to other parties in its entirety, unless expressly authorized by Segal. The measurements shown in this actuarial valuation may not be applicable for other purposes.

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November 6, 2019

Board of Administration
Los Angeles City Employees' Retirement System
202 W. 1st Street, Suite 500
Los Angeles, CA 90012-4401

Dear Board Members:

We are pleased to submit this Governmental Accounting Standards (GAS) 74 Actuarial Valuation as of June 30, 2019. It contains various information that will need to be disclosed in order to comply with GAS 74.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist LACERS in preparing items related to the OPEB plan in their financial report. The census and financial information on which our calculations were based was prepared by LACERS. That assistance is gratefully acknowledged.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law.

The actuarial calculations were completed under the supervision of Thomas Bergman, ASA, MAAA, Enrolled Actuary and Andy Yeung ASA, MAAA, FCA, Enrolled Actuary. The health care trend and other related medical assumptions have been reviewed by Paul Sadro, ASA, MAAA. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in the actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and expectations for the System.

We look forward to reviewing this report with you and to answering any questions.

Sincerely,

Segal Consulting, a Member of The Segal Group, Inc.

By:

Paul Angelo, FSA, MAAA, FCA, EA	*Andy Yeung ASA, MAAA, FCA, EA*
Senior Vice President and Actuary	*Vice President and Actuary*

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Purpose

This report has been prepared by Segal Consulting ("Segal") to present certain disclosure information required for "Other Postemployment Benefits (OPEB)" plans by Statement No. 74 of the Governmental Accounting Standards Board as of June 30, 2019. This valuation is based on:

- The benefit provisions of the OPEB Plan, as administered by the Board of Administration;
- The characteristics of covered active members, inactive vested members, and retired members and surviving spouses as of June 30, 2019, provided by LACERS;
- The assets of the Plan as of June 30, 2019, provided by LACERS;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other (health and non-health) actuarial assumptions, regarding employee terminations, retirement, death, health care trend and enrollment, etc. as of June 30, 2019.

General Observations on GAS 74 Actuarial Valuation

The following points should be considered when reviewing this GAS 74 report:

- The Governmental Accounting Standards Board (GASB) rules only define OPEB liability and expense for financial reporting purposes, and do not apply to contribution amounts for OPEB funding purposes. Employers and plans still develop and adopt funding policies under current practices.
- When measuring OPEB liability, GASB uses the same actuarial cost method (Entry Age) and, for benefits that are being fully funded on an actuarial basis, the same expected return on Plan assets as used for funding. This means that the Total OPEB Liability (TOL) measure for financial reporting shown in this report is determined on the same basis as the Actuarial Accrued Liability (AAL) measure for funding. We note that the same is true for the Normal Cost component of the annual plan cost for funding and financial reporting.
- The Net OPEB Liability (NOL) is equal to the difference between the TOL and the Plan's Fiduciary Net Position. The Plan's Fiduciary Net Position is equal to the market value of assets and therefore, the NOL measure is the same as the Unfunded Actuarial Accrued Liability (UAAL) calculated on a market value basis. The NOL reflects all investment gains and losses as of the measurement date. This is different from the UAAL calculated on an actuarial value of assets basis in the funding valuation that reflects investment gains and losses over a seven-year period.

- The NOLs measured as of June 30, 2019 and 2018 have been determined from the actuarial valuations as of June 30, 2019 and June 30, 2018, respectively.

Significant Issues in Valuation Year

The following key findings were the result of this actuarial valuation:

- The NOL has decreased from $580.5 million as of June 30, 2018 to $522.2 million as of June 30, 2019. The main reason for the decrease in NOL was favorable premium renewal experience, offset to some degree by: (i) updated trend for projecting Medicare Part B premiums after 2019/2020, (ii) investment loss (on market value basis), and (iii) miscellaneous demographic and other losses.[1]
- The discount rate used in the valuation for financial disclosure purposes as of June 30, 2019 is the assumed investment return on Plan assets (e.g. 7.25% for the June 30, 2019 funding valuation). As contributions that are required to be made by the City to amortize the Unfunded Actuarial Accrued Liability in the funding valuation are determined on an actuarial basis, the future Actuarially Determined Contributions and current Plan assets, when projected in accordance with the method prescribed by GAS 74, are expected to be sufficient to make all benefit payments to current members.

