



Date of Notice: Friday, March 2, 2018

# PUBLIC NOTICE

## A PUBLIC MEETING OF THE GOVERNING BOARD OF THE CALIFORNIA EARTHQUAKE AUTHORITY

**NOTICE IS HEREBY GIVEN** that the Governing Board of the California Earthquake Authority (“CEA”) will meet in West Sacramento, California. Pursuant to California Insurance Code §10089.7, subdivision (j), the Bagley-Keene Open Meeting Act applies generally to meetings of the Board, and the meeting is open to the public—public participation, comments, and questions will be welcome for each agenda item. All items are appropriate for action if the Governing Board wishes to take action. Agenda items may be taken out of order.

**LOCATION:** CalSTRS Headquarters Building  
Boardroom (Lobby: E-124)  
100 Waterfront Place  
West Sacramento, California

**DATE:** Wednesday, March 14, 2018

**TIME:** 1:00 p.m.

**AGENDA:**

1. Call to order and member roll call:
  - Governor
  - Treasurer
  - Insurance Commissioner
  - Speaker of the Assembly
  - Chair of the Senate Rules Committee

*Establishment of a quorum*

This CEA Governing Board meeting will be broadcast live on the Internet. Please wait until the official start time of the meeting before clicking on this icon:



[Video \(with audio\)](#)

If you are unable to view and hear the meeting please call the CEA directly at (916) 661-5001 for assistance.

2. Consideration and approval of the minutes of the December 6, 2017, and January 25, 2018, CEA Governing Board meetings.
3. Executive Report by Chief Executive Officer Glenn Pomeroy, which will include an update for the Board on legislative activities of interest to the CEA.
4. Mr. Pomeroy, assisted by CEA executive staff, will ask the Board to adopt a resolution of support and sponsorship of a bill aimed at diversifying and enhancing CEA's financial capacity to insure California homes that will be introduced in the California Legislature.
5. Chief Financial Officer Tim Richison will present to the Board the quarterly CEA financial report.
6. Mr. Richison will seek Board authorization to set the CEA participating insurers' respective maximum-earthquake-loss funding-assessment levels, effective April 1, 2018.
7. Kapil Bhatia, Managing Director of Public Finance for Raymond James & Associates, Inc.—the CEA's independent financial advisor—will present to the Board the annual report on the state of the economy.
8. Chief Communications Officer Chris Nance will present, and seek Board approval of, the 2019 CEA advertising budget.
9. Ms. Maffei will update the Board on CEA-mitigation-program projects, including the California Residential Mitigation Program incentive program (CRMP Earthquake Brace + Bolt), CEA's financial-incentive and mitigation program (CEA Brace + Bolt), and ongoing mitigation-related research projects.
10. Mr. Richison will recommend to the Board transferring money from the CEA's Earthquake Loss Mitigation Fund to the California Residential Mitigation Program ("CRMP"), a joint powers authority whose members are the California Governor's Office of Emergency Services and the CEA.
11. Ms. Maffei will update the Board on the CEA Research Program.
12. Ms. Maffei will update the Board on CEA's progress in establishing a nonprofit charitable foundation, whose functions would include receiving contributions and disbursing accumulated funds for clearly defined grant programs and other appropriate mitigation-related purposes.
13. Chief Insurance and Technology Officer Todd Coombes will report to the Board on CEA insurance and information-technology initiatives.
14. Mr. Coombes will present to the Board the application of Amica Mutual Insurance Company to become a CEA participating insurer, recommending (a) Board acceptance of that application and (b) execution of the CEA Insurer Participation Agreement by CEO Glenn Pomeroy, with further action dependent on Amica's continued compliance with CEA-participation-related data, legal, and related requirements, in the manner required by the Authority.
15. Enterprise & Strategic Risk Advisor Laurie Johnson will update the Board on CEA enterprise-risk-management-program planning and progress.

16. Chief Operations Officer Kellie Schneider will update the Board on the quantitative business metrics report.
17. The Board will meet in closed session to discuss personnel matters and litigation matters, as permitted by California Government Code section 11126, subdivisions (a) and (e), respectively.
18. Public comment on matters that do not appear on this agenda and requests by the public that those matters be placed on a future agenda.
19. Adjournment.

For further information about this notice or its contents:

**General Information:**

Carlos Martinez  
(916) 661-5549 (Direct)  
Toll free: (877) 797-4300

California Earthquake Authority 801 K Street, Suite 1000 Sacramento, CA 95814 Toll free: (877) 797-4300
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**Media Contact:**

Sarah Sol  
Media Relations Manager  
(916) 661-5502 (Direct)  
[ssol@calquake.com](mailto:ssol@calquake.com)

<p><b>To view this notice on the CEA website or to learn more about the CEA, please visit <a href="http://www.EarthquakeAuthority.com">www.EarthquakeAuthority.com</a></b></p>
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<p><b>Persons with disabilities may request special accommodations at this or any future Governing Board meeting or may request the accommodation necessary to receive agendas or materials the CEA prepares for its Board meetings. Please contact Carlos Martinez by telephone, toll free, at (877) 797-4300 or by email at <a href="mailto:cmartinez@calquake.com">cmartinez@calquake.com</a>. We would appreciate hearing from you at least five days before the meeting date to best allow us to meet your needs.</b></p>
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<p><b>NOTE: You might have received this notice because your name, or that of your organization, appears on a public-notice list maintained by the California Earthquake Authority. If in the future you do not wish to receive public notices pertaining to the California Earthquake Authority, please send your request by email to <a href="mailto:cmartinez@calquake.com">cmartinez@calquake.com</a>.</b></p>
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Draft Meeting Minutes are not available.

Please see CEA Governing Board Meeting  
[Approved Minutes.](#)

## **Governing Board Memorandum**

March 14, 2018

Agenda Item 3: Executive Report by Chief Executive Officer Glenn Pomeroy

Recommended Action: No action required—information only

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Chief Executive Officer Glenn Pomeroy will present his Executive Report to the Board, which will include an update on legislative activities of interest to the CEA.



# **FINANCIAL REPORT**

**December 31, 2017**

## Financial Report Table of Contents

	Page
<b>Financial Statements &amp; Budgets</b>	
Balance Sheet as of December 31, 2017	1
Statement of Revenues, Expenses and Changes in Net Position Year Ended December 31, 2017	2
Insurance Services Budgeted and Actual Expenditures for 2017 Budget Year as of December 31, 2017	3
Mitigation Budgeted and Actual Expenditures for 2017 Budget Year as of December 31, 2017	4
<b>Investments</b>	
Investment Distribution at Market Value CEA Liquidity & Primary Funds, Claim(s)-Paying Funds, Mitigation Funds as of December 31, 2017	5
<b>Debt</b>	
Schedule of Outstanding Debt 2014 Revenue Bond 3-year & 5-year as of December 31, 2017	6
<b>Claim-Paying Capacity</b>	
Statement of Revenues, Expenses and Changes in Net Position as of December 31, 2017	7
Claim-Paying Capacity as of December 31, 2017	8
<b>Risk-Transfer Programs</b>	
Current Risk-Transfer Program Summary as of December 31, 2017	9
Total Risk-Transfer Program Premiums as of December 31, 2017	10

Note: See Fact Sheets for Policies In Force, Written Premiums, and Exposures.

# **Financial Statements & Budgets**

**California Earthquake Authority**  
**Balance Sheet**  
**as of December 31, 2017**

**Assets**

Cash and investments:	
Cash and cash equivalents	\$ 371,218,759
Restricted cash and equivalents	18,594,603
Restricted investments	355,668,723
Investments	<u>5,571,880,732</u>
Total cash and investments	6,317,362,817
Premiums receivable, net of allowance for doubtful accounts of \$4,461,462	73,264,993
Capital contributions receivable	-
Risk capital surcharge receivable	-
Interest receivable	21,920,430
Securities receivable	39,172,684
Restricted securities receivable	59,050,405
Prepaid reinsurance premium	17,291,299
Transformer reinsurance premium deposit	-
Prepaid transformer maintenance premium	5,639,851
Equipment, net	269,494
Other assets	<u>365,090</u>
Total assets	<u><u>\$ 6,534,337,063</u></u>

**Liabilities and Net Position**

Unearned premiums	\$ 373,456,016
Accounts payable and accrued expenses	11,551,848
Deferred grant revenue	-
Accrued reinsurance premium expense	-
Loss and loss adjustment expense reserves	94,974
Securities payable	32,727,818
Revenue bond payable	210,000,000
Revenue bond interest payable	<u>2,945,250</u>
Total liabilities	<u>630,775,906</u>
Net position:	
Restricted, expendable	162,930,646
Unrestricted, participating insurer contributed capital	777,384,796
Unrestricted, State of California contributed capital	256,556,735
Unrestricted, all other remaining	<u>4,706,688,980</u>
Total net position	<u>5,903,561,157</u>
Total liabilities and net position	<u><u>\$ 6,534,337,063</u></u>

**California Earthquake Authority**  
**Statement of Revenues, Expenses and Changes in Net Position**  
**Year Ended December 31, 2017**

Underwriting income:	
Premiums written	\$ 717,841,634
Less premiums ceded - reinsurance	(315,744,745)
Less risk capital surcharge	<u>-</u>
Net premiums written	<u>402,096,889</u>
Change in unearned premiums	<u>(55,990,652)</u>
Net premiums earned	<u>346,106,237</u>
Expenses:	
Losses and loss adjustment expenses	(84,914)
Participating Insurer commissions	71,786,995
Participating Insurer operating costs	23,312,087
Reinsurance broker commissions	2,800,000
Pro forma premium taxes equivalent	16,879,349
Other underwriting expenses	<u>40,785,880</u>
Total expenses	<u>155,479,397</u>
Underwriting profit	190,626,840
Net investment income	38,062,721
Other income	480,317
Grant revenue	3,232,970
Financing expenses, net	(2,709,361)
Earthquake Loss Mitigation Fund expenses	(10,721,838)
Participating Insurer Contributed Capital	-
State of California premium tax contribution equivalent	<u>16,879,349</u>
Increase in net position	235,850,998
Net position, beginning of year	<u>5,667,710,159</u>
Net position, end of year	<u><u>\$ 5,903,561,157</u></u>

**CALIFORNIA EARTHQUAKE AUTHORITY**  
**Insurance Services**  
**Budgeted and Actual Expenditures**  
**2017 Budget Year**  
**as of December 31, 2017**

	(a)	(b)	(b2)	(c)	(d)	(e)	(f)	(g)
					(d=a+b+b2+c)		(f=d-e)	(g=e/d)
	<b>Approved 2017 Budget 1/1/2017</b>	<b>Adjustments<sup>A</sup></b>	<b>Adjustments<sup>2</sup></b>	<b>Augmentations</b>	<b>2017 Budget after Augmentations and Adjustments</b>	<b>Actual Expenditures</b>	<b>Augmented &amp; Adjusted Approved Budget (d) vs. Actual Expenditures (e)</b>	<b>Percentage used of Augmented &amp; Adjusted Approved 2017 Budget</b>
Human Resources:								
Compensation and Benefits	\$ 25,359,916	\$ (158,496)	\$ -	\$ -	\$ 25,201,420	\$ 20,900,159	\$ 4,301,261	82.93%
Travel	707,298	(244,232)	-	-	463,066	283,077	179,989	61.13%
Other	766,310	(332,838)	-	-	433,472	236,773	196,699	54.62%
Board Meeting	22,100	(13,004)	-	-	9,096	8,573	523	94.25%
Administration & Office	1,351,140	(44,179)	-	-	1,306,961	1,031,848	275,113	78.95%
EDP Hardware	470,950	-	-	-	470,950	128,313	342,637	27.25%
EDP Software	1,099,915	-	-	-	1,099,915	681,438	418,477	61.95%
Information Technology	1,775,205	-	-	-	1,775,205	1,486,346	288,859	83.73%
Telecommunications	268,324	(3,278)	-	-	265,046	314,845	(49,799)	118.79%
Rent/Lease	1,693,900	(2,050)	-	-	1,691,850	1,198,566	493,284	70.84%
Compliance	60,000	(50,000)	-	-	10,000	-	10,000	0.00%
Government Affairs	146,000	-	-	-	146,000	108,769	37,231	74.50%
Insurance	175,000	-	-	-	175,000	117,705	57,295	67.26%
Internal Audit	100,000	(75,000)	-	-	25,000	-	25,000	0.00%
Intervener Fees	-	-	-	-	-	-	-	0.00%
Other	78,000	(1,000)	-	-	77,000	10,322	66,678	13.41%
Regulatory Expenses	50,000	(10,000)	-	-	40,000	20,746	19,254	51.87%
Risk Management	-	95,000	-	-	95,000	65,646	29,354	69.10%
<b>Total Statutory Expenditures</b>	<b>\$ 34,124,058</b>	<b>\$ (839,077)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 33,284,981</b>	<b>\$ 26,593,126</b>	<b>\$ 6,691,855</b>	<b>79.90%</b>
Audit Services	116,000	-	-	-	116,000	116,000	-	100.00%
Capital Market	7,583,695	(112,922)	-	-	7,470,773	7,485,096	(14,323)	100.19%
Claims	124,000	(14,000)	-	-	110,000	672	109,328	0.61%
Loans	-	-	-	-	-	-	-	0.00%
Grants	12,000,000	(83,547)	-	-	11,916,453	292,686	11,623,767	2.46%
Investment Services	3,234,043	129,740	-	-	3,363,783	3,127,647	236,136	92.98%
Legal Services	3,567,500	(2,047,082)	-	-	1,520,418	1,647,424	(127,006)	108.35%
Loss-Modeling	1,123,500	-	-	-	1,123,500	916,500	207,000	81.58%
Marketing Services <sup>1</sup>	14,925,725	(229,454)	-	360,000	15,056,271	10,578,202	4,478,069	70.26%
Producer Compensation	67,500,000	(3,000,000)	-	-	64,500,000	71,786,995	(7,286,995)	111.30%
Participating Insurer Operating Costs	28,306,360	(2,175,000)	-	-	26,131,360	27,549,204	(1,417,844)	105.43%
Seismic Related Research	200,000	(180,000)	-	-	20,000	-	20,000	0.00%
Engineering Related Research	1,620,000	(1,290,000)	-	-	330,000	525,214	(195,214)	159.16%
Risk Transfer <sup>2</sup>	246,947,682	-	9,841,342	56,010,976	312,800,000	318,544,745	(5,744,745)	101.84%
<b>Total Non-Statutory Expenditures</b>	<b>\$ 387,248,505</b>	<b>\$ (9,002,265)</b>	<b>\$ 9,841,342</b>	<b>\$ 56,370,976</b>	<b>\$ 444,458,558</b>	<b>\$ 442,570,385</b>	<b>\$ 1,888,173</b>	<b>99.58%</b>
<b>Total Budget Expenditures</b>	<b>\$ 421,372,563</b>	<b>\$ (9,841,342)</b>	<b>\$ 9,841,342</b>	<b>\$ 56,370,976</b>	<b>\$ 477,743,539</b>	<b>\$ 469,163,511</b>	<b>\$ 8,580,028</b>	<b>98.20%</b>

<sup>1</sup>Augmentation to fund user experience and user interface website design from March 15, 2017 Governing Board Meeting Agenda Item 9.

<sup>2</sup>Augmentation to fund additional risk transfer needs from September 20, 2017 Governing Board Meeting Agenda Item 6.

<sup>A</sup>Adjustments to meet insurance services end of year projections

**CALIFORNIA EARTHQUAKE AUTHORITY**  
**Mitigation**  
**Budgeted Expenditures and Actual Expenditures**  
**2017 Budget Year**  
**as of December 31, 2017**

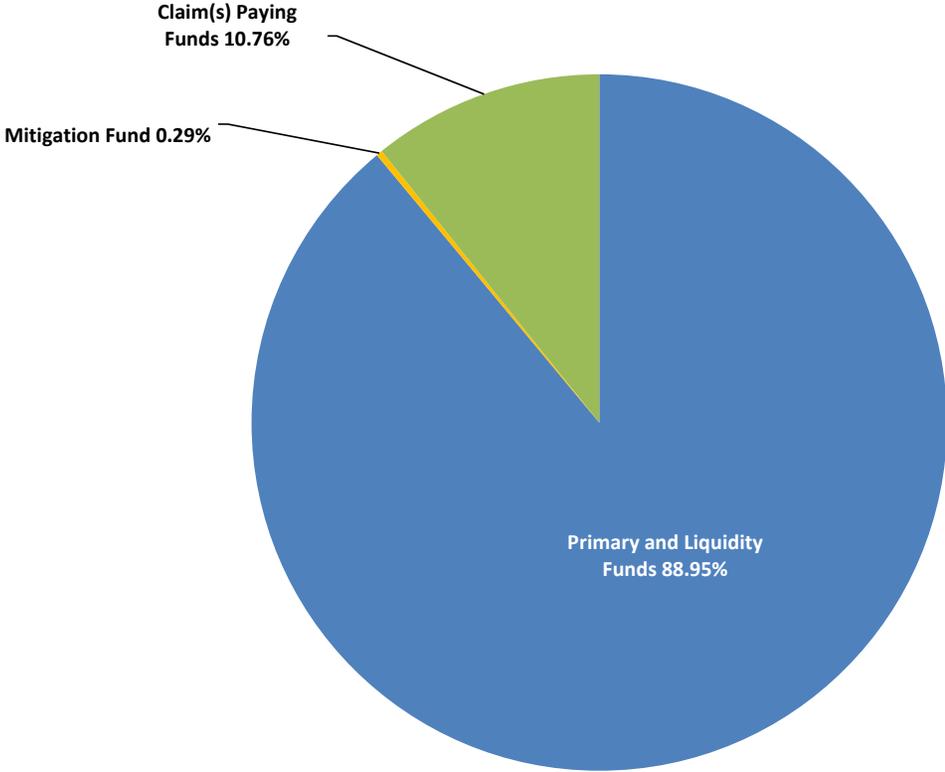
	(a)	(b)	(c)	(d) (d=a+b+c)	(e)	(f) (f=d-e)	(g) (g=e/d)
	<b>Approved 2017 Budget 1/1/2017</b>	<b>Adjustments<sup>A</sup></b>	<b>Augmentations</b>	<b>2017 Budget after Augmentations and Adjustments</b>	<b>Actual Expenditures</b>	<b>Augmented &amp; Adjusted Approved Budget (d) vs. Actual Expenditures (e)</b>	<b>Percentage used of Augmented &amp; Adjusted Approved 2017 Budget</b>
Human Resources:							
Compensation and Benefits	\$ 1,602,015	\$ (235,263)	\$ -	\$ 1,366,752	\$ 1,146,913	\$ 219,839	83.92%
Travel	79,900	(34,900)	-	45,000	26,601	18,399	59.11%
Other	34,595	(17,800)	-	16,795	10,429	6,366	62.10%
Administration & Office	73,798	(100)	-	73,698	14,408	59,290	19.55%
EDP Software	100	(100)	-	-	-	-	0.00%
Information Technology	1,200	-	-	1,200	962	238	80.17%
Telecommunications	23,000	-	-	23,000	20,816	2,184	90.50%
Rent/Lease	140,700	(49,700)	-	91,000	94,926	(3,926)	104.31%
<b>Total Operating Expenditures</b>	<b>\$ 1,955,308</b>	<b>\$ (337,863)</b>	<b>\$ -</b>	<b>\$ 1,617,445</b>	<b>\$ 1,315,055</b>	<b>\$ 302,390</b>	<b>81.30%</b>
Investment Services	11,200	(400)	-	10,800	11,294	(494)	104.57%
Legal Services	10,000	(5,000)	-	5,000	-	5,000	0.00%
Marketing	384,000	(230,000)	-	154,000	-	154,000	0.00%
Seismic - Related	-	-	-	-	-	-	0.00%
Engineering - Related	750,000	100,000	-	850,000	787,359	62,641	92.63%
<b>Total Other Expenditures</b>	<b>\$ 1,155,200</b>	<b>\$ (135,400)</b>	<b>\$ -</b>	<b>\$ 1,019,800</b>	<b>\$ 798,653</b>	<b>\$ 221,147</b>	<b>78.31%</b>
<b>Total Expenditures</b>	<b>\$ 3,110,508</b>	<b>\$ (473,263)</b>	<b>\$ -</b>	<b>\$ 2,637,245</b>	<b>\$ 2,113,708</b>	<b>\$ 523,537</b>	<b>80.15%</b>

<sup>A</sup>Adjustments to meet mitigation services end of year projections

# **Investments**

**California Earthquake Authority  
Investment Distribution at Market Value  
as of December 31, 2017**

<b>Market Value</b>	<b>\$6,344,509,288</b>
Primary and Liquidity Funds	88.95%
Mitigation Fund	0.29%
Claim(s) Paying Funds	10.76%
<b>Total:</b>	<b>100.00%</b>



# Debt

**California Earthquake Authority  
Schedule of Outstanding Debt**

DEBT	ISSUANCE AMOUNT	INTEREST RATE	NET PROCEEDS	OUTSTANDING PRINCIPAL	AS OF DATE	MOODY'S RATING*	FITCH RATING**
Series 2014 Revenue Bonds 3 year bond CUSIP 13017HAD8	\$ 60,000,000	1.824%	\$ 59,498,463	\$ -	31-Dec-2017	A3 Outlook Stable	A Outlook Stable
Series 2014 Revenue Bonds 5 year bond CUSIP 13017HAE6	\$ 250,000,000	2.805%	\$ 247,910,261	\$ 210,000,000	31-Dec-2017	A3 Outlook Stable	A Outlook Stable

**DEBT-SERVICE SCHEDULE**

The table below shows the annual-debt-service requirements for the Series 2014 Bonds.

Debt	Payment Date	Outstanding Principal	Principal	Interest	Debt Service	Annual Debt Service
Series 2014 Revenue Bonds 3 year bond	1-Jan-17	\$60,000,000	\$0	\$547,200	\$547,200	
	1-Jul-17	\$0	\$60,000,000	\$547,200	\$60,547,200	
	2017					\$61,094,400
Series 2014 Revenue Bonds 5 year bond	1-Jan-17	\$250,000,000	\$0	\$3,506,250	\$3,506,250	
	1-Jul-17	\$210,000,000	\$40,000,000	\$3,506,250	\$43,506,250	
	2017					\$47,012,500
	1-Jan-18	\$210,000,000	\$0	\$2,945,250	\$2,945,250	
	1-Jul-18	\$105,000,000	\$105,000,000	\$2,945,250	\$107,945,250	
	2018					\$110,890,500
2019	1-Jan-19	\$105,000,000	\$0	\$1,472,625	\$1,472,625	
	1-Jul-19	\$0	\$105,000,000	\$1,472,625	\$106,472,625	
	2019					\$107,945,250

\*Moody's rating since May 2015.