[1] *Other losses include the recognition for the first time of the liability for about 250 retirees receiving a premium reimbursement for health plans not sponsored by LACERS. Data for those retirees are not included in the regular retiree membership data as members receiving a medical subsidy from LACERS, and were provided separately for the first time for this valuation.*

Summary of Key Valuation Results

	2019	2018
Disclosure elements for fiscal year ending June 30:		
Service cost[1]	$74,477,507	$74,610,881
Total OPEB Liability	3,334,298,548	3,256,827,847
Plan Fiduciary Net Position	2,812,097,867	2,676,371,615
Net OPEB Liability	522,200,681	580,456,232
Schedule of contributions for fiscal year ending June 30:		
Actuarially determined contributions	$107,926,949	$100,909,010
Actual contributions	107,926,949	100,909,010
Contribution deficiency / (excess)	0	0
Demographic data for plan year ending June 30:		
Number of retired members and surviving spouses[2]	15,791	15,144
Number of vested terminated members	1,474	1,401
Number of active members	26,632	26,042
Key assumptions as of June 30:		
Discount rate	7.25%	7.25%
Health care premium trend rates		
Non-Medicare medical plan	Graded from 6.62% to ultimate 4.50% over 9 years	Graded from 6.87% to ultimate 4.50% over 10 years[3]
Medicare medical plan	Graded from 6.12% to ultimate 4.50% over 7 years	Graded from 6.37% to ultimate 4.50% over 8 years[3]
Dental	4.00%	4.00%
Medicare Part B	4.50%	4.00%

[1] *The service cost is always based on the previous year's valuation, meaning the 2019 and 2018 values are based on the valuations as of June 30, 2018 and June 30, 2017, respectively. The key assumptions used in the June 30, 2017 valuation are as follows:*

Discount rate	*7.25%*
Health care premium trend rates	
Non-Medicare medical plan	*Graded from 6.87% to ultimate 4.50% over 10 years*
Medicare medical plan	*Graded from 6.37% to ultimate 4.50% over 8 years*
Dental and Medicare Part B	*4.50%*

[2] *The total number of participants, including married dependents, receiving benefits is 21,115 as of June 30, 2019 and 20,288 as of June 30, 2018.*

[3] *The 2020-2021 premium increases include additional estimated increases of 1.0% (non-Medicare) and 0.5% (Medicare) from the impact of the Health Insurance Tax (HIT).*

Important Information about Actuarial Valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of an OPEB plan. It is an estimated forecast – the actual cost of the plan will be determined by the benefits and expenses paid, and actual investment experience of the plan.

In order to prepare an actuarial valuation, Segal relies on a number of input items. These include:

- **Plan of benefits** Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan description in this report to confirm that Segal has correctly interpreted the plan of benefits.
- **Participant data** An actuarial valuation for a plan is based on data provided to the actuary by the System. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
- **Assets** This valuation is based on the market value of assets as of the valuation date, as provided by the System.
- **Actuarial assumptions** In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to health care trends and member enrollment in retiree health benefits. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan's assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results, that does not mean that the previous assumptions were unreasonable.

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The actuarial valuation is prepared at the request of the Board to assist the sponsors of the Fund in preparing items related to the pension plan in their financial reports. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.
- If the System is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. LACERS should look to their other advisors for expertise in these areas.

As Segal has no discretionary authority with respect to the management or assets of the Plan, it is not a fiduciary in its capacity as actuaries and consultants with respect to the System.