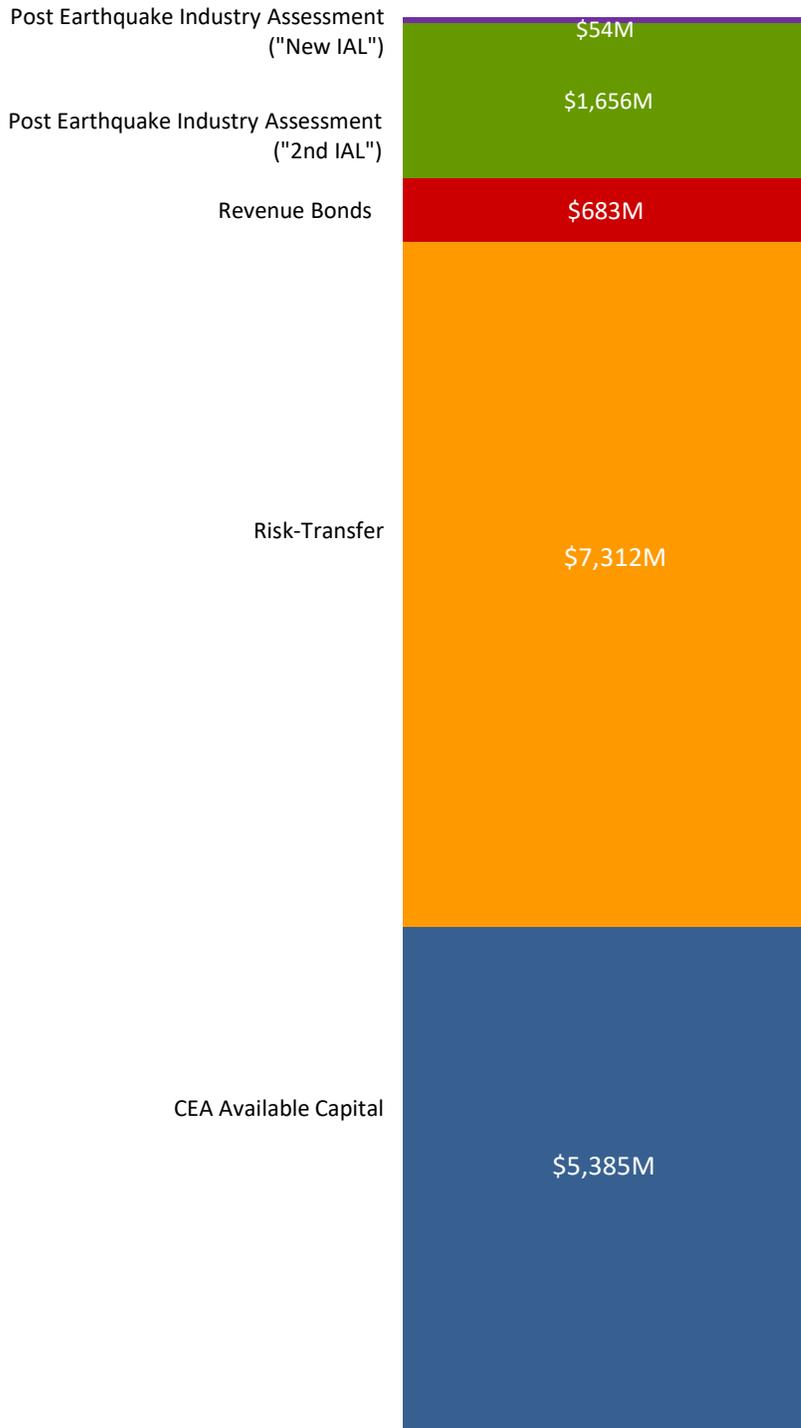
\*\*Fitch rating affirmed December 2017.

# **Claim-Paying Capacity**

**California Earthquake Authority  
Available Capital Report  
as of December 31, 2017**

Cash & Investments (includes capital contributions and premiums)	\$	6,317,362,817
Earthquake Loss Mitigation Fund Cash and Investments	\$	(18,589,764)
Interest & Securities Receivable	\$	61,048,114
Premium Receivable	\$	73,264,993
Risk Capital Surcharge & Capital Contributions Receivable	\$	-
Other Assets	\$	365,090
Revenue Bonds	\$	(682,657,495)
Debt Service (Interest, Principal & Debt Service (Min. Bal.))	\$	(55,445,250)
Unearned Premium Collected	\$	(266,160,050)
Accrued Reinsurance Premium Expense	\$	-
Accounts and Securities Payable, and Accrued Expenses	\$	(44,279,666)
Loss Reserves	\$	(94,974)
CEA Available Capital	<b>\$</b>	<b>5,384,813,816</b>

**California Earthquake Authority  
Claim-Paying Capacity  
as of December 31, 2017**



**Total Capacity \$15,090M**

Note: Not drawn to scale

# **Risk-Transfer Programs**

**California Earthquake Authority  
Current Risk-Transfer Program Summary  
as of December 31, 2017**

<b>Traditional Reinsurance Contracts</b>	<b>Contract Period</b>	<b>Reinsurance Limit</b>	<b>12-Month Rate-on-Line</b>	<b>12-Month Premium</b>
2017 January Program Contract 1	January 1, 2017 - December 31, 2017	614,317,300	4.40%	27,029,961
2017 January Program Contract 2	January 1, 2017 - December 31, 2017	290,405,830	3.20%	9,292,987
2017 January Program Contract 3	January 1, 2017 - December 31, 2017	15,000,000	6.25%	937,500
2017 January Program Contract 4	January 1, 2017 - December 31, 2017	25,000,000	5.60%	1,400,000
2017 January Program Contract 5	January 1, 2017 - December 31, 2017	72,000,000	5.30%	3,816,000
2016-2017 January Program Contract 1	January 1, 2016 - December 31, 2017	472,799,040	4.40%	20,803,158
2016-2017 January Program Contract 2	January 1, 2016 - December 31, 2017	99,999,970	5.70%	5,699,998
2016-2017 January Program Contract 3	January 1, 2016 - December 31, 2017	49,999,995	5.00%	2,500,000
2016-2017 January Program Contract 4	January 1, 2016 - December 31, 2017	50,000,000	2.60%	1,300,000
2017-2018 January Program Contract 1	January 1, 2017 - December 31, 2018	472,170,373	4.50%	21,247,667
2017-2018 January Program Contract 2	January 1, 2017 - December 31, 2018	240,999,850	3.30%	7,952,995
2017-2018 January Program Contract 3	January 1, 2016 - December 31, 2018	135,000,000	6.35%	8,572,500
2017-2018 January Program Contract 4	January 1, 2016 - December 31, 2018	5,000,000	5.70%	285,000
2017-2018 April Program Contract 1	April 1, 2017 - March 31, 2018	738,633,400	3.00%	22,159,002
2017-2019 April Program Contract 1	April 1, 2017 - March 31, 2019	186,780,000	3.10%	5,790,180
2016-2018 April Program Contract 1	April 1, 2016 - March 31, 2018	259,876,500	3.10%	8,056,172
2016-2019 April Program Contract 1	April 1, 2016 - March 31, 2019	124,999,920	3.25%	4,062,497
2016-2019 August Program Contract 1	August 1, 2016 - July 31, 2019	200,000,000	4.15%	8,300,000
2017-2020 August Program Contract 2	August 1, 2017 - July 31, 2020	200,000,000	3.60%	7,200,000
2015-2020 August Program Contract 1	August 1, 2015 - July 31, 2020	139,000,000	4.25%	5,907,500
2017-2018 December Program Contract 1	December 1, 2017 - November 30, 2018	80,000,000	4.95%	3,960,000
2017-2018 December Program Contract 2	December 1, 2017 - November 30, 2018	50,000,000	6.25%	3,125,000
2016-2018 June Program Contract 1	June 1, 2016 - May 31, 2018	49,999,980	5.40%	2,699,999
2017-2018 August Program Contract 1	August 1, 2017 - July 31, 2018	93,750,000	5.57%	5,221,875
2017-2020 August Program Contract 1	August 1, 2017 - July 31, 2020	93,750,000	5.87%	5,503,125
2016-2018 December Program Contract 1	December 1, 2016 - November 30, 2018	74,998,000	5.60%	4,199,888
2017-2019 December Program Contract 1	December 1, 2017 - November 30, 2019	124,999,994	6.15%	7,687,500
2015-2018 August Program Contract 1	August 1, 2015 - July 31, 2018	93,750,000	5.87%	5,503,125
2016-2019 August Program Contract 2	August 1, 2016 - July 31, 2019	93,750,000	5.87%	5,503,125
2017-2019 July Program Contract 1	July 1, 2017 - June 30, 2019	70,000,000	5.65%	3,955,000
2017-2018 July Program Contract 1	July 1, 2017 - June 30, 2018	20,000,000	4.15%	830,000
<b>Total Traditional Reinsurance</b>		<b>5,236,980,152</b>		

<b>Transformer Reinsurance Contracts</b>	<b>Contract Period</b>	<b>Reinsurance Limit</b>	<b>12-Month Rate-on-Line</b>	<b>12-Month Premium</b>
2015 - 2018 Transformer Reinsurance Contract 1	September 16, 2015 - September 15, 2018	250,000,000	5.05%	12,651,970
2016 - 2019 Transformer Reinsurance Contract 1	December 1, 2016 - November 30, 2019	500,000,000	4.04%	20,350,177
2017 - 2020 Transformer Reinsurance Contract 2	May 16, 2017- May 15, 2020	425,000,000	3.54%	15,111,267
2017 - 2020 Transformer Reinsurance Contract 1	May 16, 2017- May 15, 2020	500,000,000	6.06%	30,387,517
2017 - 2020 Transformer Reinsurance Contract 4	December 1, 2017 - November 30, 2020	200,000,000	4.04%	10,462,535
2017 - 2020 Transformer Reinsurance Contract 3	December 1, 2017 - November 30, 2020	200,000,000	5.30%	13,399,316
<b>Total Transformer Reinsurance</b>		<b>2,075,000,000</b>		
<b>Total Risk-Transfer Program</b>		<b>\$ 7,311,980,152</b>		

**California Earthquake Authority  
Total Risk-Transfer Program Premiums  
as of December 31, 2017**

<b>Traditional Reinsurance Contracts</b>	<b>Contract Period</b>	<b>Reinsurance Limit</b>	<b>12-Month Rate-on-Line</b>	<b>2017 Premium</b>
2017 January Program Contract 1	January 1, 2017 - December 31, 2017	614,317,300	4.40%	27,029,961
2017 January Program Contract 2	January 1, 2017 - December 31, 2017	290,405,830	3.20%	9,292,987
2017 January Program Contract 3	January 1, 2017 - December 31, 2017	15,000,000	6.25%	937,500
2017 January Program Contract 4	January 1, 2017 - December 31, 2017	25,000,000	5.60%	1,400,000
2016-2017 January Program Contract 1	January 1, 2016 - December 31, 2017	472,799,040	4.40%	20,803,158
2016-2017 January Program Contract 2	January 1, 2016 - December 31, 2017	99,999,970	5.70%	5,699,998
2016-2017 January Program Contract 3	January 1, 2016 - December 31, 2017	49,999,995	5.00%	2,500,000
2016-2017 January Program Contract 4	January 1, 2016 - December 31, 2017	50,000,000	2.60%	1,300,000
2017-2018 January Program Contract 1	January 1, 2017 - December 31, 2018	472,170,373	4.50%	21,247,667
2017-2018 January Program Contract 2	January 1, 2017 - December 31, 2018	240,999,850	3.30%	7,952,995
2017-2018 January Program Contract 3	January 1, 2016 - December 31, 2018	135,000,000	6.35%	8,572,500
2017-2018 January Program Contract 4	January 1, 2016 - December 31, 2018	5,000,000	5.70%	285,000
2016-2017 April Program Contract 1	April 1, 2016 - March 31, 2017	757,031,100	3.00%	5,677,733
2017-2018 April Program Contract 1	April 1, 2017 - March 31, 2018	738,633,400	3.00%	16,619,252
2017-2019 April Program Contract 1	April 1, 2017 - March 31, 2019	186,780,000	3.10%	4,342,635
2016-2018 April Program Contract 1	April 1, 2016 - March 31, 2018	259,876,500	3.10%	8,056,172
2016-2019 April Program Contract 1	April 1, 2016 - March 31, 2019	124,999,920	3.25%	4,062,497
2015-2017 August Program Contract 2	August 1, 2015 - July 31, 2017	200,000,000	4.50%	4,500,000
2016-2019 August Program Contract 1	August 1, 2016 - July 31, 2019	200,000,000	4.15%	8,300,000
2017-2020 August Program Contract 2	August 1, 2017 - July 31, 2020	200,000,000	3.60%	3,000,000
2015-2020 August Program Contract 1	August 1, 2015 - July 31, 2020	139,000,000	4.25%	5,907,500
2016-2017 December Program Contract 1	December 1, 2016 - November 30, 2017	80,000,000	5.75%	3,450,000
2017-2018 December Program Contract 1	December 1, 2017 - November 30, 2018	80,000,000	4.95%	330,000
2017-2018 December Program Contract 2	December 1, 2017 - November 30, 2018	50,000,000	6.25%	260,417
2017 January Program Contract 5	January 1, 2017 - December 31, 2017	72,000,000	5.30%	3,816,000
2016-2017 May Program Contract 1	May 1, 2016 - November 30, 2017	100,000,000	3.55%	2,662,500
2016-2018 June Program Contract 1	June 1, 2016 - May 31, 2018	49,999,980	5.40%	2,699,999
2015-2017 August Program Contract 1	August 1, 2015 - July 31, 2017	93,750,000	5.60%	2,625,000
2016-2017 August Program Contract 1	August 1, 2016 - July 31, 2017	93,750,000	5.50%	2,578,125
2017-2018 August Program Contract 1	August 1, 2017 - July 31, 2018	93,750,000	5.57%	2,610,938
2017-2020 August Program Contract 1	August 1, 2017 - July 31, 2020	93,750,000	5.87%	2,751,563
2015-2017 December Program Contract 1	December 1, 2015 - November 30, 2017	124,999,980	5.50%	6,874,999
2015-2017 December Program Contract 1 ADDL	December 1, 2016 - November 30, 2017	99,988,000	5.50%	5,499,340
2016-2018 December Program Contract 1	December 1, 2016 - November 30, 2018	74,998,000	5.67%	4,252,387
2017-2019 December Program Contract 1	December 1, 2017 - November 30, 2019	124,999,994	6.15%	1,921,875
2015-2017 December Program Contract 2	December 1, 2015 - November 30, 2017	49,999,950	5.60%	2,099,998
2015-2018 August Program Contract 1	August 1, 2015 - July 31, 2018	93,750,000	5.87%	5,503,125
2016-2019 August Program Contract 2	August 1, 2016 - July 31, 2019	93,750,000	5.87%	5,503,125
2017-2019 July Program Contract 1	July 1, 2017 - June 30, 2019	70,000,000	5.65%	1,977,500
2017-2018 July Program Contract 1	July 1, 2017 - June 30, 2018	20,000,000	4.15%	415,000
<b>Total Traditional Reinsurance Premium</b>				<b>225,319,444</b>
<b>Transformer Reinsurance Contracts</b>	<b>Contract Period</b>	<b>Reinsurance Limit</b>	<b>12-Month Rate-on-Line</b>	<b>2017 Premium</b>
2014 - 2017 Transformer Reinsurance Contract 1	December 1, 2014 - November 30, 2017	200,000,000	5.05%	7,609,589
2014 - 2017 Transformer Reinsurance Contract 2	December 1, 2014 - November 30, 2017	200,000,000	3.535%	5,326,712
2015 - 2018 Transformer Reinsurance Contract 1	September 16, 2015 - September 15, 2018	250,000,000	5.05%	12,732,742
2016 - 2019 Transformer Reinsurance Contract 1	December 1, 2016 - November 30, 2019	500,000,000	4.040%	20,287,517
2017 - 2020 Transformer Reinsurance Contract 2	May 16, 2017- May 15, 2020	425,000,000	3.54%	11,360,425
2017 - 2020 Transformer Reinsurance Contract 1	May 16, 2017- May 15, 2020	500,000,000	6.06%	25,706,097
2017 - 2020 Transformer Reinsurance Contract 4	December 1, 2017 - November 30, 2020	200,000,000	4.04%	3,137,734
2017 - 2020 Transformer Reinsurance Contract 3	December 1, 2017 - November 30, 2020	200,000,000	5.30%	3,760,337
<b>Total Transformer Reinsurance Premium</b>				<b>89,921,153</b>
<b>Total Risk-Transfer Program Premium</b>				<b>315,240,598</b>

## Board Memorandum

March 14, 2018

Agenda Item 6: CEA Participating Insurers: Maximum-Earthquake-Loss Funding-Assessment Levels

Recommended Action: Approve April 1, 2018, CEA Participating Insurer Maximum-Earthquake-Loss Funding-Assessment Levels

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### Background:

California Insurance Code section 10089.25 states,

*Beginning December 31, 1997, and annually thereafter on the 30<sup>th</sup> of April, the board shall notify each participating insurer of the maximum earthquake loss funding assessment level that it may be required to meet.*

Insurance Code sections 10089.30 and 10089.31 set forth, respectively, the calculations for determining the maximum aggregate assessments for the so-called “Second Industry Assessment Layer” and “New Industry Assessment Layer” of the California Earthquake Authority (CEA) financial structure.

### Analysis:

Taking legal effect on July 1, 2008, Senate Bill 430 established the CEA’s authority to assess its participating insurers through a vehicle commonly referred to as the New Industry Assessment Layer (“New IAL”).

This assessment authority was made available to the CEA on December 1, 2008, upon the sunset by law of the CEA’s authority to assess its participating insurers in the First Industry Assessment Layer (“1<sup>st</sup> IAL”). Unlike the 1<sup>st</sup> IAL, which the CEA could access once it had exhausted its available capital (but before the use of risk-transfer financing), the New IAL sits atop the Second Industry Assessment Layer (“2<sup>nd</sup> IAL”) in the CEA’s financial structure.

The 2<sup>nd</sup> IAL and the New IAL would be drawn on to pay policyholder claims once CEA’s available capital, proceeds from debt financing actually available and under contract, and other funds actually available and under contract for risk-transfer products have been exhausted. CEA participating insurers can be assessed in either or both of those remaining IALs in order to return the CEA’s available capital to the statutory minimum capital level of \$350 million (see California Insurance Code section 10089.31).

The law provides that CEA’s maximum assessment capability under the New IAL is subject to annual reductions, gradually decreasing the CEA’s ability to depend on its participating insurers for claim-paying capacity. Under California Insurance Code section 10089.33 (b) (1)—effective

April 1, 2010, and on each April 1<sup>st</sup> thereafter—the maximum aggregate assessment under the New IAL is subject to a 5% annual reduction and a separate reduction, in an amount equal to the “retained earnings differential.” As defined in California Insurance Code section 10089.33(b)(7), the retained earnings differential is calculated as:

“...the positive dollar-amount difference between: (A) the authority's positive one-year retained-earnings growth for the preceding calendar year, minus (B) the authority's capacity growth for the preceding calendar year, both calculated as of December 31. As used in this paragraph, "one-year retained-earnings growth" means the difference between the authority's cumulative retained earnings at December 31 of the preceding calendar year and the authority's cumulative retained earnings at December 31 of the year before the preceding calendar year, calculated in accordance with generally accepted accounting principles as of the preceding December 31. As used in this paragraph, the term "capacity growth" is the one-year amount of purchased risk transfer, such as reinsurance, or borrowed risk transfer such as bonds, put in place in the authority's financial structure to account for the authority's aggregate exposure growth over the preceding year ending December 31. The board shall be authorized and entitled, in its sole discretion, to make all final decisions regarding the authority's level of financial strength and security and the authority's choice and use of financing and risk-transfer mechanisms.”

*Attachment A* is the calculation of the aggregate assessment reduction (commonly referred to as the “roll-off”) of the New IAL, effective April 1, 2018, as well as the resulting New IAL assessment capacity.

The assessment capacity for the 2<sup>nd</sup> IAL is also adjusted when a new company begins participating in the CEA. That adjustment takes into consideration the new participating insurer’s residential property insurance market share at the time it started transferring exposure to the CEA and adds that percentage to the combined percentage of the existing participating insurers when they started transferring exposure to the CEA. During 2017, no insurance company became a new CEA participating insurer that had residential property insurance market share, and therefore the aggregate total of the 2<sup>nd</sup> IAL capacity for 2018 remains unchanged from 2017.

Staff has calculated each CEA participating insurer’s respective CEA earthquake market-share percentage, based on the insurer’s written CEA premium level. From this calculation, the CEA determines each insurer’s maximum earthquake-loss-funding-assessment level for 2018.

*Attachment B* shows, for each participating insurer, the maximum earthquake-loss-funding-assessment-level it may be required to meet, upon appropriate assessment duly made by the CEA.

Recommendations:

Staff recommends that:

- The Governing Board adopt and acknowledge New IAL aggregate assessment amount is now rolled off completely as shown in *Attachment A*, effective April 1, 2018.
- The Board adopt the CEA market-share percentages shown in *Attachment B*, which are to be used to determine the maximum earthquake-loss-funding-assessment levels for CEA participating insurers, effective April 30, 2018.
- The Board authorize CEA staff to notify each participating insurer of its respective April 30, 2018, maximum earthquake-loss-funding-assessment-level responsibility.

California Earthquake Authority  
Calculation of New Industry Assessment Layer Worksheet

<b>5% of Initial Maximum Aggregate Assessment (1.780 billion x 5.0%)</b>			<b>\$89,000,000</b>
Retained Earnings Growth	+	256,054,646	
Capacity Growth:			
1/1/2018 - New Risk Transfer capacity		\$8,020,173,567	
Series 2006 and Series 2014 Revenue Bond proceeds	+	\$682,657,494	
12/31/2017 - Previous year Risk Transfer capacity	-	\$7,311,980,152	
Series 2006 and Series 2014 Revenue Bond proceeds	-	\$682,657,494	
Capacity Growth Previous Year	-	\$708,193,415	
<b>Retained Earnings Differential</b>	<b>=</b>	<b>(\$452,138,769)</b>	<b>+ \$ -</b>
<b>April 1, 2018 Aggregate Assessment Reduction</b>			<b>= \$89,000,000</b>
<b>Prior Year Modified Aggregate Assessment Calculation</b>			<b>\$65,814,556</b>
<b>April 1, 2018 Aggregate Assessment Reduction</b>			<b>- \$89,000,000</b>
<b>Modified Aggregate Assessment as of April 1, 2018</b>			<b>= \$0</b>
<b>Residential Homeowner Market Share calculated at the time each participating insurer joined the CEA</b>			<b>X 82.7793%</b>
<b>New IAL Assessment Capacity as of April 1, 2018</b>			<b>= \$0</b>

**CEA Participating Insurers**  
**2018 Maximum Earthquake-Loss-Funding-Assessment Levels**  
**(Based on CEA Written-Premium Market Share as of December 31, 2017)**

<u>Company Name</u>	<u>CEA Market Share</u>	<u>CA Residential Market Share*</u>	<u>Max Assessment 2nd Layer</u>	<u>Max Assessment New Layer</u>	<u>Total Max Assessments</u>	<u>Written Premium</u>
State Farm Group	32.6396110%	17.181702%	\$ 540,376,829	\$ -	\$ 540,376,829	\$ 234,300,717
USAA <sup>2</sup>	14.5579642%	4.323273%	\$ 241,019,617	\$ -	\$ 241,019,617	\$ 104,503,128
Farmers	13.1095327%	13.853212%	\$ 217,039,589	\$ -	\$ 217,039,589	\$ 94,105,684
Allstate	9.6502643%	5.084173%	\$ 159,768,425	\$ -	\$ 159,768,425	\$ 69,273,615
Inter-Ins. Exchange	7.3355781%	5.696912%	\$ 121,446,805	\$ -	\$ 121,446,805	\$ 52,657,834
Safeco	5.9229458%	2.028999%	\$ 98,059,462	\$ -	\$ 98,059,462	\$ 42,517,371
CSAA <sup>1</sup>	5.0210622%	6.424441%	\$ 83,128,003	\$ -	\$ 83,128,003	\$ 36,043,275
Mercury	4.1208380%	4.155604%	\$ 68,224,017	\$ -	\$ 68,224,017	\$ 29,581,091
Nationwide	2.9051110%	5.482587%	\$ 48,096,610	\$ -	\$ 48,096,610	\$ 20,854,096
Liberty Mutual	2.4908949%	4.261608%	\$ 41,238,908	\$ -	\$ 41,238,908	\$ 17,880,681
Foremost	0.6612879%	1.509077%	\$ 10,948,190	\$ -	\$ 10,948,190	\$ 4,747,000
FAIR Plan	0.5746297%	0.829477%	\$ 9,513,488	\$ -	\$ 9,513,488	\$ 4,124,931
Encompass	0.5429195%	0.435214%	\$ 8,988,499	\$ -	\$ 8,988,499	\$ 3,897,302
Homesite	0.3123022%	0.963140%	\$ 5,170,431	\$ -	\$ 5,170,431	\$ 2,241,835
Armed Forces	0.0716069%	0.049324%	\$ 1,185,513	\$ -	\$ 1,185,513	\$ 514,024
ASI	0.0515380%	0.000000%	\$ 853,255	\$ -	\$ 853,255	\$ 369,961
MAPFRE	0.0238090%	0.125047%	\$ 394,179	\$ -	\$ 394,179	\$ 170,911
Golden Eagle	0.0078885%	0.000257%	\$ 130,601	\$ -	\$ 130,601	\$ 56,627
Hyundai	0.0002161%	0.001746%	\$ 3,577	\$ -	\$ 3,577	\$ 1,551
<b>TOTAL</b>	<b>100.00000%</b>	<b>72.40579%</b>	<b>\$ 1,655,586,000</b>	<b>\$ 0</b>	<b>\$ 1,655,586,000</b>	<b>\$ 717,841,634</b>

\* Based on California Department of Insurance 2016 California Market-Share Report. The Department's 2017 California Market-Share Report will not be publicly available until May 2018.

<sup>1</sup> ACA was combined with CSAA

<sup>2</sup> Garrison was combined with USAA

## **Governing Board Memorandum**

March 14, 2018

Agenda Item 7: Annual Report on the state of the economy by Raymond James & Associates, Inc., CEA's independent financial advisor

Recommended Action: No action required—information only

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Kapil Bhatia, Director of Public Finance, Raymond James & Associates, Inc.—CEA's independent financial advisor—will present to the Board the annual report on the state of the economy.

# Economic, Financial, Investment, and Risk Transfer Market Overview

Prepared for:



March 14, 2018

**RAYMOND JAMES**

**Kapil Bhatia**

**Managing Director, Public Finance**

Raymond James & Associates, Inc.

Ph: 727-567-1791

Email: [Kapil.Bhatia@RaymondJames.com](mailto:Kapil.Bhatia@RaymondJames.com)

**Section 1**

Economic Overview

**Section 2**

Financial Market Overview

**Section 3**

CEA Investment Portfolio

**Section 4**

Risk Transfer Market

## **Section 1:**

# Economic Overview

## ECONOMIC AND MARKET OVERVIEW

- Conditions in the labor market still reflect demographic change, skill mismatch, and structural deficiency
  - U.S. interest rates are still low from a historical perspective but have increased significantly over the past three months
  - Global interest rates are still low and there is over \$9 trillion of negative yielding sovereign debt
  - The corporate bond market has been bolstered by low interest rates
  - The reduction in the corporate tax rate from 35% to 21% is expected to increase capital investment
- There are currently 6.7 million people unemployed, or 4.1%, in the United States
  - There are currently over 159 million civilians employed in the United States, which is 63.0% of the civilian population of 252 million, which is marginally above the lowest rate over the last 40 years of 62.4% in September 2015
  - The U-6 unemployment rate, which includes those employed part time due to economic reasons, is 8.2%
    - The U-6 rate provides a broad picture of the underutilization of labor by capturing discouraged workers, underemployed workers. The difference between U-6 unemployment rate and the U-3 unemployment rate reflects permanent demographic and structural changes in our economy and also uberization of our economy.
  - The Fed raised rates by 0.25% three times in 2017 (March, June and December) with the new target as 1.25%-1.50% with a consensus projection of 3-4 rate increases in 2018
  - Recent volatility has caused the stock markets to virtually erase all their gains for the year - the S&P 500 is up 3.5% for the year and the DJIA is up 1.8%
  - There is still over \$9 trillion of negative yielding debt globally
  - The corporate bond market had a record year in 2017 with over \$1.6 trillion of issuance
  - In 2017 a record three category 4+ hurricanes made landfall and caused over \$100 billion of insured losses. Additional global catastrophe events included earthquakes in Mexico and the costliest wildfires in California's history. Total insured global losses were approximately \$135 billion – the third most expensive year (2011 remains the largest with the Japanese earthquake and tsunami followed by 2005 with Katrina, Rita and Wilma)
    - While the 2017 hurricanes caused losses of approximately 10% of global reinsurance capital, and absorbed the industry's net income for the year there is still abundant capacity in the marketplace and the impact on risk transfer pricing on January 1 was mostly isolated to loss-affected lines

## THE OFFICIAL UNEMPLOYMENT RATE IS DECREASING BUT STRUCTURAL UNEMPLOYMENT REMAINS HIGH

- While the official unemployment rate remains the primary measure of changes in labor underutilization, the alternative measures provide different views of the extent to which the economy is not fully utilizing its labor resources
- Analyzing the gap between the official unemployment rate (U-3) and the broadest measure of labor underutilization (U-6) provides extra insight into whether the economy is healing or have the structural deficiency

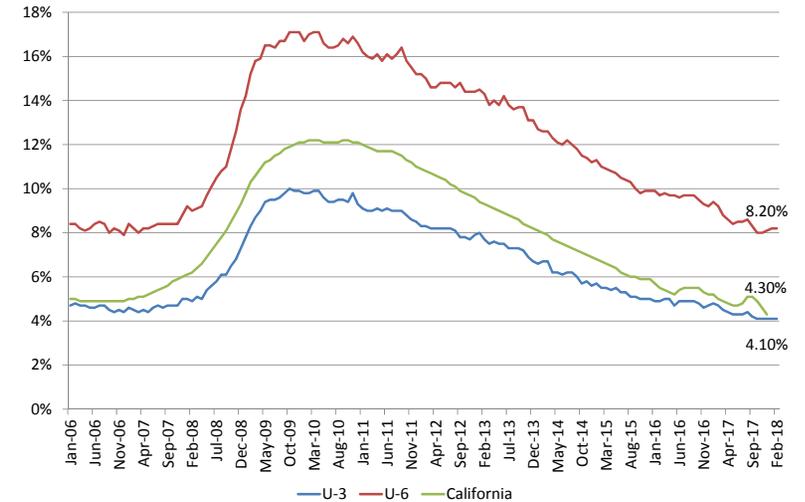
- There are few alternative measures of labor utilization. There is the official unemployment rate (U-3) and three broader measures (U-4, U-5 and U-6), which incorporate individuals who are not captured in the official measure:
  - U-3 is the official unemployment rate (i.e., the unemployed, as a percent of the civilian labor force)
  - U-5 includes the unemployed, discouraged workers, and the marginally employed
  - U-6 is the broadest measure, which includes the unemployed, the marginally employed, and persons who are underemployed

	U-3	U-6	Difference Between U-3 and U-6
<b>Current</b>	<b>4.1%</b>	<b>8.2%</b>	<b>4.1%</b>
Min	4.1%	7.9%	3.4%
Max	10.0%	17.1%	7.4%
Date of Min.	Oct-17	Dec-06	Apr-06
Date of Max.	Oct-09	2009-10	Sep-11

Source: Bureau of Labor Statistics

1% change = 1.57 million people

### Unemployment Rates - U-3, U-6 and California



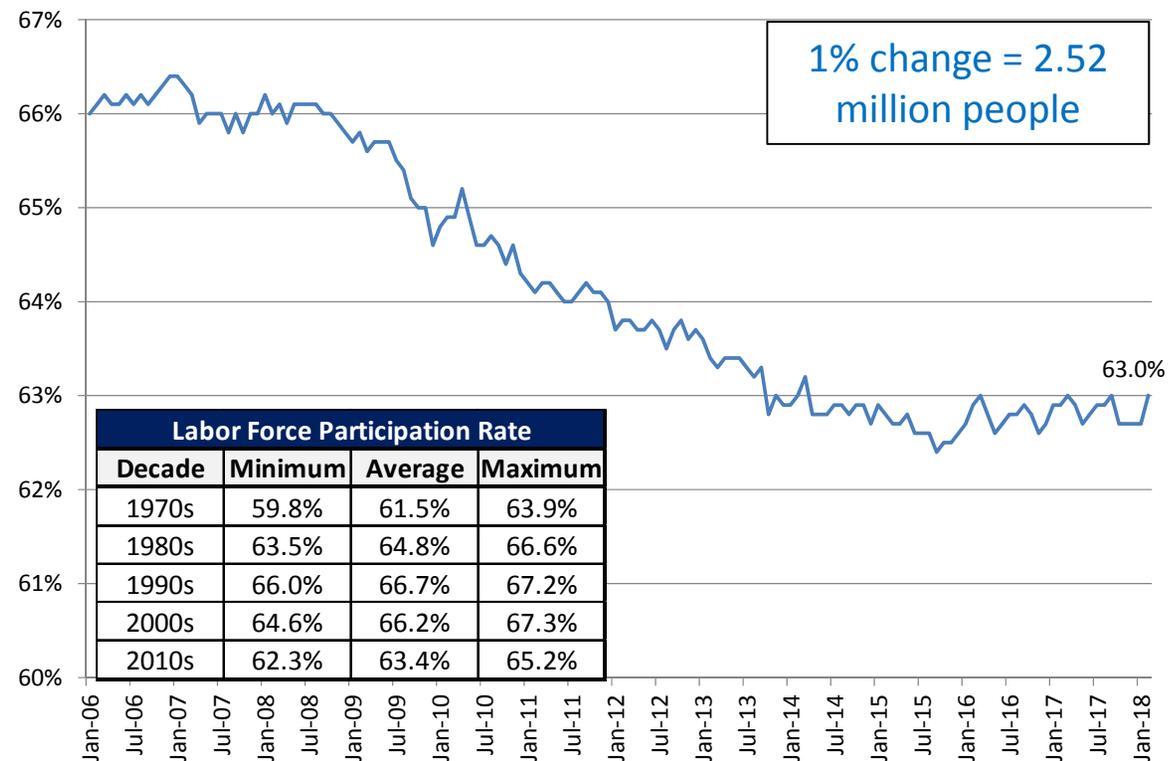
### Difference Between U-3 and U-6 Unemployment Rates



## LABOR FORCE PARTICIPATION IS LAGGING

- The labor force participation rate stands at 63.0%, which is marginally above the lowest rate over the last 40 years of 62.3% in September 2015 – another reflection of structural deficiency
- The labor force participation rate has fallen due to cyclical factors such as workers temporarily dropping out of the workforce because of discouragement over job prospects, but primarily due to demographic changes such as the Baby Boomers reaching retirement age, younger workers staying in school longer, and a need to re-train labor skill sets to match changing nature of the economy

### Labor Force Participation Rate



- The decline in the labor participation rate explains structural unemployment
- There are over 13 million people unemployed in the United States

## **Section 2:**

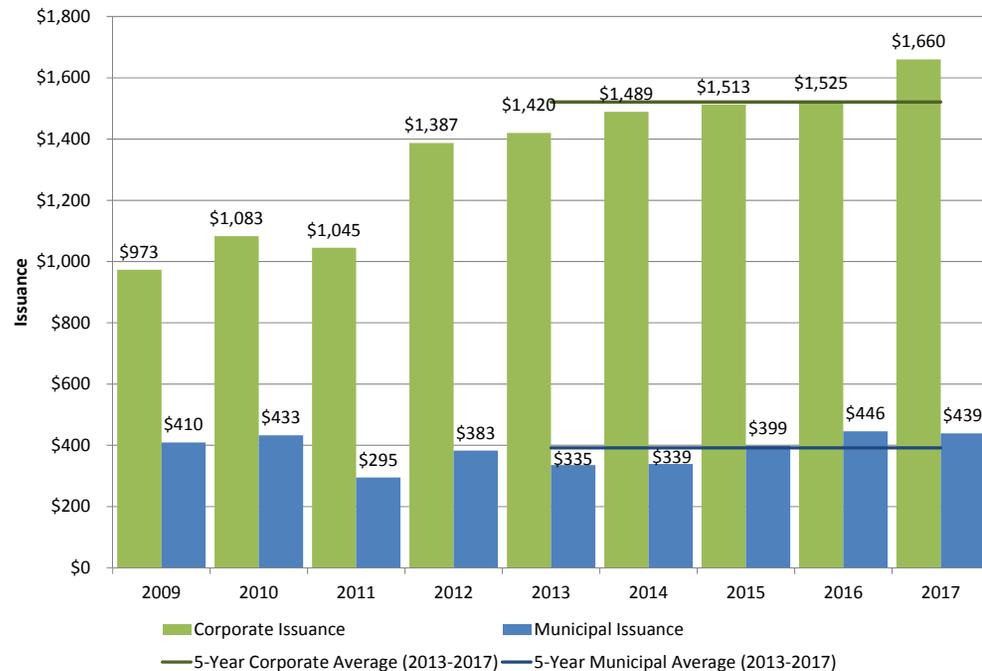
# Financial Market Overview

## BOND MARKETS

- In 2017, corporate issuance was over \$1.6 trillion – the eight straight year that corporate issuance has surpassed \$1 trillion
- Municipal issuance was flat in 2017 versus 2016 with \$439 billion issued, and is marginally above the average issuance of \$392 billion over the past five years

Year	Corporate Issuance		Municipal Issuance			
	Par (\$B)	% Change from Prior Yr	New Money (\$B)	Refunding (\$B)	Total Par (\$B)	% Change from Prior Yr
2009	\$973	38%	\$261	\$149	\$410	5%
2010	\$1,083	11%	\$279	\$154	\$433	6%
2011	\$1,045	-4%	\$150	\$145	\$295	-32%
2012	\$1,387	33%	\$149	\$234	\$383	30%
2013	\$1,420	2%	\$162	\$174	\$335	-12%
2014	\$1,489	5%	\$145	\$194	\$339	1%
2015	\$1,513	2%	\$151	\$247	\$399	18%
2016	\$1,525	1%	\$174	\$272	\$446	12%
2017	\$1,660	9%	\$204	\$235	\$439	-2%

Historical Corporate and Municipal Issuance (\$ in Billions)



## BOND MARKETS – CONTINUED

- Most of the debt today has been used for “financial engineering”, in the form of mergers and acquisitions and stock buybacks and other methods that boost corporate profits
  - In the current low interest rate environment, refundings represent more than half of municipal bond issuance
- Corporate issuance reached an all-time high in 2017 as issuers took advantage of low interest rates and strong investor demand to finance acquisitions and stock buybacks as well as refinancing old debt
  - The largest corporate bond issuances in 2017 were:
    - AT&T issued \$22.5 billion in July
    - BAT Capital issued \$17.3 billion in August
    - Microsoft issued \$17.0 billion in January
    - Amazon issued \$16.0 billion in August
    - Broadcom issued \$13.6 billion in January
  - In the municipal market, refundings have comprised more than half of total issuance every year since 2012
  - The largest municipal bond issuances in 2017 were:
    - State of Illinois \$4.5 billion tax-exempt new money
    - State of California \$2.8 billion tax-exempt new money and refunding
    - State of California \$2.6 billion tax-exempt new money and refunding
    - North Texas Tollway Authority \$2.5 billion tax-exempt new money and refunding
    - Hudson Yards Infrastructure Corporation \$2.1 billion taxable and tax-exempt refunding
    - Metropolitan Transportation Authority \$2.0 billion tax-exempt refunding

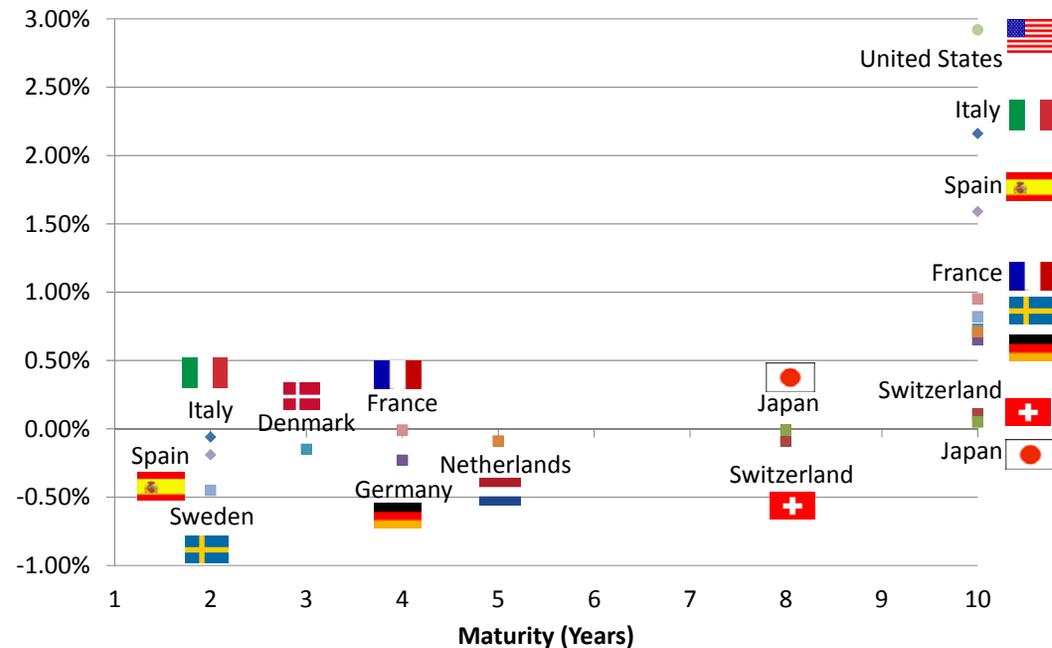
## GLOBAL INTEREST RATES

- Global interest rates are near historic lows with many still below 0%
- Central banks in the Euro Zone, Japan, Sweden, Denmark and Switzerland have pushed their short term interest rate targets near or below zero, in an effort to weaken their currencies and fight disinflationary pressures
- For larger economies such as Japan and the Euro Zone, inflation remains stunningly weak, despite low interest rates

- The amount of global sovereign debt with negative yields is slowly decreasing, but is still approximately \$9 trillion as of the end of 2017
- Numerous countries still have negative yields in the maturity ranges from 5-years to 10-years

Sovereign Interest Rates				
Country	Negative Rates Maximum Maturity	Maximum Maturity Negative Rate	5-Year Rate	10-Year Rate
Switzerland	8-Yrs	-0.09%	-0.41%	0.11%
Japan	8-Yrs	-0.01%	-0.11%	0.05%
Germany	4-Yrs	-0.23%	0.03%	0.65%
Denmark	3-Yrs	-0.15%	0.21%	0.73%
Netherlands	5-Yrs	-0.09%	-0.09%	0.71%
Sweden	2-Yrs	-0.45%	0.18%	0.82%
France	4-Yrs	-0.01%	0.14%	0.95%
Spain	2-Yrs	-0.19%	0.48%	1.59%
Italy	2-Yrs	-0.06%	0.98%	2.16%

Sovereign Interest Rates



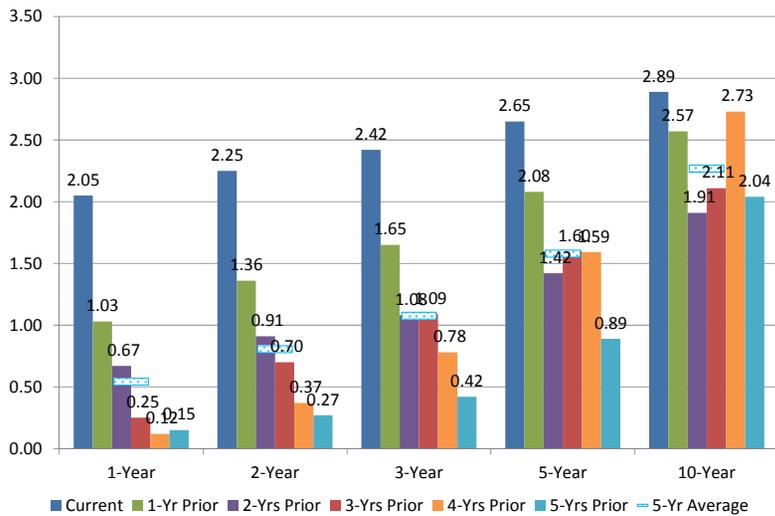
# U.S. INTEREST RATES

U.S. Treasury Rates					
	1-Year	2-Year	3-Year	5-Year	10-Year
<b>Current</b>	<b>2.05</b>	<b>2.25</b>	<b>2.42</b>	<b>2.65</b>	<b>2.89</b>
1-Yr Prior	1.03	1.36	1.65	2.08	2.57
2-Yrs Prior	0.67	0.91	1.08	1.42	1.91
3-Yrs Prior	0.25	0.70	1.09	1.60	2.11
4-Yrs Prior	0.12	0.37	0.78	1.59	2.73
5-Yrs Prior	0.15	0.27	0.42	0.89	2.04
<b>5-Yr Average</b>	<b>0.54</b>	<b>0.80</b>	<b>1.08</b>	<b>1.58</b>	<b>2.27</b>
Current as % Above / Below 5-Yr Average	279%	180%	125%	68%	27%