EXHIBIT 1

General Information – "Financial Statements", Note Disclosures and Required Supplementary Information for a Single-Employer OPEB Plan

Plan Description

Plan administration. The Los Angeles City Employees' Retirement System (LACERS) was established by City Charter in 1937. LACERS is a single employer public employee retirement system whose main function is to provide retirement benefits to the civilian employees of the City of Los Angeles.

Under the provisions of the City Charter, the Board of Administration (the "Board") has the responsibility and authority to administer the Plan and to invest its assets. The Board members serve as trustees and must act in the exclusive interest of the Plan's members and surviving spouses. The Board has seven members: four members, one of whom shall be a retired member of the System, shall be appointed by the Mayor subject to the approval of the Council; two members shall be active employee members of the System elected by the active employee members; one shall be a retired member of the System elected by the retired members of the System.

Plan membership. At June 30, 2019, OPEB plan membership consisted of the following:

Retired members or surviving spouses currently receiving benefits[(1)]	15,791
Vested terminated members entitled to, but not yet receiving benefits	1,474
Active members	26,632
Total	43,897

[(1)] *The total number of participants, including married dependents, receiving benefits is 21,115.*

Benefits provided. LACERS provides benefits to eligible retirees and beneficiaries.

Membership Eligibility:

Tier 1 (§4.1002(a))	All employees who became members of the System before July 1, 2013, and certain employees who became members of the System on or after July 1, 2013. In addition, pursuant to Ordinance No. 184134, all Tier 2 employees who became members of the System between July 1, 2013 and February 21, 2016 were transferred to Tier 1 effective February 21, 2016.

Tier 3 (§4.1080.2(a))	All employees who became members of the System on or after February 21, 2016, except as provided otherwise in Section 4.1080.2(b) of the Los Angeles Administrative Code.
Benefit Eligibility:	
Tier 1 (§4.1111(a)) and Tier 3 (§4.1126(a))	Retired age 55 or older with at least 10 years of service (including deferred vested members who terminate employment and receive a retirement benefit from LACERS), or if retirement date is between October 2, 1996, and September 30, 1999 at age 50 or older with at least 30 years of service. Benefits are also payable to spouses, domestic partners, or other qualified dependents while the retiree is alive. Please note that the health subsidy is not payable to a disabled retiree before the member reaches age 55.
Medical Subsidy for Members Not Subject to Cap:	
Under Age 65 or Over Age 65 Without Medicare Part A	
Tier 1 (§4.1111(d)) and Tier 3 (§4.1126(c))	The System will pay 4% of the maximum health subsidy (limited to actual premium) for each year of Service Credit, up to 100% of the maximum health subsidy. As of July 1, 2019, the maximum health subsidy is $1,790.80 per month; remaining unchanged in calendar year 2020. This amount includes coverage of dependent premium costs.
Over Age 65 and Enrolled in Both Medicare Parts A and B	
Tier 1 (§4.1111(e)) and Tier 3 (§4.1126(d))	For retirees, a maximum health subsidy shall be paid in the amount of the single-party monthly premium of the approved Medicare supplemental or coordinated plan in which the retiree is enrolled, subject to the following vesting schedule:

Completed Years of Service	Vested Percentage
1-14	75%
15-19	90%
20+	100%

Subsidy Cap for Tier 1:
(§4.1111(b))

As of the June 30, 2011 valuation, the retiree health benefits program was changed to cap the medical subsidy for non-retired members who do not contribute an additional 4% or 4.5% of employee contributions to the Pension Plan.

The capped subsidy is different for Medicare and non-Medicare retirees.

The cap applies to the medical subsidy limits at the 2011 calendar year level.

The cap does not apply to the dental subsidy or the Medicare Part B premium reimbursement.

Dependents:

Tier 1 (§4.1111(e)(4))
and Tier 3 (§4.1126(d)(4))

An additional amount is added for coverage of dependents which shall not exceed the amount provided to a retiree not enrolled in Medicare Parts A and B and covered by the same medical plan with the same years of service. The combined member and dependent subsidy shall not exceed the actual premium. This refers to dependents of retired members with Medicare Parts A and B. It does not apply to those without Medicare or Part B only.

Dental Subsidy for Members:

Tier 1 (§4.1114(b)) and Tier 3 (§4.1129(b))	The System will pay 4% of the maximum dental subsidy (limited to actual premium) for each year of Service Credit, up to 100% of the maximum dental subsidy. As of July 1, 2019, the maximum dental subsidy is $44.60 per month; remaining unchanged in calendar year 2020. There is no subsidy available to spouses or domestic partners or for dependent coverage. There is also no reimbursement for dental plans not sponsored by the System.

Medicare Part B Reimbursement for Members:

Tier 1 (§4.1113) and Tier 3 (§4.1128)	If a Retiree is covered by both Medicare Parts A and B, and enrolled in a LACERS medical plan or participates in the LACERS Retiree Medical Premium Reimbursement Program, LACERS will reimburse the retiree the basic Medicare Part B premium.

Surviving Spouse Medical Subsidy:

Tier 1 (§4.1115) and Tier 3 (§4.1129.1)	The surviving spouse or domestic partner will be entitled to a health subsidy based on the member's years of service and the surviving dependent's eligibility for Medicare.
Under Age 65 or Over Age 65 Without Medicare Part A	The maximum health subsidy available for survivors is the lowest cost plan available (currently Kaiser) single-party premium ($853.39 per month as of July 1, 2019; remaining unchanged in calendar year 2020).

Over Age 65 and Enrolled in Both Medicare Parts A and B	For survivors, a maximum health subsidy limited to the single-party monthly premium of the plan in which the survivor is enrolled, is provided subject to the following vesting schedule:

Completed Years of Service	Vested Percentage
1-14	75%
15-19	90%
20+	100%

Note that a new Tier 1 Enhanced Plan providing a higher retirement benefit was adopted pursuant to Ordinance No. 184853. However, other than Segal applying higher retirement rate assumptions to anticipate somewhat earlier retirement, there are no differences between the retiree health benefits paid by LACERS to those members.

EXHIBIT 2

Net OPEB Liability

The components of the Net OPEB Liability of LACERS are as follows:

	June 30, 2019	June 30, 2018
Total OPEB Liability	$3,334,298,548	$3,256,827,847
Plan Fiduciary Net Position	$2,812,097,867	-2,676,371,615
System's Net OPEB Liability	$522,200,681	$580,456,232
Plan Fiduciary Net Position as a percentage of the Total OPEB Liability	84.34%	82.18%

The Net OPEB Liability was measured as of June 30, 2019 and 2018. The Plan's Fiduciary Net Position (plan assets) was valued as of the measurement date, while the Total OPEB Liability was determined based upon the results of the actuarial valuations as of June 30, 2019 and 2018, respectively.

Plan provisions. The plan provisions used in the measurement of the NOL as of June 30, 2019 and 2018 are the same as those used in the LACERS funding valuations as of June 30, 2019 and 2018, respectively.

Actuarial assumptions. The Total OPEB Liabilities as of June 30, 2019 and June 30, 2018 were determined by actuarial valuations as of June 30, 2019 and June 30, 2018, respectively. The actuarial assumptions used in both the June 30, 2019 and June 30, 2018 valuations were based on the results of an economic actuarial assumptions study as of June 30, 2017. However, based on the results of an experience study for the period from July 1, 2014 through June 30, 2017, the demographic assumptions were changed for the 2018 valuation. The assumptions used in the June 30, 2019 funding actuarial valuation for LACERS were applied to all periods included in the measurement:

Investment rate of return	7.25%, net of OPEB plan investment expense and including inflation
Inflation	3.00%
Salary increases	Ranges from 10.00% to 3.90% based on years of service, including inflation
Other assumptions	Same as those used in the June 30, June 30, 2019 funding valuation

The long-term expected rate of return on OPEB plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation and subtracting expected investment expenses and a risk margin. The target allocation and projected arithmetic real rates of return for each major asset class, after deducting inflation, but before deducting investment expenses, are summarized in the following table. These values were used in the derivation of the long-term expected investment rate of return assumption that was used in the actuarial valuation as of June 30, 2019. This information is subject to change every three years based on the actuarial experience study.