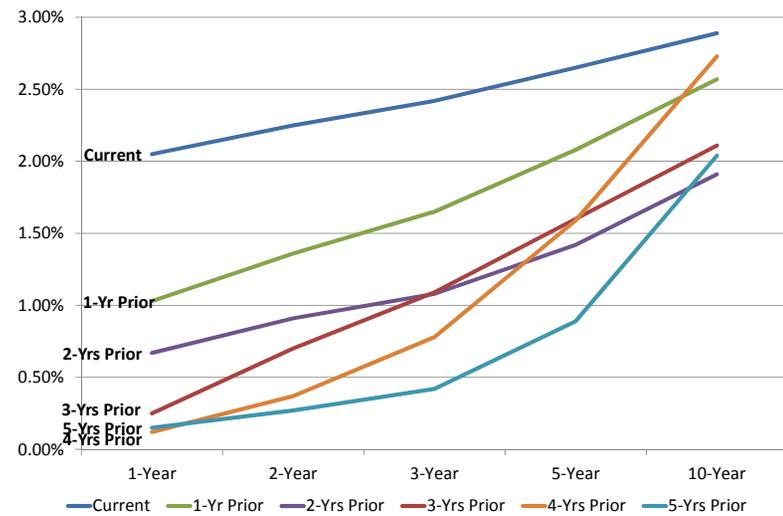
**Spread Between 2-Year and 10-Year U.S. Treasury Rates**



**Current and Historical Treasury Curves (%)**



**Current and Historical Treasury Curves**



## **Section 3:**

# CEA Investment Portfolio

## CEA INVESTMENT POLICIES AND PORTFOLIO OVERVIEW

CEA Investment Policy Summary				
Fund	Liquidity	Primary	Claims-Paying	Mitigation
<b>Purpose</b>	Funds to pay for the operating expenses and initial claims from an earthquake	Funds in excess of the Liquidity Fund to pay claims following an earthquake	Bond proceeds from the CEA's issuance of revenue bonds to pay claims following an earthquake	Funds to pay for the mitigation program and associated expenses
<b>Treasuries / Agencies Composition</b>	Up to 100% Treasuries / Max. 50% Agencies	100% Treasuries	Up to 100% Treasuries / Max. 50% Agencies	Up to 100% Treasuries / Max. 50% Agencies
<b>Maximum Final Maturity</b>	181 days	5 years	5 years	91 days

- CEA's investment portfolio totals \$6.3 billion with an effective duration of 2.33 years and is comprised of liquidity, primary, claims-paying and mitigation funds
- The maximum effective duration pursuant to the investment policy for the total portfolio was changed to 3.00 years from 1.75 years in December 2015

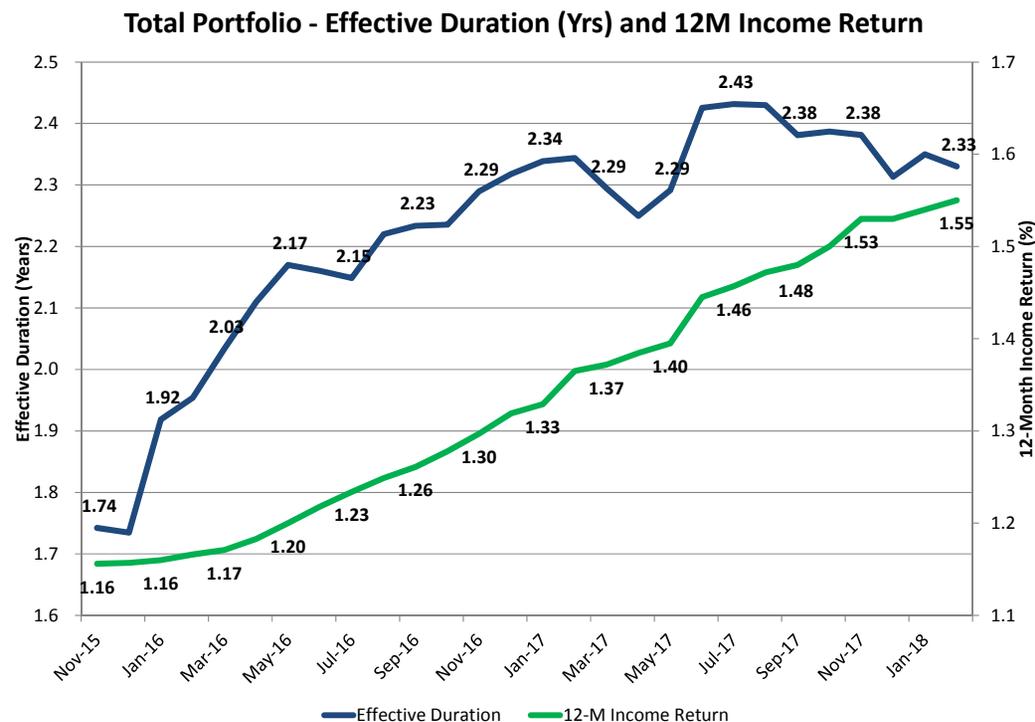
CEA Investment Portfolio Statistics - February 28, 2018					
Fund	Market Value (\$000's)	Composition (% of Mkt. Value)	12-Month Total Return	12-Month Income Return	Effective Duration (Years)
Liquidity	\$478,841	8%	0.91%	0.61%	0.04
Primary	\$5,100,190	81%	-0.24%	1.66%	2.51
Claims-Paying	\$675,735	11%	-0.30%	1.84%	2.61
Mitigation	\$18,044	0%	0.91%	0.83%	0.07
<b>Total</b>	<b>\$6,272,810</b>	<b>100%</b>	<b>-0.16%</b>	<b>1.55%</b>	<b>2.33</b>
<b>Primary and Liquidity Combined</b>	<b>\$5,579,031</b>	<b>89%</b>	<b>-0.14%</b>	<b>1.52%</b>	<b>2.30</b>
<b>Primary, Liquidity, and Claims-Paying Combined</b>	<b>\$6,254,766</b>	<b>100%</b>	<b>-0.16%</b>	<b>1.55%</b>	<b>2.33</b>

CEA Investment Portfolio Statistics - November 30, 2015					
Fund	Market Value (\$000's)	Composition (% of Mkt. Value)	12-Month Total Return	12-Month Income Return	Effective Duration (Years)
Liquidity	\$942,721	16%	0.09%	0.06%	0.17
Primary	\$4,226,334	72%	0.52%	1.37%	2.03
Claims-Paying	\$668,913	11%	0.56%	1.44%	2.20
Mitigation	\$20,547	0%	0.09%	0.56%	0.11
<b>Total</b>	<b>\$5,858,514</b>	<b>100%</b>	<b>0.45%</b>	<b>1.16%</b>	<b>1.74</b>
<b>Primary and Liquidity Combined</b>	<b>\$5,169,055</b>	<b>88%</b>	<b>0.44%</b>	<b>1.12%</b>	<b>1.69</b>
<b>Primary, Liquidity, and Claims-Paying Combined</b>	<b>\$5,837,968</b>	<b>100%</b>	<b>0.46%</b>	<b>1.16%</b>	<b>1.75</b>

## INVESTMENT PORTFOLIO DURATION

- In December 2015, the CEA revised its investment portfolio maximum duration to 3.00 years from 1.75 years
- The increase in duration allows CEA to maximize its investment return and funding for mitigation and to take advantage of market conditions
- As of February 28, 2018, the CEA's overall portfolio duration is 2.33 years
  - Primary Fund – 2.51 years
  - Liquidity Fund – 0.04 years
  - Mitigation Fund – 0.07 years
  - Claims-Paying Fund – 2.61 years

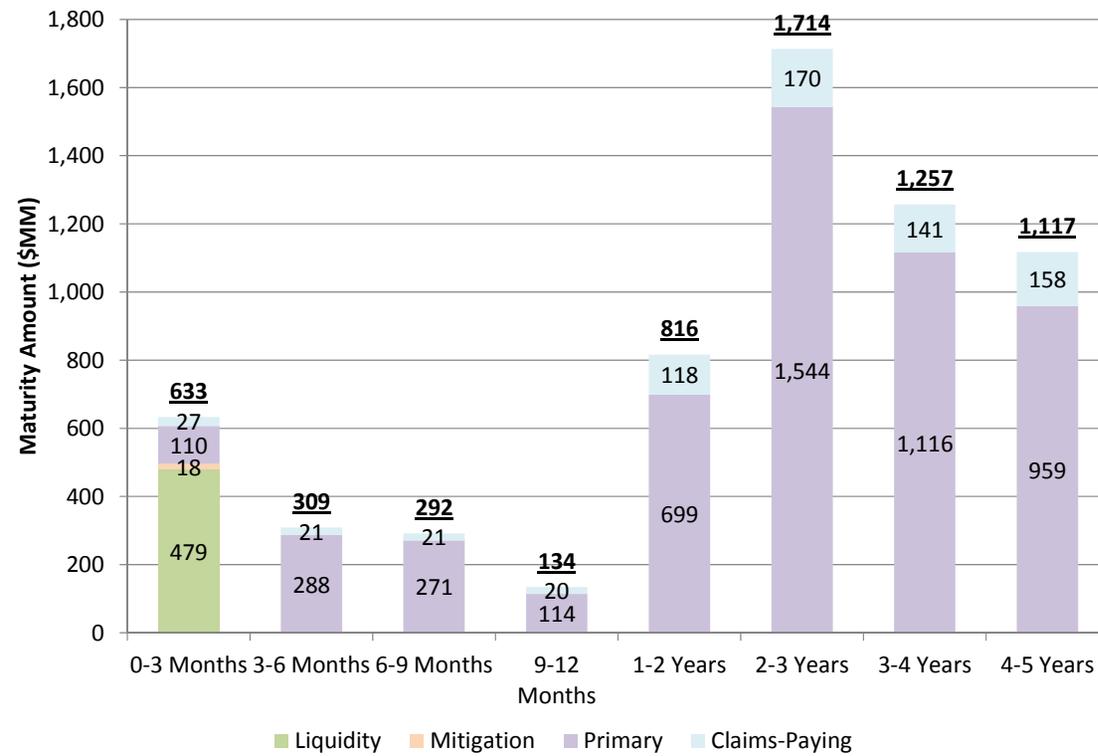
- After the CEA's increase to its duration target from 1.75 years to 3.00 years in December 2015, the overall portfolio's duration has increased to 2.33 years and has a 12-month income return of 1.55%



## CEA MATURITY DISTRIBUTION – MARCH 1, 2018

CEA Investment Portfolio - March 2018 - Maturity Distribution (\$MM)									
Fund	Market Value	0-3 Months	3-6 Months	6-9 Months	9-12 Months	1-2 Years	2-3 Years	3-4 Years	4-5 Years
Claims-Paying	676	27	21	21	20	118	170	141	158
Liquidity	479	479							
Mitigation	18	18							
Primary	5,100	110	288	271	114	699	1,544	1,116	959
<b>Total</b>	<b>6,273</b>	<b>633</b>	<b>309</b>	<b>292</b>	<b>134</b>	<b>816</b>	<b>1,714</b>	<b>1,257</b>	<b>1,117</b>
<b>% of Total</b>		<b>10%</b>	<b>5%</b>	<b>5%</b>	<b>2%</b>	<b>13%</b>	<b>27%</b>	<b>20%</b>	<b>18%</b>

CEA Investment Portfolio - Current Maturity Distribution



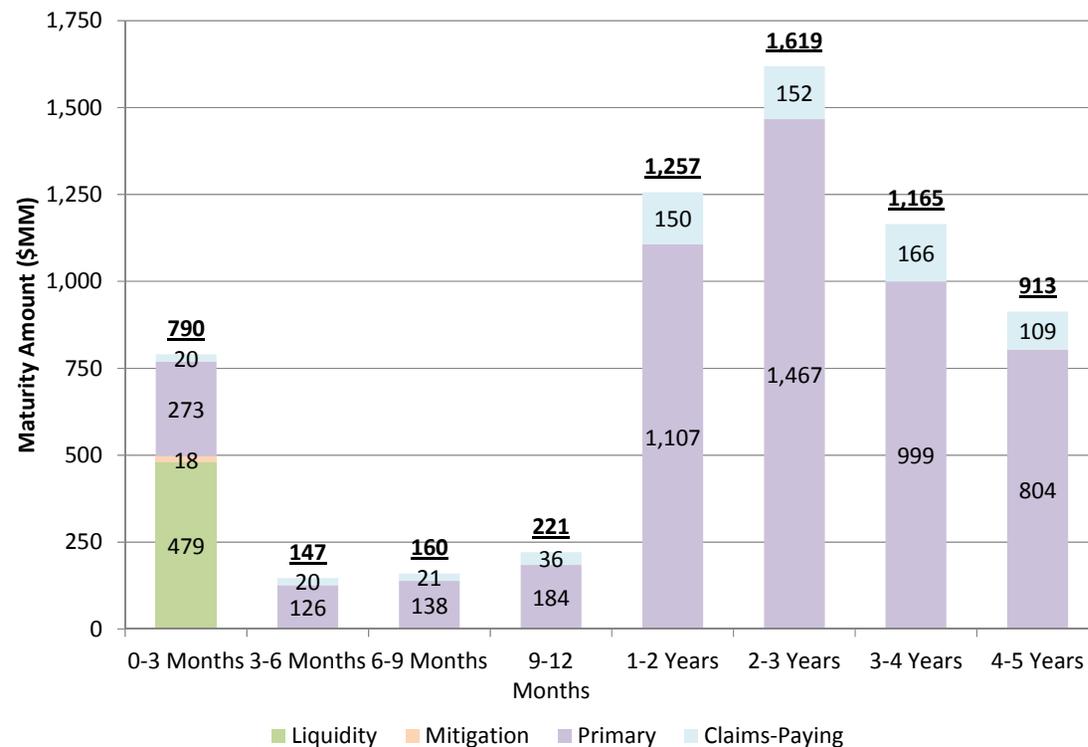
- As of March 1, 2018, the CEA has a total duration of 2.33 years

## CEA PROJECTED MATURITY DISTRIBUTION – SEPTEMBER 2018

CEA Investment Portfolio - September 2018 - Maturity Distribution (\$MM)									
Fund	Market Value	0-3 Months	3-6 Months	6-9 Months	9-12 Months	1-2 Years	2-3 Years	3-4 Years	4-5 Years
Claims-Paying	676	20	20	21	36	150	152	166	109
Liquidity	479	479							
Mitigation	18	18							
Primary	5,100	273	126	138	184	1,107	1,467	999	804
<b>Total</b>	<b>6,273</b>	<b>790</b>	<b>147</b>	<b>160</b>	<b>221</b>	<b>1,257</b>	<b>1,619</b>	<b>1,165</b>	<b>913</b>
% of Total		13%	2%	3%	4%	20%	26%	19%	15%

- The projected maturity distribution is based on that the Claims-Paying and Primary Funds will be reinvested with an average maturity of 4.5 years
- As of September 2018, the CEA may potentially have a total duration of 2.23 years compared to the current duration of 2.33 years

CEA Investment Portfolio - Projected Maturity Distribution - September 2018

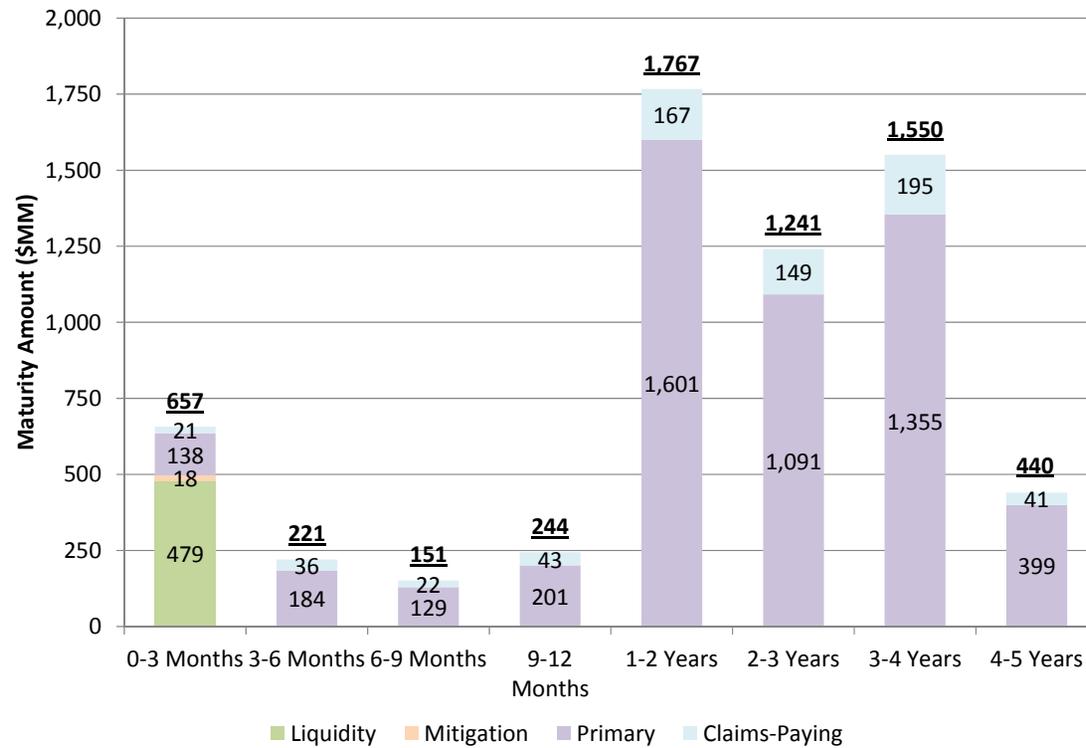


## CEA PROJECTED MATURITY DISTRIBUTION – MARCH 2019

CEA Investment Portfolio - March 2019 - Maturity Distribution (\$MM)									
Fund	Market Value	0-3 Months	3-6 Months	6-9 Months	9-12 Months	1-2 Years	2-3 Years	3-4 Years	4-5 Years
Claims-Paying	676	21	36	22	43	167	149	195	41
Liquidity	479	479							
Mitigation	18	18							
Primary	5,100	138	184	129	201	1,601	1,091	1,355	399
<b>Total</b>	<b>6,273</b>	<b>657</b>	<b>221</b>	<b>151</b>	<b>244</b>	<b>1,767</b>	<b>1,241</b>	<b>1,550</b>	<b>440</b>
% of Total		10%	4%	2%	4%	28%	20%	25%	7%

- The projected maturity distribution is based on that the Claims-Paying and Primary Funds will be reinvested with an average maturity of 4.5 years
- As of March 2019, the CEA may potentially have a total duration of 2.13 years compared to the current duration of 2.33 years

CEA Investment Portfolio - Projected Maturity Distribution - March 2019



## INVESTMENT PORTFOLIO SUMMARY

- **The CEA's revised investment policy overall duration target of 3.00 years will generate additional investment income without taking on any additional risk**
- In December 2015, the CEA revised its investment portfolio maximum duration to 3.00 years from 1.75 years
- The timing of the CEA's change to the investment policy duration target took advantage of the Federal Reserve rate increase that month in December 2015 and generated additional investment income by taking advantage of the increase in interest rates with a longer duration portfolio
- In 2017, the CEA's income return was 1.53%, which generated over \$93 million in income or over \$12 million (16%) more than the \$81 million of income earned in 2016 and over \$29 million (47%) more than the \$64 million of income earned in 2015
- Based on the maturity structure of the investment portfolio and projected reinvestments in the Primary Fund and Claims-Paying Fund maturities at an average maturity of 4.5 years:
  - As of September 2018 the total portfolio duration is projected be approximately 2.23 years with the Primary Fund duration at approximately 2.42 years and the Claims-Paying Fund duration at approximately 2.47 years
  - As of March 2019, the total portfolio duration is projected to be approximately 2.13 years with the Primary Fund duration at approximately 2.31 years and the Claims-Paying Fund duration at approximately 2.28 years
- With the expected interest rate increases by the Federal Reserve in 2018, we expect the CEA's annual investment income to increase further by approximately \$15-\$20 million in 2018

## **Section 4:**

# Risk Transfer Market

- The 2017 hurricanes caused losses of approximately 10% of global reinsurance capital, and absorbed the industry's net income for the year
- The alternative capital trend is continuing where capital from outside of the reinsurance industry is increasingly interested in accessing the markets' returns as an alternative investment asset class
- There is ample capacity and demand in the marketplace and the uncorrelated nature of the catastrophe bond market to other financial markets will continue to work in favor of catastrophe bond sponsors

## REINSURANCE MARKET OVERVIEW

- Recent years have seen soft underwriting conditions partly due to benign claims developments, but were mostly a direct consequence of excess capital in the market
- Through the first nine months of 2017 **reinsurance capital was at \$600 billion, of which approximately \$82 billion is non-traditional capital**
- The 2017 hurricanes caused losses of approximately 10% of global reinsurance capital, and absorbed the industry's net income for the year there is still abundant capacity in the marketplace and the impact on risk transfer pricing on January 1 was mostly isolated to loss-affected lines

Global Reinsurer Capital						
Year	Traditional		Non-Traditional		Total	
	Amount (\$B)	YoY% Change	Amount (\$B)	YoY% Change	Amount (\$B)	YoY% Change
2008	\$321	-17%	\$19	-14%	\$340	-17%
2009	\$378	18%	\$22	16%	\$400	18%
2010	\$447	18%	\$24	9%	\$471	18%
2011	\$428	-4%	\$28	17%	\$456	-3%
2012	\$461	8%	\$44	57%	\$505	11%
2013	\$490	6%	\$50	14%	\$540	7%
2014	\$511	4%	\$64	28%	\$575	6%
2015	\$493	-4%	\$72	13%	\$565	-2%
2016	\$514	4%	\$81	13%	\$595	5%
2017	\$518	1%	\$82	1%	\$600	1%
10-Year CAGR		5%		16%		6%

Source: Aon Benfield

### Global Reinsurer Capital

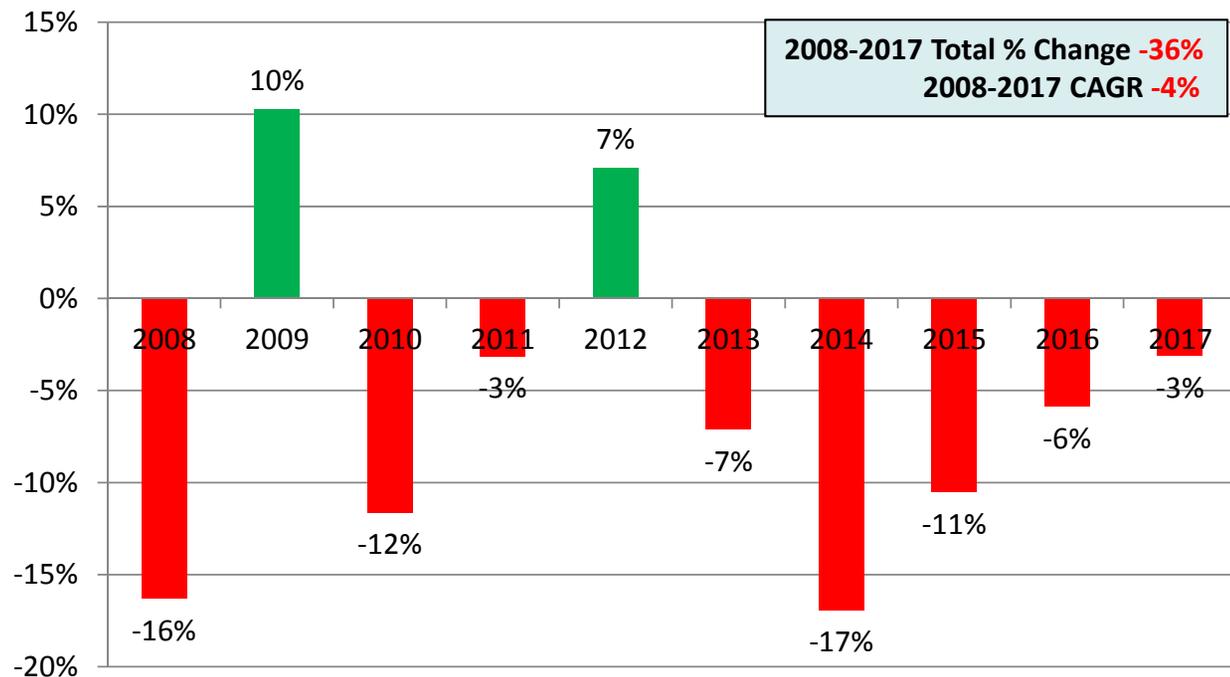


## REINSURANCE PRICING CONDITIONS

- Overall reinsurance prices in 2018 will be less affected by the loss events of 2017 and the price increases for those loss-affected perils and regions are not expected to be sustained
- There is a possibility that if losses are maintained at historically normal levels in 2018, the overall pricing levels in the end of 2018 could revert back to flat as there is still significant capacity in the marketplace and capital that has yet to be deployed

- Due to the significant losses in 2017 that was mostly an earnings event for the reinsurance sector, risk transfer price increases in loss-affected segments are expected in 2018 in the range of approximately 5%-10%
  - Of those programs that may experience price increases, the ones at the most risk for price increases are the relatively riskier placements for wind risk based on attachment probability

U.S. Property Catastrophe ROL YoY Change - 2008 to 2017



Source: Guy Carpenter

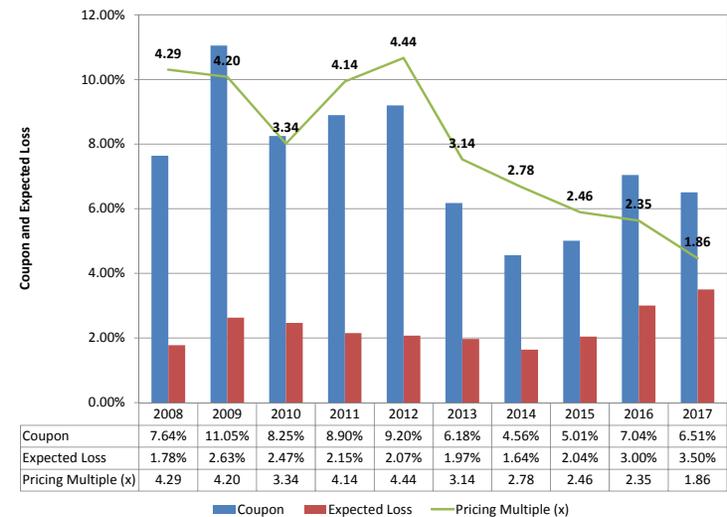
## CATASTROPHE BOND MARKET OVERVIEW

- Secondary market pricing of catastrophe bonds, particularly those with aggregate cover and loss-affected regions/perils, were impacted by the events of 2017
- Some catastrophe bonds were triggered due to the 2017 events with partial or total losses on 10 tranches for a total of approximately \$333 million
- Despite the 2017 events, the market remains strong and there is abundant capacity in the marketplace which will help maintain 2018 pricing at levels relative to 2017

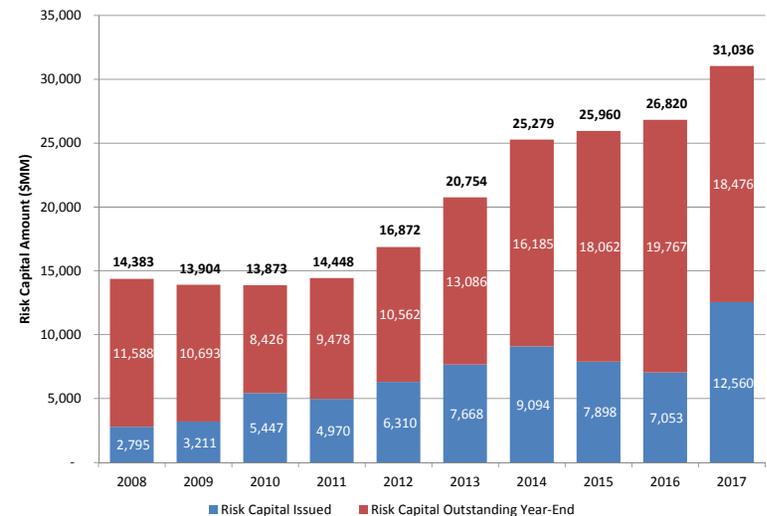
- The catastrophe bond market has grown dramatically in recent years and the increased market demand has also driven pricing down
- During 2017 the outstanding catastrophe bond market had a record amount of issuance with over \$12.5 billion and grew to a record level of \$31.0 billion
- There is a projected net increase in the catastrophe bond market in 2018 as there are \$6.1 billion of maturities and over \$10 billion in projected issuance – therefore the outstanding market should grow by approximately \$4 billion to an outstanding amount of approximately \$35 billion

(\$ in MM)	Risk Capital Issued	Risk Capital Redemption Volume	Risk Capital Outstanding Year-End	% Change YoY of Risk Capital Outstanding
2008	2,795	2,436	14,383	3%
2009	3,211	3,690	13,904	-3%
2010	5,447	5,478	13,873	0%
2011	4,970	4,395	14,448	4%
2012	6,310	3,886	16,872	17%
2013	7,668	3,786	20,754	23%
2014	9,094	4,569	25,279	22%
2015	7,898	7,217	25,960	3%
2016	7,053	6,193	26,820	3%
2017	12,560	8,344	31,036	16%

Catastrophe Bond Average Coupon, Expected Loss, and Pricing Multiple



Risk Capital Issued and Outstanding



## CONCLUSION

- Conditions in the labor market still reflect demographic change, skill mismatch, and structural deficiency
- U.S. interest rates are still low from a historical perspective but have increased significantly over the past three months
- Global interest rates are still low and there is over \$9 trillion of negative yielding sovereign debt
- The corporate bond market has been bolstered by low interest rates
- The catastrophe bond market has grown dramatically in recent years and the increased market demand has also driven pricing down
- The 2017 hurricanes caused losses of approximately 10% of global reinsurance capital, and absorbed the industry's net income for the year, but the risk transfer industry remains strong and there is ample capacity in the marketplace
- Overall reinsurance prices in 2018 will be less affected by the loss events of 2017 and the price increases for those loss-affected perils and regions are not expected to be sustained
- The CEA's investment portfolio is stable and generating additional investment income without taking on any additional risk with an overall duration target of 3.00 years that takes advantage of the rising interest rate environment

## DISCLAIMER

The information contained herein is solely intended to facilitate discussion of potentially applicable financing applications and is not intended to be a specific buy/sell recommendation, nor is it an official confirmation of terms.

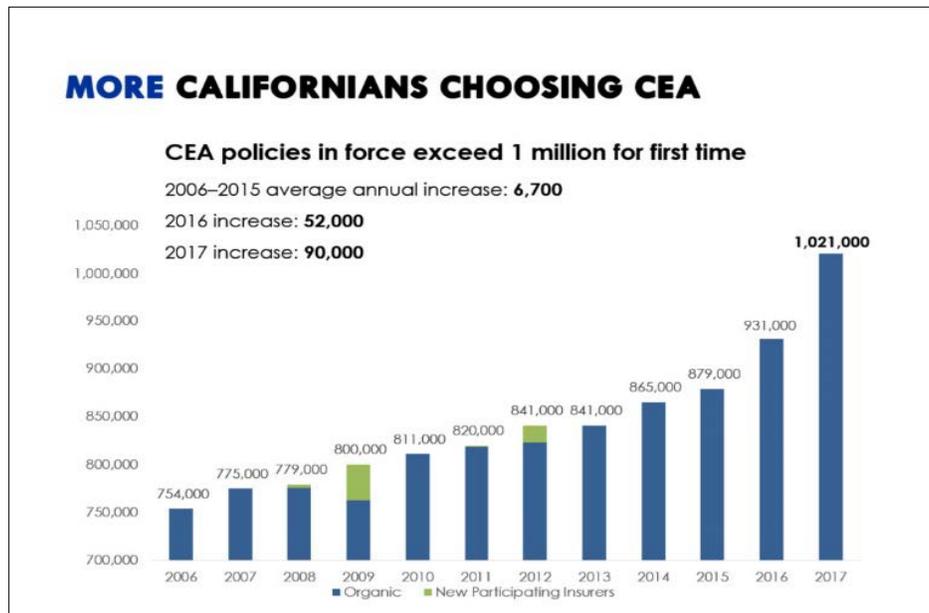
The analysis or information presented herein is based upon projections and have limitations. No representation is made that it is accurate or complete or that any results indicated will be achieved. In no way is past performance indicative of future results. Changes to any prices, levels, or assumptions contained herein may have a material impact on results. Any estimates or assumptions contained herein represent our best judgment as of the date indicated and are subject to change without notice.

## Governing Board Memorandum

Agenda Item 8: Proposed 2019 Advertising Budget

Recommended Action: Approve funding to implement 2019 CEA advertising program

Following its development of annualized communications programming in 2011, CEA began seeing noteworthy results in 2016 and 2017: CEA achieved record growth in policy sales and retention in 2016, increasing total policies-in-force by more than 52,000 (seven times greater than average annual growth increases for the previous 10 years). And in 2017 CEA nearly doubled that record growth, adding more than 90,000 additional policies (more than 13 times greater than the average of previous annual increases).



CEA's maturing marketing formula is successfully built on a number of elements:

- CEA product improvements and rate reductions
- Multiple research studies
- Promotion of the Great California ShakeOut
- Creation of the Marketing Value Program (MVP) and *Get Prepared, California!* auction
- Development and placement of three different statewide advertising campaigns
- Annual distribution of marketing documents by CEA's participating insurers (PIs)
- Aggressive community outreach
- Meaningful earned media and social media engagement

### *Past communications achievements*

Advertising for 2017 through television in eight markets, radio in 15 markets, and print in two markets, as well as digital advertising statewide, collectively delivered nearly 100 million impressions. Resulting 2017 CEA-website sessions were up 17 percent and new users up 29 percent. And CEA-website premium-calculator hits were up 33 percent—nearly seven times greater than CEA’s calculator-usage goal.

These results exceeded goals and were achieved despite significant marketing barriers: the (perceived) high cost of earthquake insurance and low risk from high-consequence, low-probability events; assumed availability of government grants large enough to accomplish rebuilding; and a mistaken belief that home insurance policies cover earthquake shake damage.

### Analysis:

The insurance industry is one of the top-five advertised categories, nationwide, and prospective homeowners-insurance customers are in the market every day. CEA’s advertising campaigns need to stand out among high-volume home-insurance advertising to gain the attention of new prospective policyholders who are not required to buy earthquake insurance and who believe they don’t need it.

### *New CEA advertising campaign*

Less than three months into 2018, CEA is preparing to roll out its fourth statewide advertising campaign on April 1. Under the umbrella message, “It could happen today,” CEA’s new *Today* campaign will leverage emotional, factual, and benefit-driven messages to help motivate all types of California residents to purchase a CEA policy.

The driving creative advertising material behind the *Today* campaign recognizes that everyone has thoughts that tug at them when trying to sleep: “Will I have enough for retirement?” “What are the health challenges for my parents?” “Am I prepared for tomorrow’s exam or presentation?” CEA’s new *Today* campaign will seek to replicate this internal dialogue to prompt people to consider earthquake insurance.



CEA will seek to bring home the value of earthquake insurance through geographically relevant advertising visuals that connect people with the regions where they live. Consistent with CEA’s previous advertising campaigns, *Today*-campaign calls-to-action will encourage people to visit CEA’s website for a free CEA-premium estimate.

When seeking to connect with Californians in an authentic way, CEA also will use the *Today* campaign to deliver stories and insights from CEA policyholders about the value of earthquake insurance. Beginning April 1, on CEA’s newly designed website, homeowners and renters will get to see new CEA-policyholder testimonials designed to make earthquake insurance more personally relevant.



The creative materials executed for CEA’s *Today* campaign will be reformatted to serve broad-based media consumption, including television, radio, outdoor advertising, and direct mail, as well as more highly targeted digital media.

### ***Proposed 2019 Advertising Budget***

Annual CEA website data and policy sales from the past two years help validate the effectiveness of the CEA’s paid-media strategies. To continue that effectiveness, and based on a planned multi-year execution for the *Today* campaign, CEA staff proposes to accomplish its 2019 advertising goals through the following advertising channels:

- **Awareness:** Television is the most efficient platform to deliver awareness, reach, and recall—it harnesses the power of sight, sound, and motion in effective, research-based advertising. CEA will continue to work with news presenters and reporters to produce Public Service Announcements (PSAs) prompting viewers to prepare for earthquakes. Limited television-ad bursts will again complement seasonal *Get Prepared*, *California!* and *Great California ShakeOut* promotions.
- **Interest:** Radio offers the most efficient platform to deliver message frequency, and different stations’ formats appeal to different segments. CEA will continue to work with regional DJs who can bring home the value of earthquake insurance to listeners. Longer bursts of radio ads will extend general awareness and provide seasonal

promotional support. Outdoor advertising, with messaging and placement focused on renters, will complement CEA’s plan for radio advertising.

- **Consideration:** The Internet—and digital advertising—delivers a primary research channel for insurance shoppers, even when they purchase through an agent or by phone. Therefore, the digital format offers the most efficient advertising platform consistent with CEA’s communications strategy, which focuses on prompting potential buyers to call their home-insurance agents for a CEA policy. Online digital streaming offered by virtue of CEA’s traditional television and radio advertising placed will be synchronized with CEA’s digital-advertising plan.
- **Purchase actions:** Direct mail, email, and trade advertising are the most efficient platforms for prompting and assisting CEA PIs when they promote CEA-policy-purchase decisions to their insureds. CEA will continue delivering emails to preferred market segments that in turn trigger direct-mail follow-up. CEA also proposes ongoing availability of additional direct mail—custom fulfilled in the agent’s name through CEA’s MVP—which enables agents to reach priority CEA prospects. Related trade advertising, traditionally focused on insurance, will expand in 2019 to reach real estate professionals, mortgage bankers, and financial planners.

The CEA has surpassed website-engagement and policy-sales goals for the last decade, with records set in each of the past two years, statewide take-up for residential earthquake insurance remains low. Trendlines for CEA programming results show sharp upward trajectories, but more work remains to be done.

CEA staff proposes a 2019 advertising budget that is nearly identical to the 2018 advertising budget. Under planned advertising strategies, CEA will continue to combine awareness and education with policy acquisition and retention, spending about 1.7 percent of current premium (generally, the P&C industry spends 3.4 percent of premium annually on advertising, while CEA PIs spend, on average, 2.24 percent of premium for their advertising).

	2017	2018	2019
Television	\$ 2,533,900	\$ 2,575,000	\$ 2,800,000
Radio	\$ 2,250,000	\$ 2,200,000	\$ 2,560,000
Outdoor	\$ 0	\$ 0	\$ 840,000
Digital	\$ 3,942,000	\$ 4,800,000	\$ 3,450,000
Direct Mail	\$ 2,530,000	\$ 2,510,000	\$ 1,829,500
Trade	\$ 102,100	\$ 155,000	\$ 310,000
Ethnic	*	*	\$ 450,000
<b>TOTAL Budget</b>	<b>\$11,358,000</b>	<b>\$12,240,000</b>	<b>\$12,239,500</b>

*\*Ethnic advertising for 2017 and 2018 was budgeted in formats for English advertising.*

CEA’s proposed 2019 advertising budget aligns with CEA’s rating plan, approved by the Governing Board in December 2014 and by the Insurance Commissioner in March 2015.

Recommendation: Approve proposed budget up to \$12,239,500 to implement CEA’s 2019 advertising plan.

# Governing Board Memorandum

March 14, 2018

Agenda Item 9:

CEA Mitigation Program projects, including:

- California Residential Mitigation Program incentive program (CRMP Earthquake Brace + Bolt)
- Ongoing mitigation-related research projects

Recommended Actions: No action required—information only

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## 1. CRMP Earthquake Brace + Bolt Programs:

### Background:

Homeowners in the *Earthquake Brace + Bolt* (EBB) program ZIP Codes are eligible for an incentive payment of up to \$3,000 to help pay costs associated with seismically retrofitting their houses. EBB is operated by the California Residential Mitigation Program, a joint powers authority whose members are the CEA and California Governor’s Office of Emergency Services (Cal OES).

<b>Earthquake Brace + Bolt Programs (as of 2/25/18): CRMP and CEA</b>			
<b>Program</b>	<b>Completed</b>	<b>In Progress</b>	<b>Status</b>
2013-14 EBB Pilot	9	N/A	Closed
2015 EBB	528	N/A	Closed
2016 EBB	1,555	N/A	Closed
2017 EBB	2,010	245	Closes July 2018
2018 EBB	N/A	N/A	7,546 registered
Napa EBB	84	5	Closes June 2018
CEA BB	79	19	Open indefinitely

To date, EBB has funded more than 4,250 retrofits.

- The initial CRMP EBB pilot program ran in 2013–14 in four Zip Codes; nine retrofits were completed. The 2015 and 2016 programs completed 528 and 1,555 retrofits, respectively.
- The 2017 CRMP EBB program was available in more than 140 ZIP Codes in 24 Northern California and 27 Southern California cities—more than 2,000 retrofits have been completed.
- In 2018, the EBB program will to grow to 185 ZIP Codes and will be available in an additional 17 cities.

2016 Napa Earthquake Brace + Bolt (CRMP):

The Napa Earthquake Brace + Bolt program (Napa EBB) was launched in February 2017, and is funded by funds sub-granted to CEA from FEMA’s Hazard Mitigation Grant Program (HMGP) and by a partial EBB-funding match provided with CEA funding support. Program funding was capped to provide retrofit grants for up to 100 houses.

As of February 25, 2018, in progress were:

- Completed retrofits 84
- Permits received 1
- Extensions 4

The program will not reach its goal of 100 retrofits. Homeowners have told CRMP that FEMA program restrictions (requiring homeowners to receive at least two bids and mandating the use of a contractor with FEMA training) hampered their ability and willingness to complete the retrofit. The CRMP EBB program is working closely with homeowners and expects about 89 completed retrofits when the program closes in June 2018.

2017 CRMP EBB Program:

For the 2017 CRMP EBB program, funding came from diverse sources: CEA’s Loss Mitigation Fund, FEMA, and a state budget appropriation to the California Department of Insurance, with legislative direction to grant the funds to CEA for contribution to CRMP EBB.

Additional information and analysis:

The 2017 CRMP EBB program will close in July. As of February 25, 2018, these are retrofits completed or in progress:

- Completed 2,010
- In progress 245

2018 CRMP EBB Registration:

Homeowner registration for the 2018 CRMP EBB program was open from January 23, 2018, through February 23, 2018. A record 7,500 California homeowners applied for 2,000 retrofit grants—the record number of registrants shows growing awareness of and need for these types of retrofits.

Future Funding Opportunities:

There are over 1.2 million houses in California’s high-seismic-hazard areas that qualify for an EBB retrofit—the need far exceeds funding now identified. But because more funding means more incentive payments for more homeowners, CRMP continues to look beyond present funding sources—the primary source has been the CEA Earthquake Loss Mitigation Fund—to find additional EBB funding, including available FEMA HMGP grants.

## 2. CEA Brace + Bolt Program:

### Background:

CEA's pilot program, CEA Brace + Bolt ("CEA BB"), grants each selected CEA policyholder up to \$3,000 toward a retrofit, to encourage them to strengthen their older houses in CEA-identified high-seismic-activity areas. Once the brace-and-bolt retrofit is complete and verified, each participating policyholder would qualify for CEA's 20 percent Hazard Reduction Discount on their CEA-insurance premium.

This initiative has a sound financial basis: Retrofitting sufficient numbers of older houses in California's higher-seismic-risk areas can reduce the CEA's long-term need for, and therefore its expense for, risk-transfer.

The program is offered in 10 ZIP Codes. As of February 28, 2018, in progress or completed were:

- Retrofits completed 79
- Permits received 3
- Extensions granted 16

### Additional information and analysis:

To increase the number of retrofits completed, staff is exploring other strategies:

- A construction package may be offered through a program that is professionally managed but overseen by CEA, to provide the requisite code-based retrofit and the retrofit inspection that leads to a CEA premium discount. The cost of each completed project would be met partially through a CEA BB grant.
- CEA is considering changing program rules to allow participation by the almost 6,000 policyholders who may experience an upward rate impact of 15 percent or more on account of CEA's recent Rate and Form Filing (RFF). Basic program eligibility criteria would be the same and would be available to CEA policyholders who (1) have insured their house with CEA for at least three years, (2) own a pre-1940 house in selected ZIP Codes, (3) have an RFF-caused rate increase greater than 15 percent, and (4) whose house properties are within criteria for a code-compliant EBB retrofit.

## 3. Guidelines Development:

The ATC 110 earthquake-guidelines-development project will create new statewide retrofit standards that can be used to reduce earthquake damage in single-family dwellings. The project is on target to finish in early summer 2018, with on-line and hard-copy versions available in late summer.

In addition to creating a uniform seismic-retrofit-design methodology for homeowners, contractors, and engineers, the new guidelines will help the CEA and others (1) establish and expand incentive programs to encourage seismic retrofits, such as that of the California Residential Mitigation Program, and (2) enhance the CEA's ability to develop and provide suitable mitigation discounts for CEA-insured homeowners.

The CEA is providing the funding, and CEA's Chief Mitigation Officer Janiele Maffei and FEMA's Mike Mahoney are jointly managing the project.

#### **4. FEMA P-50/P-50-1 Training, Simplified Seismic Assessment Certification, and QuakeGrade®**

##### **FEMA P-50/P-50-1 Training:**

CEA contributed funds to develop FEMA P-50 and FEMA P-50-1. While the tool has been available for use by home inspectors, it was not widely distributed or used.

CEA took the initiative and brought the FEMA P-50 evaluation tool—and related training—to California home inspectors in 2015:

- To help homeowners interested in retrofits learn associated risks and vulnerabilities.
- To provide home buyers information at time of sale regarding potential seismic risks, in light of structure vulnerabilities.
- To provide additional inspection resources in support of CEA's Hazard Reduction Discount program.

CEA continues collaborations with CREIA and American Society of Home Inspectors to bring the training to home inspectors, since the tool would naturally extend the services they already provide.

##### **Simplified Seismic Assessment Certification:**

With CEA's assistance, CREIA is working with the Applied Technology Council (ATC) to develop a training curriculum to support CREIA's implementation of a Simplified Seismic Assessor (SSA) certification. The training program will be launched at CREIA's annual conference in April 2018. CREIA is promoting the SSA and the related training, and will be the lead in coordinating the training, moving forward.