Asset Class	Target Allocation	Long-Term (Arithmetic) Expected Real Rate of Return
U.S. Large Cap Equity	14.00%	5.32%
U.S. Small Cap Equity	5.00%	6.07%
Developed International Large Cap Equity	17.00%	6.67%
Developed International Small Cap Equity	3.00%	7.14%
Emerging Market Equity	7.00%	8.87%
Core Bond	13.75%	1.04%
High Yield Bond	2.00%	3.09%
Bank Loan	2.00%	3.00%
TIPS	3.50%	0.97%
Emerging Market Debt (External)	4.50%	3.44%
Real Estate	7.00%	4.68%
Cash	1.00%	0.01%
Commodities	1.00%	3.36%
Additional Public Real Assets	1.00%	4.76%
Real Estate Investment Trust (REIT)	0.50%	5.91%
Private Debt	3.75%	5.50%
Private Equity	14.00%	8.97%
Total	100.00%	

Discount rate: The discount rate used to measure the Total OPEB Liability was 7.25% as of June 30, 2019 and June 30, 2018. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially determined contribution rates. For this purpose, only employee and employer contributions that are intended to fund benefits for current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs for future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the OPEB Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of return on OPEB plan investments was applied to all periods of projected benefit payments to determine the Total OPEB Liability as of both June 30, 2019 and June 30, 2018.

Sensitivity of the Net OPEB Liability to changes in the discount rate. The following presents the Net OPEB Liability of LACERS as of June 30, 2019, calculated using the discount rate of 7.25%, as well as what LACERS' Net OPEB Liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.25%) or 1-percentage-point higher (8.25%) than the current rate:

	1% Decrease (6.25%)	Current Discount Rate (7.25%)	1% Increase (8.25%)
Net OPEB Liability as of June 30, 2019	$1,000,087,555	$522,200,681	$131,811,191

Sensitivity of the Net OPEB Liability to changes in the healthcare cost trend rate. The following presents the Net OPEB Liability of LACERS as of June 30, 2019, calculated using the trend rate as well as what LACERS' Net OPEB Liability would be if it were calculated using a trend rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease*	Current Trend Rates*	1% Increase*
Net OPEB Liability as of June 30, 2019	$80,855,379	$522,200,681	$1,101,306,810

**Current trend rates: 6.62% graded down to 4.50% over 9 years for Non-Medicare medical plan costs and 6.12% graded down to 4.50% over 7 years for Medicare medical plan costs. 4.00% for all years for Dental and 4.50% for all years for Medicare Part B subsidy cost.*