##### **Mobile Application – QuakeGrade®:**

In 2017, CEA launched a web-based application based on FEMA P50 for use by home inspectors. QuakeGrade® may be used on Macs or PCs running Safari, Chrome, or Internet Explorer browsers, and on mobile devices running iOS or Android operating systems. As of November 2017 QuakeGrade® and the QuakeGrade® logo are registered marks of the CEA.

QuakeGrade® uses data the inspector inputs as they note certain structural and geological conditions of the house. From these data points, the application calculates a seismic-vulnerability score, which supports a report that describes the inspected house's seismic vulnerabilities and identifies potential retrofit options—implementing the retrofit options can mitigate the vulnerabilities and improve the vulnerability score.

The application may eventually incorporate the CEA Hazard Reduction Discount (HRD) form. CEA Mitigation staff is working with CEA IT to identify modifications to QuakeGrade® and any needed changes to the HRD form.

# Governing Board Memorandum

March 14, 2018

Agenda Item 10: Recommendation to transfer money from the CEA’s Earthquake Loss Mitigation Fund to the California Residential Mitigation Program

Recommended Action: Approve recommended transfer of money

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## Background:

CEA staff periodically requests that funding be transferred by from the CEA Fund to the California Residential Mitigation Program (CRMP), to operate CRMP mitigation programs. To date, these transfers have been made to the CRMP, to fund the Earthquake Brace + Bolt (EBB) program:

- December 2010 \$500,000 initial funding
- May 2013 \$1,000,000 to complete EBB pilot program and begin expansion
- December 2014 \$3,000,000 to expand EBB in 2015
- June 2016 \$1,000,000 to expand EEB in 2016
- March 2017 \$5,400,000 to expand EEB in 2017

## Analysis:

CRMP staff will attend this Board meeting to discuss EBB accomplishments in 2017 and outline the 2018 CRMP program goals. [*Attachment A* is the budget approved by the CRMP governing board at its November 2017 meeting.]

In 2018, CRMP plans to finish some 400 retrofits that had been started but remained incomplete as of December 31, 2017, and provide grant funds to support 1,600 additional retrofits in 2018.

- As of January 31, 2018, the CRMP fund had a balance of \$1.3 million.
- In 2017 CRMP received \$3 million from the CEA, which the Authority had received as a grant from the Department of Insurance through an state budget appropriation to the Department. To date in 2018, no additional state-budget funding has been approved.
- In addition to grant payments to homeowners, EBB expenses include administrative and operational costs, marketing, call-center services, and third-party-evaluation services.

By continuing agreement with Cal OES, the CEA remains, as between those two entities, the sole funder of CRMP.

In order for CRMP to execute its planned EBB program for 2018, CRMP will require additional funding from the CEA Earthquake Loss Mitigation Fund in the amount of \$ 5.6 million.

Recommendation:

Staff recommends the Governing Board approve a transfer to CRMP of funds from the CEA Earthquake Loss Mitigation Fund in the amount of \$5.6 million, to fund and expand the CRMP EBB program in 2018, as described.

**California Residential Mitigation Program  
2018 Approved Budget**

**Revenue<sup>1</sup>**

<b>Total Revenue</b>	<u><u>\$ -</u></u>
<b>CRMP Administration Expenses</b>	
Travel	\$ 32,000
Professional Due and Memberships	800
Board Services	2,300
Administration & Office	79,050
Insurance	38,000
Financial Audit	50,000
Legal Services	100,000
<b>Total Administration Expenses</b>	<u>302,150</u>
<b>EBB Program Expenses</b>	
Software/Information Technology	25,250
Call Center	120,000
Home Inspection Services	95,000
EBB Marketing	325,000
EBB Program Education	75,000
Grants to Homeowners (2,000 payments at \$3,000)	6,000,000
<b>Total EBB Program Expenses</b>	<u>6,640,250</u>
<b>Total Administrative and Program Expenses</b>	<u><u>\$ 6,942,400</u></u>

<sup>1</sup> Contributions from the CEA Mitigation Fund will cover the budgeted expenses.

# Governing Board Memorandum

March 14, 2018

Agenda Item 11: CEA Research Program: Projects

Recommended Actions: No action required—information only

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## Background:

With Governing Board support and approval, CEA launched a new Research Program in 2017. The program provides for three tiers of funding for multiple disciplines of research, all relevant to CEA’s mission to provide affordable, accessible earthquake insurance for those who own or rent residences in California.

### **1. Grant Program**

Grants for professional and academic development comprise two of the tiers of the grant program. Projects must relate to earthquake studies, regardless of discipline, and meet program specifications for focus areas. Grant recipients will most likely be research specialists, possibly private sector, or faculty in public and private universities, within and outside California.

The grants will generate research to assist CEA in its mission and inform the earthquake community in general, the grants will support and build a new generation of earthquake-science specialists from many disciplines, whether graduate students or professionals establishing themselves in the field.

CEA contracts with a university, which then distributes grant funds to the individual recipient(s). Universities often apply substantial overhead costs, reducing net grant funds to the researcher, and unavoidably reducing positive grant impacts.

CEA Research and Legal staff are collaborating on policies and procedures to guide the program, including more efficient and direct methods to award grant money to university faculty.

CEA will assure that funding requests and distribution means meet relevant audit requirements. Clear contracting criteria and contract-administration rules will be established before the program launches, to ensure quicker contract execution and funding awards and distribution. The Grant Program launch in late 2018 or early 2019.

### **2. CEA Research Forum**

The CEA Grant Program is amplified by the continuing the CEA Research Forum, which draws members of the academic and professional earthquake communities. The 2018 Research Forum was held on February 22–23 at the Sacramento Convention Center.

The Forum theme was Innovation in Earthquake Risk Assessment: How Technology Is Changing the Industry and focused on the role technology plays in supporting CEA's mission.

In five panel presentations, the 77 attendees discussed:

- a. Role and practical application of technology in assessing expected performance of houses.
- b. Technology in collecting and estimating ground motion and structural response data.
- c. Technology in developing resources for improving structural deficiencies.
- d. Technology in post-event damage characterization.
- e. Technology in experiential communication and education.

The Forum concluded with round table discussions to generate ideas for using existing and potential technology for data collection on structural resiliency, earthquake behavior, societal impacts of earthquake preparedness, and earthquake after-effects.

FEMA present its *Immersed VR Experience*, which provided a guided virtual-reality experience of emergency response in a flood disaster, showing how mitigation measures reduce damage and life-threatening impacts.

Program materials, including slide decks and video of panel discussions, will be posted shortly to CEA's website.

## Research Projects

### Cripple Wall Performance Effects

CEA contracted with the Pacific Earthquake Engineering Research (PEER) Center in September 2016 to lead CEA's research project, "Quantifying the Performance of Retrofit of Cripple Walls and Sill Anchorage in Single Family Wood-frame Buildings."

The project consists of seven tasks over a 42-month timeline. The first task, a literature review, is complete. The PEER project team is proceeding with analyzing building inventory and defining representative "index buildings," and identifying criteria for developing the loading protocols needed to guide structural-component testing. These tests are integral to the project's goal: determining the percentage of damage levels between non-retrofitted and retrofitted components in a standard house with a raised concrete-perimeter foundation, with or without a cripple wall.

Research results will inform CEA premium and discount rates.

Recommendation: No action required—information only.

## Governing Board Memorandum

March 14, 2018

Agenda Item 12: Update on nonprofit charitable foundation, established to support financial incentives and other mitigation activities

Recommended Actions: No action required—information only

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### Background:

At its September 2017 meeting, the CEA Governing Board approved staff's taking initial steps to establish a nonprofit charitable foundation, which would operate as a public-benefit corporation, organized and regulated under California law. Following that September meeting, however, the CEA manager directing foundation planning and development resigned. Organizational steps since September have been limited solely to meeting a legal deadline for a basic document filing.

### Current Status/Activity:

- Articles of Incorporation filed with the California Secretary of State (already reported to the Board)
- Initial, interim officers have been noted on the required Statement of Information, which was timely filed with the California Secretary of State:
  - Janiele Maffei, Chief Executive Officer\*
  - Annde Ewertsen, Secretary/Chief Financial Officer\*\*

(\*Ms. Maffei is CEA's Chief Mitigation Officer and also serves as Executive Director of the California Residential Mitigation Program; \*\*Ms. Ewertsen is CEA's Mitigation Director, who (since January 2018) also serves as Managing Director of the California Residential Mitigation Program.)

The foundation/nonprofit corporation will conduct no business or other activities until the CEA Governing Board has acted to approve and appoint a permanent Board of Trustees, which would be the body that adopts foundation bylaws; adopts policies (such as conflict of interest, document retention, whistleblower, and equal opportunity); elects officers; and determines programs, processes, and personnel to determine long-term foundation goals and eventual day-to-day foundation operations.

### Recommendation:

No action required—information only

## Governing Board Memorandum

March 14, 2018

Agenda Item 13: CEA Insurance & Technology Update

Recommended Action: No action required—information only

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### Insurance-Education and Sales-Support Update:

- CEA and prime contractor Insuresoft onboarded a sixth CEA participating insurer onto the Centralized Policy Processing administration and claim system (CPP Diamond) in December 2017, and expect to onboard three more in 2018.
- Staff has been working with Insuresoft to create specifications for updates needed to support the 2019 CEA rate and form filing, since participating insurers have joined CPP to avoid having to update their internal administration and claim systems when the CEA policies change.
- An updated CEA website—with a clean, modern look and a more user-friendly navigation experience—is scheduled for production release at the end of March 2018.
- CEA is initiating a project this month to build an online agent sales tool to help agents sell CEA policies, by providing planning, comparison, and presentation capabilities beyond what the CEA premium calculator provides.
- The percentage of trained agents participating in the CEA Marketing Value Program increased from 76% to 87%.
- The number of Information Desk cases in 2017 was 11,943, and January 2018 case numbers trended upward to 1,252, a 22% increase from January 2017.

### Insurance Operations Update:

- The 2019 CEA rate and form filing was submitted to the California Department of Insurance and added to the Department's Public Notice List (regulatory review began on February 16, 2018).
- Staff met with participating insurers in semi-annual-review meetings to discuss 2017 results, 2018 plans and goals, and the 2019 CEA rate and form filing.
- The Insurance Operations team continues to collaborate with and support other CEA departments and staff on the 2019 CEA rate and form filing, CPP onboarding and hosting, agent outreach, and insurance-related communications content.
- Significant CEA policy growth continued in January with the addition of 9,529 net new policies—the largest January increase in the history of the CEA—bringing the total CEA in-force policy count to 1,031,236.

- Trends show that CEA customers are making use of more coverage and deductible options, including endorsements for breakables and masonry veneer, each with sales up more than 50% since July 2017.

#### Information Technology Update:

- Cybersecurity:
  - No incidents to report.
  - Completed 10 of 31 security-related projects scheduled since Q4 2017.
  - 94% of critical security vulnerabilities identified in Q1 2018 were mitigated within 7 days of discovery.
- Software development and maintenance:
  - Staff implemented release 30.0 on November 22, 2017, affecting 11 of the 15 CEA developed/maintained software systems, with 92 of 97 planned and committed user stories successfully deployed (95%).
  - Staff implemented release 31.0 on January 4, 2018, affecting 12 of the 16 CEA developed/maintained software systems (1 new system added), with 105 of 115 planned and committed user stories successfully deployed (91%).
  - Staff implemented release 32.0 on February 15, 2017, affecting 12 of the 16 CEA developed/maintained software systems (1 new system added), with 110 of 115 planned and committed user stories successfully deployed (96%).
- Staff continues to work with Insuresoft to transfer CPP Diamond hosting and first-level support for participating insurers to the CEA. Incremental progress has been made in creating the repeatable and measurable processes needed for technical and customer support. Transition is expected to be completed by mid-2018.
- Working with staff from other CEA departments, Information Technology has initiated work in current and upcoming future releases to support the 2019 CEA rate and form filing.

## Governing Board Memorandum

March 14, 2018

Agenda Item 14: Application of Amica Mutual Insurance Company to become a CEA participating insurance company

Recommended Action: Authorize negotiating application conditions with Amica and execution by CEA of an Insurer Participation Agreement; authorize additional, related acts

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### Background:

Amica Mutual Insurance Company has applied to become a participating insurer of the California Earthquake Authority.

Amica was founded in 1907 as a provider of automotive, fire, and theft insurance and is headquartered in Lincoln, Rhode Island. It's one of the oldest mutual insurers of automobiles in the United States. Amica has received "Highest in Customer Satisfaction Among National Homeowner Insurers" from the J.D. Power organization for 15 consecutive years. The company maintains an A.M. Best A+ (Superior) rating.

Amica has been a licensed writer of homeowners insurance in California since 1972, and presently writing more than 36,000 policies for California risks.

As of August 31, 2017, Amica had over 14,000 in-force residential earthquake policies in California.

If its application to the CEA Governing Board is successful, Amica would use CEA products to fulfill its statutory earthquake-insurance offers.

### Analysis:

By law, each CEA participating insurer must enter into a written Insurer Participation Agreement (referred to generally as the "PI Agreement"). To be considered fully executed and in force, by law, a PI Agreement must be executed on behalf of (1) a participating insurer, (2) the Authority, and (3) the Insurance Commissioner. The Agreement sets forth the rights and responsibilities of the parties "with respect to each participating insurer's participation in the Authority." Agreements must be uniform for all participating insurers—in practice, the only variation between the agreements is in names and addresses of the participating insurers.

By law, affiliates of CEA participants and insurers under common control with a CEA participant must also be or become CEA participating insurers. For example, when a CEA participant has an affiliate, subsidiary, or parent company that issues

residential property insurance in California, each must execute or become a party to a PI Agreement.

Before Amica can legally offer the Authority's earthquake policies to its customers, Amica must execute and become subject to a PI Agreement. CEA staff is working with Amica to ensure all prerequisites for CEA participation are met, including operational infrastructure and any legally required capital contribution, calculated under a statutory formula (see Insurance Code sec. 10089.15(a)) The final amount of that contribution will be determined by the conclusion of 2018.

In addition, CEA staff recommends that Amica be subject to a potential "risk-capital surcharge," as defined in Insurance Code section 10089.16(d), which became law on July 1, 2008. As part of the CEA application process, an applicant is required by Insurance Code section 10089.16(d) to submit to the CEA policy data for its earthquake-insurance book of business. The data allows CEA staff to complete an initial "earthquake-insurance risk profile" using an earthquake loss model to determine the current likelihood and magnitude of additional CEA losses that would be attributable to insuring the applicant's earthquake insurance risks during its first full year of CEA participation.

Based on this analysis of the applicant's earthquake insurance risk profile and under the law noted above, if in the Governing Board's sole judgment the addition of the applicant's business would:

- bring business more likely to produce losses than a comparable book of CEA business, or
- bring business likely to produce greater losses than a comparable book of CEA business, then

the Board may condition approving the applicant's application on payment by the applicant of up to five annual risk-capital surcharges, in addition to any legally required capital contribution and assessment obligations.

Under the law, the Board must calculate the first risk-capital surcharge one year after the date the new participant first places or renews business into the CEA; in addition the Board must recalculate the risk-capital surcharge for each of up to four years after the first calculation, and in any appropriate analysis-supported case, impose the resulting surcharge. Once the insurer's earthquake-insurance risk profile becomes substantially similar to the CEA's average risk profile for a CEA book of business of similar size, the Board must relieve the insurer of any further obligation to pay risk-capital surcharges.

The law also provides that each annual risk-capital surcharge must equal the CEA's increased cost of providing or securing capacity to insure the new participant's excess earthquake insurance risk.

### Amica's Residential Earthquake Insurance Risk Profile

CEA staff has analyzed Amica's earthquake insurance risk profile and has determined that the addition to CEA's book of business of Amica's earthquake insurance risks could bring business to the CEA that is more likely to produce losses for the CEA, or would be likely to produce greater losses for the CEA, than would the CEA's existing book of business.

As a result, CEA staff recommends that in considering Amica's application for participation, the Board require a risk-capital surcharge.

The Board will be presented with a form of resolution that authorizes the Authority's CEO to oversee the negotiations for, and to execute on behalf of the CEA, an Insurer Participation Agreement. In order to take effect, and as noted above, the Agreement must be signed on behalf of Amica Mutual Insurance Company and by the Insurance Commissioner. CEA staff will facilitate the logistics of that process.

### Recommendation:

In accord with the written resolution presented to the Board on this date, CEA staff recommends that the Governing Board (1) approve Amica Mutual Insurance Company's application and (2) authorize the Authority's CEO Glenn Pomeroy, assisted by the CEA general counsel, to negotiate and execute on the Authority's behalf an Insurer Participation Agreement with Amica Mutual Insurance Company that meets the description and requirements above, and to take any and all additional, related, and necessary steps to accomplish the related and supporting acts contemplated and described above.

# Governing Board Memorandum

March 2, 2018

Agenda Item 15: CEA Enterprise Risk Management Program: Progress update in developing the CEA enterprise risk management framework and program plan

Recommended Action: No action required—information only

The CEA Enterprise & Strategic Risk Advisor and members of the CEA Enterprise Risk Management (ERM) Committee are continuing their work in developing an enterprise-wide risk-management framework and program plan.

Since the December 2017 CEA Governing Board meeting, program work has focused on developing a monitoring and reporting plan for the CEA’s priority risks:

Financial Risks	Insurance Risks	Operational Risks	Strategic Risks
<ul style="list-style-type: none"> <li>• Risk Transfer</li> <li>• Financial Management – Investments and Accounting</li> </ul>	<ul style="list-style-type: none"> <li>• Policy Contracting and Servicing</li> <li>• Claim Handling</li> <li>• Earthquake Science and Modeling</li> <li>• EBB programs</li> </ul>	<ul style="list-style-type: none"> <li>• Business Continuity</li> <li>• Cyber/Data Breach</li> <li>• Legal – Compliance and Litigation</li> <li>• Workforce</li> <li>• Information Systems</li> </ul>	<ul style="list-style-type: none"> <li>• Legislative/Regulatory</li> <li>• Reputation</li> </ul>

The CEA Executive Team and ERM Committee have also identified the occurrence of a major, damaging earthquake in California as an overarching risk consideration.

Since the last update, the CEA ERM Committee has decided to integrate the succession-planning risk with workforce risk.

The monitoring and reporting working group, established in fall 2017 and composed of the risk owners for each of the priority risks, has met regularly to refine risk-control checkpoints and limits and responses for each priority risk under both normal (steady-state) conditions and for a range of earthquake scenarios.

The following scorecard shows completion status for each major element of the risk-control summaries for all priority risks. The work on defining risk drivers, risk controls and mitigation steps, risk measures and assessments, and risk checkpoints and limits is now fairly complete, and work is progressing in refining the monitoring, reporting, and responses for each priority risk.

Risk Driver Defined	Controls/ Mitigation	Measurement / Assessment	Checkpoints / Limits	Monitoring / Reporting	Response	Risk Name
●	●	▲	▲	▲	▲	Risk Transfer
●	●	▲	▲	▲	▲	Financial Mgmt (Investments, Accounting)
●	●	●	●	▲	▲	Policy Sales and Servicing
●	●	▲	▲	▲	▲	Business Continuity
●	●	▲	▲	◆	◆	Cyber / Data Breach
▲	▲	▲	▲	▲	▲	Legislative/Regulatory
●	●	●	●	▲	▲	Claim Handling
●	●	▲	▲	●	▲	Legal - Compliance and Litigation
●	●	●	●	▲	▲	Reputation
●	●	●	●	●	▲	Earthquake Science and Modeling
●	●	●	●	●	●	Workforce
●	●	▲	▲	▲	▲	Information Systems
▲	▲	●	▲	▲	▲	Residential Mitigation Programs

Legend	
●	Complete
▲	Progressing
◆	Initiated

The Enterprise & Strategic Risk Advisor, support staff, and ERM Committee are continuing to integrate data developed thus far into an enterprise-wide risk-management framework for use in 2018. The framework is being developed in accordance with the Own Risk and Solvency Assessment (ORSA) guidance provided by the National Association of Insurance Commissioners.

CEA’s ERM Framework incorporates the following key principles:

- Risk Culture and Governance
- Risk Identification and Prioritization
- Risk Appetite, Tolerances, and Limits
- Risk Management and Controls
- Risk Reporting and Communication.

The ERM Committee has developed an ERM program plan for 2018. It focuses on building out the CEA’s ERM Framework and creating dashboard analytics, initiating risk-capital and solvency assessments, and addressing post-earthquake response-planning priorities revealed through the ERM efforts.

Recommendations: None—information only

## **CEA Governing Board Memorandum**

March 14, 2018

Agenda Item 16: Quantitative business metrics report update

Recommended Action: No action required—information only

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Chief Operations Officer Kellie Schneider will present to the Board the periodic CEA-operations business metrics report.