EXHIBIT 3

Schedules of Changes in LACERS Net OPEB Liability – Last Two Fiscal Years

	2019	2018
Total OPEB Liability		
Service cost[1]	$74,477,507	$74,610,881
Interest	236,677,675	218,687,305
Change of benefit terms (retirement rates adjusted for Enhanced Tier 1)	0	948,264
Differences between expected and actual experience	-134,052,778	-7,321,481[2]
Changes of assumptions	33,939,702	92,177,641
Benefit payments	-133,571,405	-128,080,997
Net change in Total OPEB Liability	$77,470,701	$251,021,613
Total OPEB Liability – beginning	3,256,827,847	3,005,806,234
Total OPEB Liability – ending (a)	$3,334,298,548	$3,256,827,847
Plan Fiduciary Net Position		
Contributions – employer	$107,926,949	$100,909,010
Contributions – employee	0	0
Net investment income	166,469,503	269,380,196
Benefit payments	-133,571,405	-128,080,997
Administrative expense	-5,098,795	-4,698,444
Other	0	0
Net change in Plan Fiduciary Net Position	$135,726,252	$237,509,765
Plan Fiduciary Net Position – beginning	2,676,371,615	2,438,861,850
Plan Fiduciary Net Position – ending (b)	$2,812,097,867	$2,676,371,615
System's Net OPEB Liability – ending (a) – (b)	$522,200,681	$580,456,232
Plan Fiduciary Net Position as a percentage of the Total OPEB Liability	84.34%	82.18%
Covered payroll[3]	$2,108,171,088	$2,057,565,478
Plan Net OPEB Liability as percentage of covered payroll	24.77%	28.21%

(1) *The service cost is always based on the previous year's valuation, meaning the 2019 and 2018 values are based on the valuations as of June 30, 2018 and June 30, 2017, respectively.*

(2) *Includes a reallocation of liability between service cost and TOL as a result of adjustment to Entry Age cost methodology.*

(3) *Covered payroll is defined as the payroll on which contributions to an OPEB plan are based.*

EXHIBIT 4

Schedule of Employer Contributions – Last Ten Fiscal Years

Year Ended June 30	Actuarially Determined Contributions	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency / (Excess)	Covered Payroll[1]	Contributions as a Percentage of Covered Payroll
2010	$96,511,234	$96,511,234	$0	$1,827,864,283	5.28%
2011	107,395,804	107,395,804	0	1,678,059,440	6.40%
2012	115,208,835	115,208,835	0	1,715,197,133	6.72%
2013	72,916,729	72,916,729	0	1,736,112,598	4.20%
2014	97,840,554	97,840,554	0	1,802,931,195	5.43%
2015	100,466,945	100,466,945	0	1,835,637,409	5.47%
2016	105,983,112	105,983,112	0	1,876,946,179	5.65%
2017	97,457,455	97,457,455	0	1,973,048,633	4.94%
2018	100,909,010	100,909,010	0	2,057,565,478	4.90%
2019	107,926,949	107,926,949	0	2,108,171,088	5.12%

[1] *Covered payroll is defined as the payroll on which contributions to an OPEB plan are based.*

Notes to Exhibit 4

Methods and assumptions used to establish "actuarially determined contribution" (ADC) rates:	
Valuation date	Actuarially determined contribution rates are calculated as of June 30, two years prior to the end of the fiscal year in which contributions are reported
Actuarial cost method	Entry Age Cost Method (level percent of payroll)
Amortization method	Level percent of payroll
Amortization period	Multiple layers, closed amortization periods. The costs associated with the 2009 ERIP have been amortized over 15 years beginning with the June 30, 2009 valuation date. The unfunded actuarial accrued liability as of June 30, 2012 is amortized over a fixed period of 30 years beginning July 1, 2012. Assumption changes resulting from the triennial experience study will be amortized over 20 years. Health trend and premium assumption changes, plan changes, and gains and losses will be amortized over 15 years.
Asset valuation method	Market value of assets less unrecognized returns in each of the last seven years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a seven-year period. The actuarial value of assets cannot be less than 60% or greater than 140% of the market value of assets.
Actuarial assumptions:	<u>June 30, 2019 valuation date</u>
Investment rate of return	7.25%
Inflation rate	3.00%
Real across-the-board salary increase	0.50%
Projected salary increases[1]	Ranges from 10.00% to 3.90%, based on years of service
Mortality	Headcount-Weighted RP-2014 Healthy Annuitant Mortality Tables (separate tables for males and females), with no setback for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2017.
Other assumptions	Same as those used in the June 30, 2019 funding actuarial valuation

[1] *Includes inflation at 3.00% plus across the board salary increases of 0.50% plus merit and promotional increases.*

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