# **HISTORICAL REPORT**

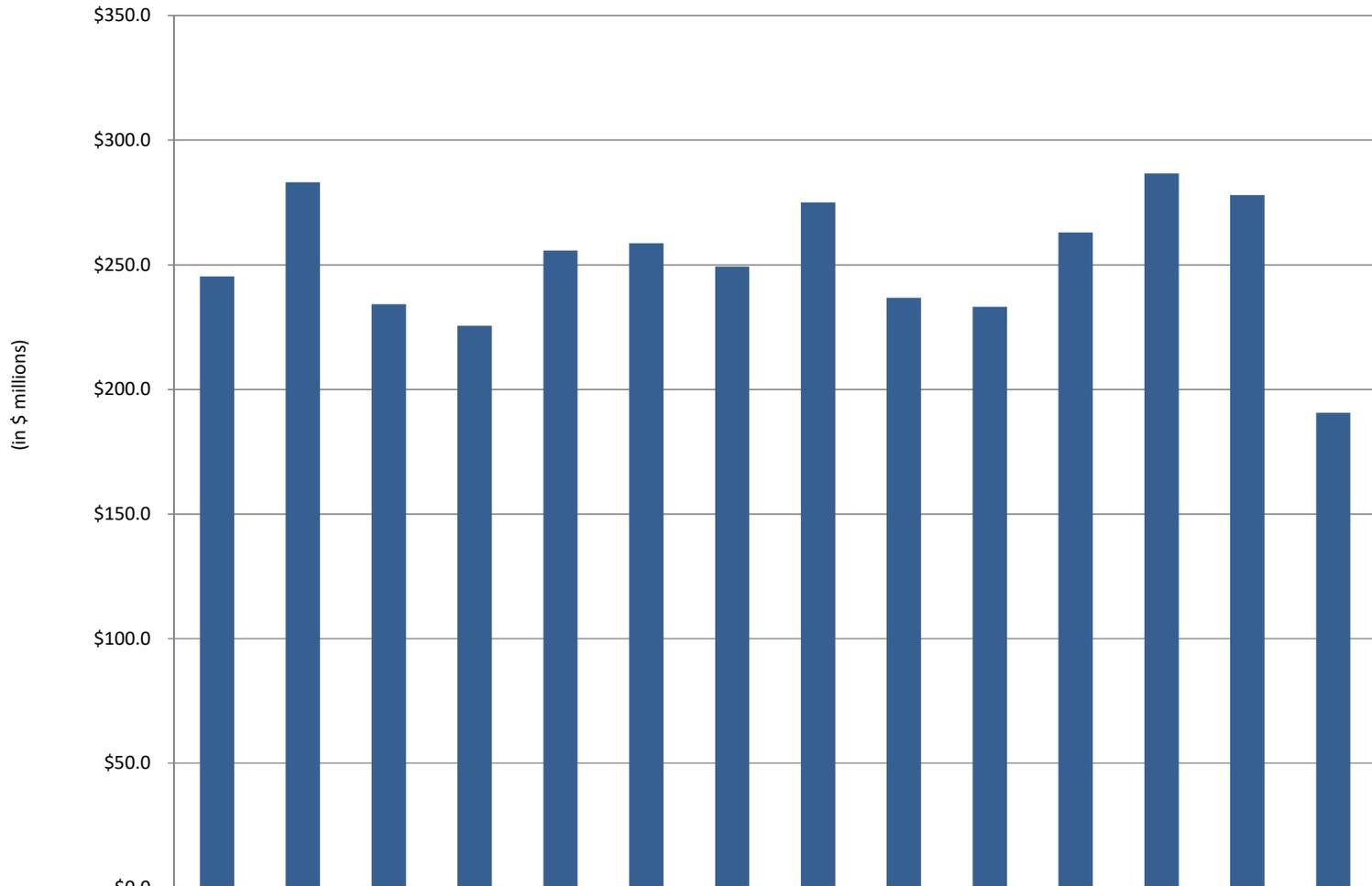
**December 31, 2017**

## Historical Report Table of Contents

	Page
<b>Financial Statements &amp; Budgets</b>	
Historical Annual Capital Accumulated from Premium as of December 31, 2017	1
<b>Investments</b>	
Historical Annual Investment Income as of December 31, 2017	2
<b>Debt</b>	
Schedule of Expired Debt 2006 Revenue Bond as of December 31, 2017	3
Schedule of Expired Debt 2014 Revenue Bond as of December 31, 2017	4
<b>Claim-Paying Capacity</b>	
Historical Claim-Paying Capacity (CPC) December 31, 1997 through December 31, 2005	5
Historical Claim-Paying Capacity (CPC) December 31, 2006 through December 31, 2017	6
<b>Risk-Transfer Programs</b>	
Annual Risk-Transfer Premium December 31, 1997 through December 31, 2004	7
Annual Risk-Transfer Premium December 31, 2005 through December 31, 2017	8
Annual Risk-Transfer Premium and Limit December 31, 1997 through December 31, 2004	9
Annual Risk-Transfer Premium and Limit December 31, 2005 through December 31, 2017	10

Note: See Fact Sheets for Policies In Force, Written Premiums, and Exposures.

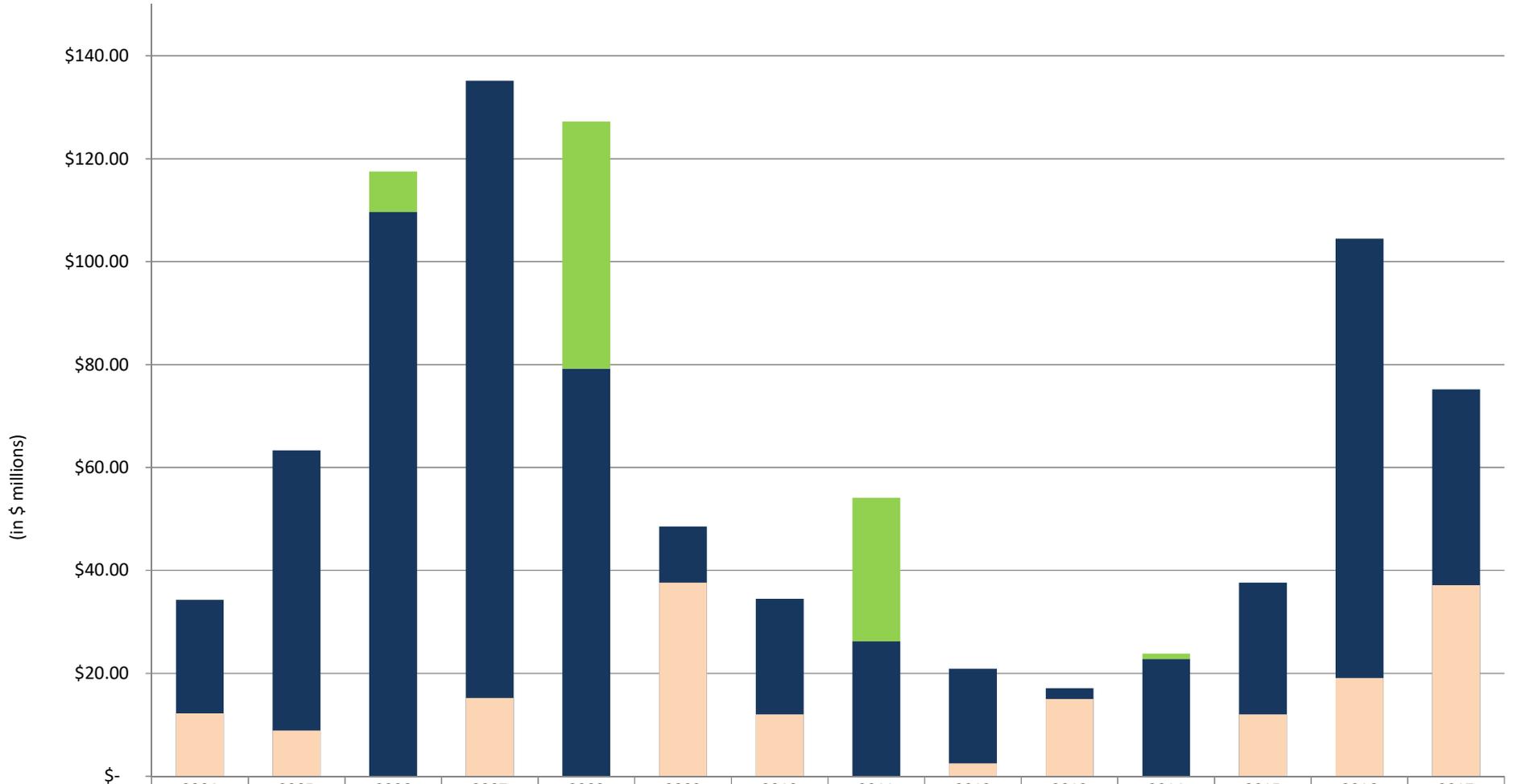
**California Earthquake Authority  
 Historical Annual Capital Accumulated from Premium  
 as of December 31, 2017**



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Capital Accumulated from Premium	\$245.2	\$283.1	\$234.1	\$225.5	\$255.7	\$258.6	\$249.3	\$275.0	\$236.7	\$233.1	\$263.0	\$286.6	\$277.9	\$190.6

# **Investments**

**California Earthquake Authority  
Historical Annual Investment Income  
as of December 31, 2017**



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Net Investment Income*	\$22.10	\$54.40	\$117.50	\$119.90	\$127.20	\$10.90	\$22.50	\$54.10	\$18.40	\$2.10	\$23.80	\$25.60	\$85.36	\$38.07
Change Unrealized Gain	\$-	\$-	\$7.90	\$-	\$48.00	\$-	\$-	\$27.90	\$-	\$-	\$1.00	\$-	\$-	\$-
Investment Income	\$34.30	\$63.30	\$109.60	\$135.10	\$79.20	\$48.50	\$34.50	\$26.20	\$20.90	\$17.10	\$22.80	\$37.60	\$104.46	\$75.17
Change Unrealized Loss	\$12.20	\$8.90	\$-	\$15.22	\$-	\$37.60	\$12.00	\$-	\$2.50	\$15.00	\$-	\$12.00	\$19.10	\$37.10

\*Net Investment Income is investment income net of unrealized gain or unrealized loss and ties to the financial statements.

# Debt

**California Earthquake Authority  
Schedule of Outstanding Debt - Defeased**

<b>DEBT</b>	<b>ISSUANCE AMOUNT</b>	<b>INTEREST RATE</b>	<b>NET PROCEEDS</b>	<b>OUTSTANDING PRINCIPAL</b>	<b>AS OF DATE</b>	<b>MOODY'S RATING*</b>	<b>FITCH RATING**</b>
Series 2006 Revenue Bonds <sup>1</sup>	\$ 315,000,000	6.169%	\$ 310,829,067	\$ -	31-Dec-2016	A3 Outlook Stable	A Outlook Stable

<sup>1</sup>As of November 6, 2014, interest and principal are fully funded in escrow for remaining interest and principal payments.

**DEBT-SERVICE SCHEDULE**

The table below shows the annual-debt-service requirements for the Series 2006 Bonds.

<b>Payment Date</b>	<b>Outstanding Principal</b>	<b>Principal</b>	<b>Interest</b>	<b>Debt Service</b>	<b>Annual Debt Service</b>
1-Jan-16	\$31,500,000	\$0	\$971,618	\$971,618	
1-Jul-16	\$0	\$ 31,500,000	\$971,618	\$32,471,618	
2016					\$33,443,236

\*Moody's rating since May 2015.

\*\*Fitch rating affirmed October 2016.

**California Earthquake Authority  
Schedule of Outstanding Debt**

<b>DEBT</b>	<b>ISSUANCE AMOUNT</b>	<b>INTEREST RATE</b>	<b>NET PROCEEDS</b>	<b>OUTSTANDING PRINCIPAL</b>	<b>AS OF DATE</b>	<b>MOODY'S RATING*</b>	<b>FITCH RATING**</b>
Series 2014 Revenue Bonds 2 year bond CUSIP 13017HAC0	\$ 40,000,000	1.194%	\$ 39,665,642	\$ -	31-Dec-2016	A3 Outlook Stable	A Outlook Stable

**DEBT-SERVICE SCHEDULE**

The table below shows the annual-debt-service requirements for the Series 2014 Bonds.

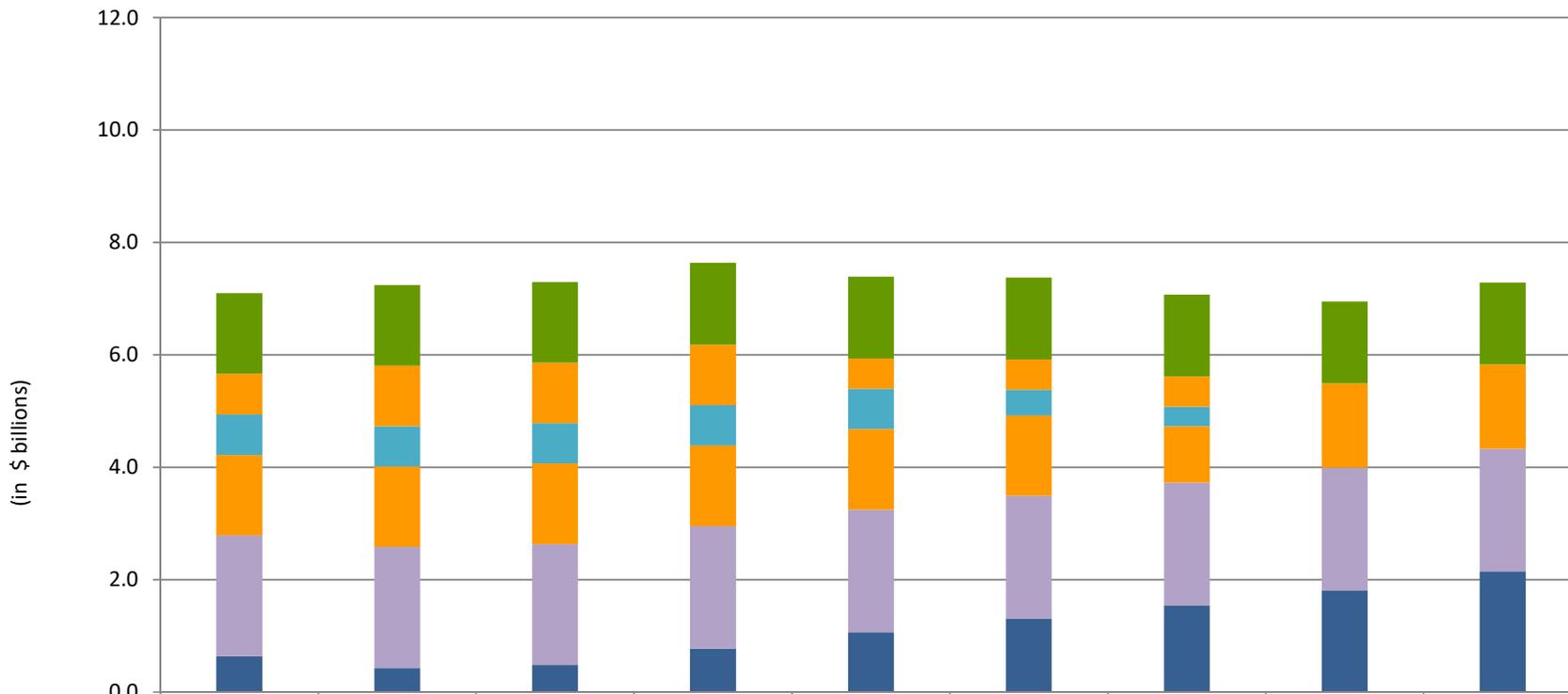
<b>Payment Date</b>	<b>Outstanding Principal</b>	<b>Principal</b>	<b>Interest</b>	<b>Debt Service</b>	<b>Annual Debt Service</b>
1-Jan-16	\$40,000,000	\$0	\$238,800	\$238,800	
1-Jul-16	\$0	\$40,000,000	\$238,800	\$40,238,800	
2016					\$40,477,600

\*Moody's rating since May 2015.

\*\*Fitch rating affirmed October 2016.

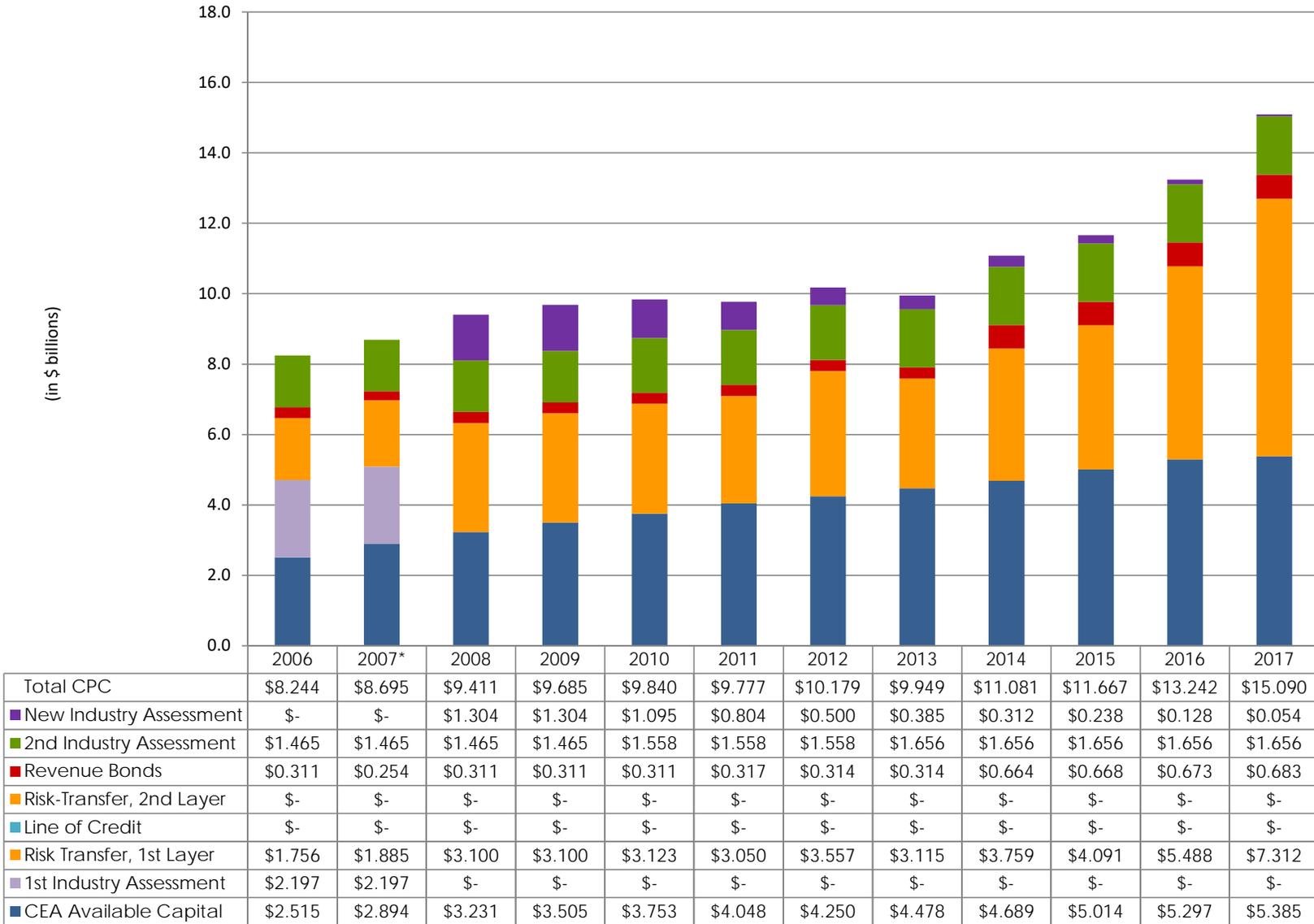
# **Claim-Paying Capacity**

**California Earthquake Authority  
Historical Claim-Paying Capacity (CPC)  
December 31, 1997 through December 31, 2005**



	1997	1998	1999	2000	2001	2002	2003	2004	2005
Total CPC	\$7.095	\$7.240	\$7.293	\$7.635	\$7.390	\$7.373	\$7.069	\$6.948	\$7.284
New Industry Assessment	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-
2nd Industry Assessment	\$1.434	\$1.434	\$1.434	\$1.456	\$1.456	\$1.456	\$1.456	\$1.456	\$1.456
Revenue Bonds	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-
Risk-Transfer, 2nd Layer	\$0.727	\$1.075	\$1.075	\$1.075	\$0.538	\$0.538	\$0.538	\$-	\$-
Line of Credit	\$0.716	\$0.716	\$0.716	\$0.716	\$0.716	\$0.456	\$0.348	\$-	\$-
Risk Transfer, 1st Layer	\$1.433	\$1.433	\$1.433	\$1.433	\$1.433	\$1.433	\$1.000	\$1.500	\$1.500
1st Industry Assessment	\$2.150	\$2.150	\$2.150	\$2.183	\$2.183	\$2.183	\$2.183	\$2.183	\$2.183
CEA Available Capital	\$0.635	\$0.432	\$0.485	\$0.772	\$1.064	\$1.307	\$1.544	\$1.809	\$2.145

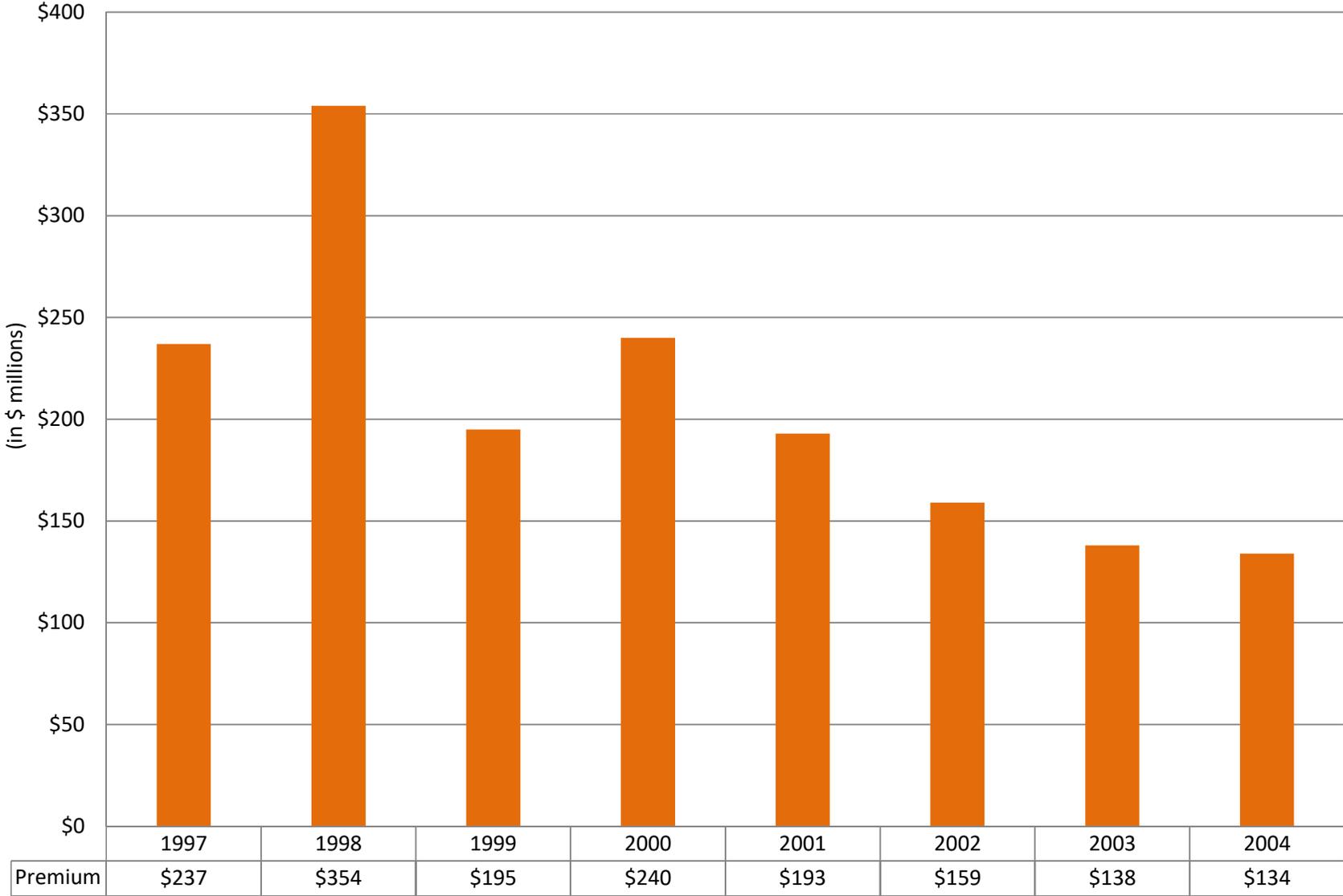
**California Earthquake Authority  
Historical Claim-Paying Capacity (CPC)  
December 31, 2006 through December 31, 2017**



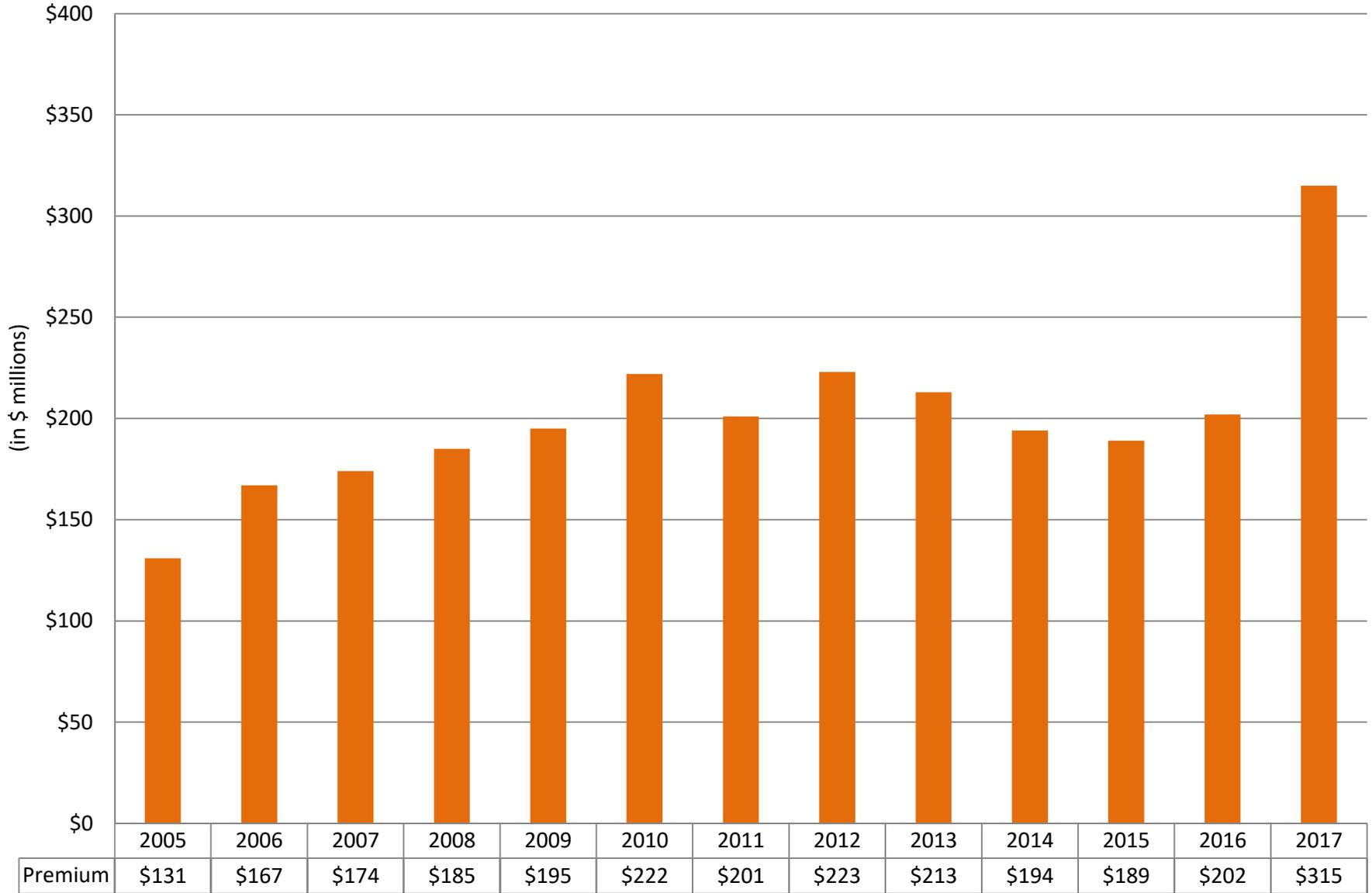
NOTE: In 2007 Revenue Bond Proceeds were split between the base-limits and supplement programs

# **Risk-Transfer Programs**

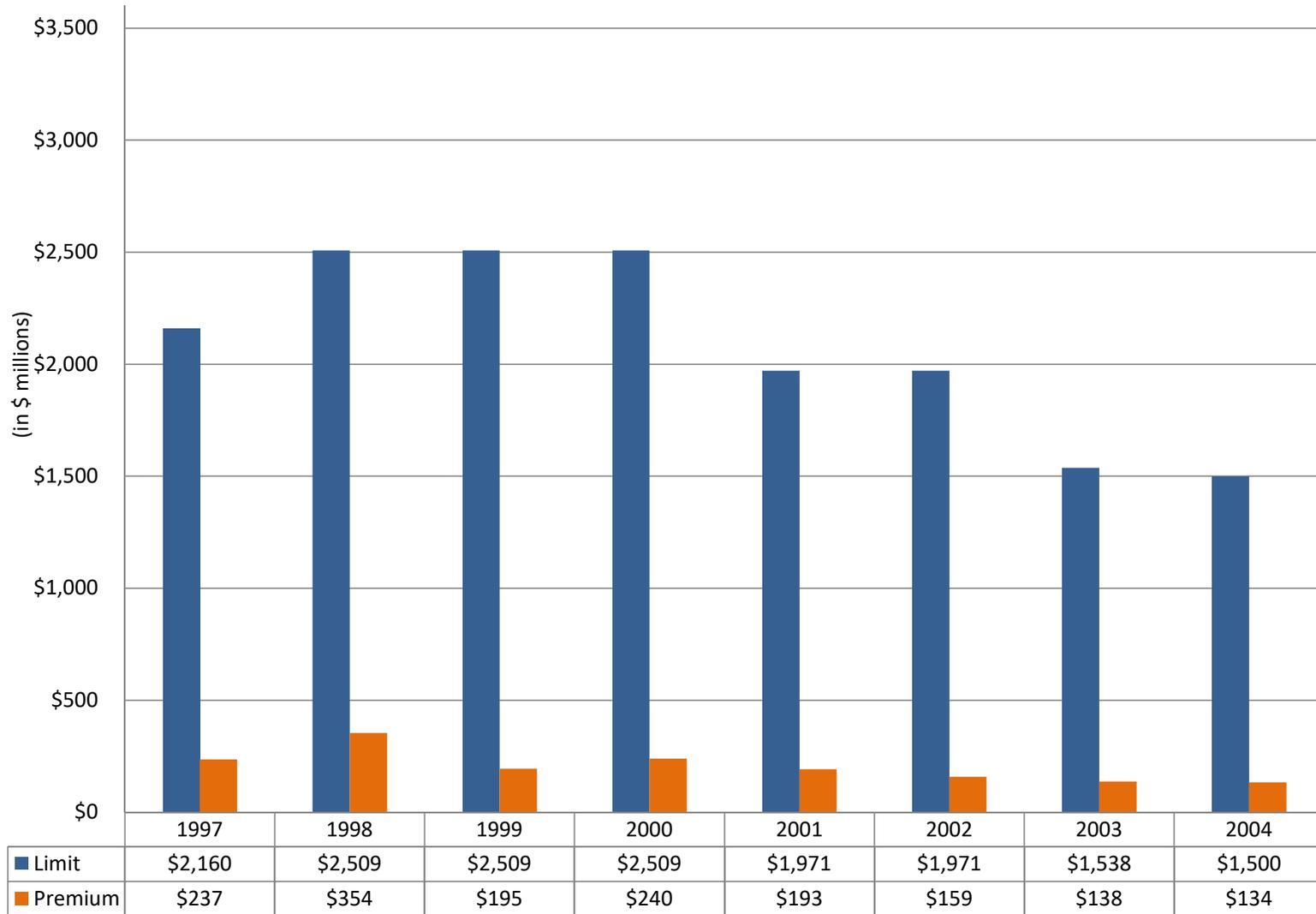
**California Earthquake Authority  
Annual Risk-Transfer Premium  
December 31, 1997 - December 31, 2004**



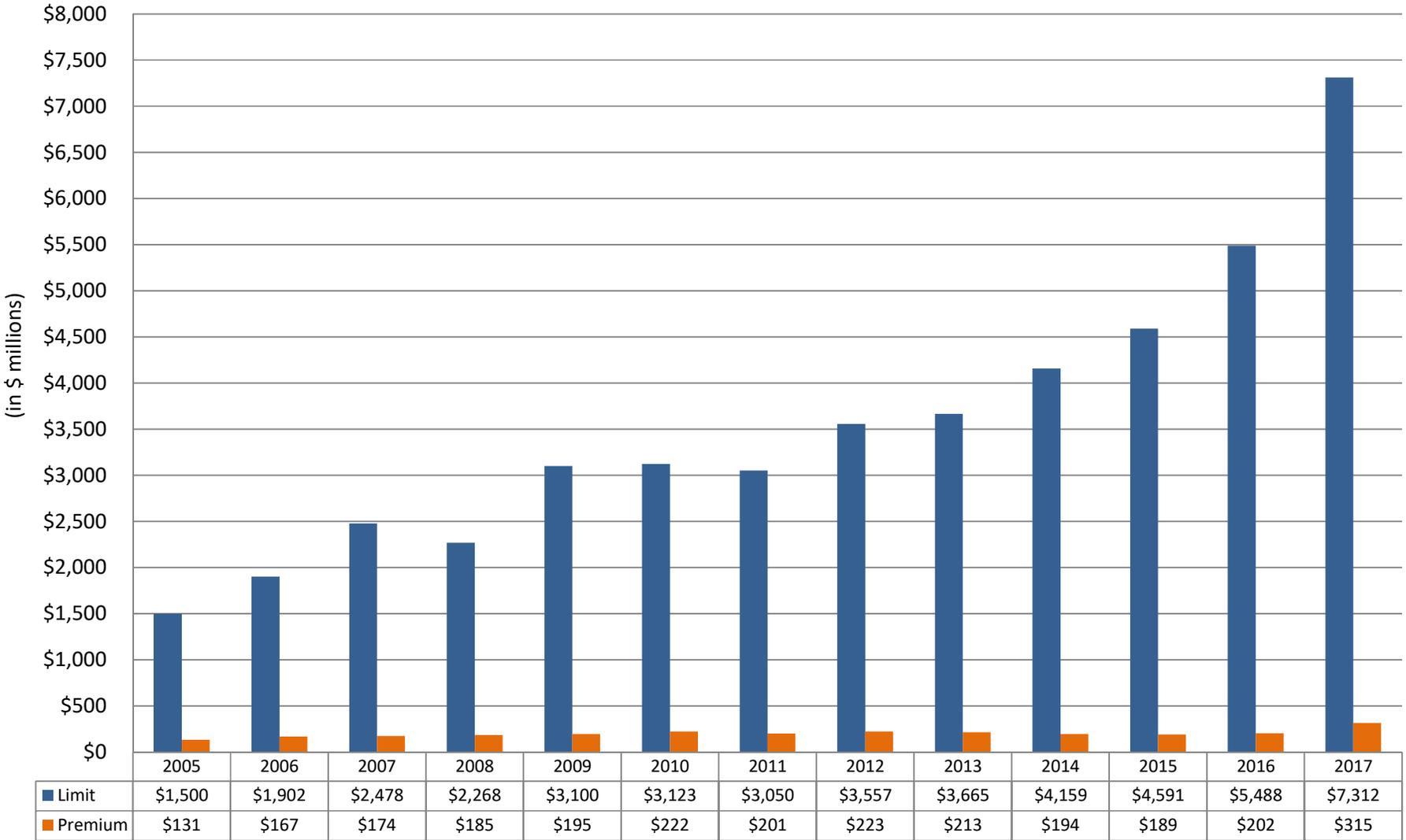
**California Earthquake Authority  
Annual Risk-Transfer Premium  
December 31, 2005 -December 31, 2017**



**California Earthquake Authority  
Annual Risk-Transfer Premium and Limit  
December 31, 1997 - December 31, 2004**



**California Earthquake Authority  
Annual Risk-Transfer Premium and Limit  
December 31, 2005 - December 31, 2017**



**California Earthquake Authority**

**Losses & Loss Adjustment Expenses (LAE) Paid - Cumulative to February 28, 2018**

Event Code	Event Name	Date of Event	Magnitude	Location	# of Paid Claims	Losses Paid	LAE Paid	Total Paid Losses & LAE
98010	Chino	1/5/1998	4.3	3 mi. W of Chino	1	\$1,385.72	\$124.71	\$1,510.43
98050	San Juan Bautista	8/12/1998	5.3	7 mi. SSE of San Juan Bautista	1	161,204.93	13,643.13	\$174,848.06
98070	Redding	11/26/1998	5.2	3 mi. NNW of Redding	1	4,029.72	362.67	\$4,392.39
	1998 Minor Quakes				2	4,199.20	377.93	\$4,577.13
99050	Hector Mine	11/16/1999	7.0	28 mi. N of Joshua Tree (near Palm Springs)	25	137,361.81	12,362.47	\$149,724.28
	1999 Minor Quakes				1	4,037.26	363.35	\$4,400.61
00030	Napa	9/3/2000	5.2	17 mi. ESE of Santa Rosa; 6 mi. NNE of Sonoma; 3 mi. WSW of Yountville	15	278,130.07	25,031.71	\$303,161.78
01010	Ferndale	1/13/2001	5.4	53 mi. WNW of Ferndale	1	34,764.54	3,128.79	\$37,893.33
	2001 Minor Quakes				1	52,896.82	4,760.70	\$57,657.52
01040	West Hollywood	9/9/2001	4.2	West Hollywood	10	67,044.15	6,033.94	\$73,078.09
	2002 Minor Quakes				1	8,361.24	752.51	\$9,113.75
03090	San Simeon	12/22/2003	6.4	7 mi. NE of San Simeon	86	2,692,628.02	242,339.74	\$2,934,967.76
04120	Parkfield	9/28/2004	6.0	7 mi SSE of Parkfield	1	7,032.59	632.93	\$7,665.52
07240	Chatsworth	8/9/2007	4.5	4 mi NNW of Chatsworth	1	7,813.88	703.24	\$8,517.12
07250	Alum Rock	10/30/2007	5.6	5 mi NNE of Alum Rock	1	6,149.20	553.42	\$6,702.62
08280	Chino Hills	7/29/2008	5.4	5.5 mi SE of Diamond Bar	8	145,967.19	13,089.08	\$159,056.27
09320	Calexico	12/30/2009	5.9	22.7 mi SE of Calexico	1	275.88	24.83	\$300.71
	2009 Minor Quakes				2	8,627.67	776.49	\$9,404.16

## California Earthquake Authority

### Losses & Loss Adjustment Expenses (LAE) Paid - Cumulative to February 28, 2018 (continued)

Event Code	Event Name	Date of Event	Magnitude	Location	# of Paid Claims	Losses Paid	LAE Paid	Total Paid Losses & LAE
10330	Ferndale	1/9/2010	6.5	27 mi W of Ferndale	3	23,901.50	2,151.13	\$26,052.63
10360	Baja California Mexico	4/4/2010	7.2	16 mi SW from Guadalupe Victoria, Mexico	17	81,066.58	7,296.00	\$88,362.58
	2010 Minor Quakes				1	225,000.00	0.00	\$225,000.00
12410	Brawley	8/26/2012	5.3	4 mi North of Brawley, CA	2	23,833.24	2,145.00	\$25,978.24
	2012 Minor Quakes				3	146,471.18	13,182.41	\$159,653.59
13430	Greenville	5/23/2013	5.7	7 mi WNW of Greenville, CA	1	1,500.00	135.00	\$1,635.00
14460	Westwood	3/17/2014	4.4	6mi NNW of Westwood, CA	6	67,989.89	6,119.09	\$74,108.98
14470	La Habra	3/28/2014	5.1	1mi S of La Habra, CA	84	458,354.56	41,251.91	\$499,606.47
14480	American Canyon	8/24/2014	6.0	4mi NW of American Canyon, CA	195	3,415,890.83	307,430.18	\$3,723,321.01
	2014 Minor Quakes				3	18,859.35	1,697.34	\$20,556.69
	2015 Minor Quakes				2	5,877.69	529.00	\$6,406.69
	2018 Minor Quakes				2	5,308.71	477.78	\$5,786.49
<b>Total</b>					<b>478</b>	<b>\$8,095,963.42</b>	<b>\$707,476.48</b>	<b>\$8,803,439.90</b>

## Claims History Report Glossary

**Event Code:** A 5 digit code that the CEA assigns to all earthquakes expected to produce paid losses. This code is used to track statistics for a particular earthquake.

**Event Name:** This is generally the name given to the earthquake by the USGS (United States Geological Survey).

**Date of Event:** Date that the earthquake occurred.

**Magnitude:** Richter scale magnitude assigned by USGS.

**Location:** This is assigned by USGS and is usually a city close to the earthquake.

**# of Paid Claims:** A numeric count of the claims that received a payment for damage caused by a particular earthquake.

**Losses Paid:** Total dollar amount of all claims paid to the policyholders for a particular earthquake.

**LAE Paid:** "LAE" stands for Loss Adjustment Expense which is always 9% of paid losses. This is the amount paid to the Participating Insurers for handling the claim.

**Total Paid Losses and ALE:** The sum of Losses Paid and LAE Paid.

**Minor Quakes:** Losses paid for damage from minor earthquakes that were initially not expected to generate a claim and therefore were not issued a CEA event code.

# California Earthquake Authority

## Insurance Operations - Governing Board Report

All Companies - As Of 2/23/2018 - Policies in Force on: 01/31/2018

TOTALS	Policies In Force	%Total	Exposure	%Total	Written Premium	% Total	Avg Written Premium
Homeowners	714,277	69.3 %	367,077,276,443	83.0 %	537,722,312	77.1 %	753
Homeowners Choice	93,159	9.0 %	54,579,430,874	12.3 %	90,092,792	12.9 %	967
<b>All Homeowners Total</b>	807,436	78.3 %	421,656,707,317	95.4 %	627,815,105	90.0 %	778
Manufactured Homes (Mobilehomes) - Homeowners	27,224	2.6 %	3,609,548,807	0.8 %	3,702,442	0.5 %	136
Manufactured Homes (Mobilehomes) - Homeowners Choice	2,600	0.3 %	470,430,752	0.1 %	569,271	0.1 %	219
<b>All Manufactured Homes (Mobilehomes) - Homeowners Total</b>	29,824	2.9 %	4,079,979,559	0.9 %	4,271,713	0.6 %	143
Condo	114,767	11.1 %	13,250,121,000	3.0 %	56,681,899	8.1 %	494
Renters	79,209	7.7 %	3,021,987,500	0.7 %	8,705,623	1.2 %	110
<b>Grand Total</b>	1,031,236	100.0 %	442,008,795,376	100.0 %	697,474,339	100.0 %	676

# California Earthquake Authority

## Insurance Operations - Governing Board Report

All Companies - As Of 2/23/2018 - Policies in Force on: 01/31/2018

TOTALS	Policies In Force	% Total	Exposure	% Total	Written Premium	% Total	Avg Written Premium
<b>Homeowners - by Cov A Ded</b>							
25% Total	5,024	0.5 %	2,841,119,265	0.6 %	3,519,645	0.5 %	701
20% Total	4,432	0.4 %	2,572,065,055	0.6 %	3,885,695	0.6 %	877
15% Total	562,071	54.5 %	285,524,908,064	64.6 %	423,257,710	60.7 %	753
10% Total	101,611	9.9 %	54,351,591,057	12.3 %	77,641,800	11.1 %	764
5% Total	41,139	4.0 %	21,787,593,002	4.9 %	29,417,461	4.2 %	715
<b>Homeowners Total</b>	<b>714,277</b>	<b>69.3 %</b>	<b>367,077,276,443</b>	<b>83.0 %</b>	<b>537,722,312</b>	<b>77.1 %</b>	<b>753</b>
<b>Homeowners Choice - by Cov A Ded</b>							
25% Total	3,307	0.3 %	2,021,703,275	0.5 %	2,728,217	0.4 %	825
20% Total	2,368	0.2 %	1,506,389,230	0.3 %	2,507,940	0.4 %	1,059
15% Total	40,865	4.0 %	25,076,432,277	5.7 %	42,041,926	6.0 %	1,029
10% Total	26,948	2.6 %	15,655,614,890	3.5 %	25,699,498	3.7 %	954
5% Total	19,671	1.9 %	10,319,291,202	2.3 %	17,115,211	2.5 %	870
<b>Homeowners Choice Total</b>	<b>93,159</b>	<b>9.0 %</b>	<b>54,579,430,874</b>	<b>12.3 %</b>	<b>90,092,792</b>	<b>12.9 %</b>	<b>967</b>
<b>All Homeowners Total</b>	<b>807,436</b>	<b>78.3 %</b>	<b>421,656,707,317</b>	<b>95.4 %</b>	<b>627,815,105</b>	<b>90.0 %</b>	<b>778</b>

# California Earthquake Authority

## Insurance Operations - Governing Board Report

All Companies - As Of 2/23/2018 - Policies in Force on: 01/31/2018

TOTALS	Policies In Force	% Total	Exposure	% Total	Written Premium	% Total	Avg Written Premium
<b>Manufactured Homes (Mobilehomes) - Homeowners - by Cov A Ded</b>							
25% Total	12	0.0 %	1,640,436	0.0 %	1,881	0.0 %	157
20% Total	16	0.0 %	2,628,981	0.0 %	2,898	0.0 %	181
15% Total	20,907	2.0 %	2,538,985,353	0.6 %	2,577,715	0.4 %	123
10% Total	4,539	0.4 %	762,801,506	0.2 %	769,472	0.1 %	170
5% Total	1,750	0.2 %	303,492,531	0.1 %	350,475	0.1 %	200
<b>Manufactured Homes (Mobilehomes) - Homeowners Total</b>	27,224	2.6 %	3,609,548,807	0.8 %	3,702,442	0.5 %	136
<b>Manufactured Homes (Mobilehomes) - Homeowners Choice - by Cov A Ded</b>							
25% Total	17	0.0 %	2,892,807	0.0 %	2,926	0.0 %	172
20% Total	9	0.0 %	1,697,292	0.0 %	1,468	0.0 %	163
15% Total	878	0.1 %	146,636,861	0.0 %	180,162	0.0 %	205
10% Total	836	0.1 %	156,906,838	0.0 %	196,628	0.0 %	235
5% Total	860	0.1 %	162,296,954	0.0 %	188,087	0.0 %	219
<b>Manufactured Homes (Mobilehomes) - Homeowners Choice Total</b>	2,600	0.3 %	470,430,752	0.1 %	569,271	0.1 %	219
<b>All Manufactured Homes (Mobilehomes) - Homeowners Total</b>	29,824	2.9 %	4,079,979,559	0.9 %	4,271,713	0.6 %	143

# California Earthquake Authority

## Insurance Operations - Governing Board Report

All Companies - As Of 2/23/2018 - Policies in Force on: 01/31/2018

TOTALS	Policies In Force	% Total	Exposure	% Total	Written Premium	% Total	Avg Written Premium
<b>Condo - by Cov A Ded</b>							
25% Total	1,172	0.1 %	177,197,000	0.0 %	655,908	0.1 %	560
20% Total	786	0.1 %	120,266,500	0.0 %	494,814	0.1 %	630
15% Total	72,736	7.1 %	8,858,558,500	2.0 %	37,956,027	5.4 %	522
10% Total	6,686	0.6 %	1,124,162,000	0.3 %	4,129,547	0.6 %	618
5% Total	11,309	1.1 %	1,824,603,500	0.4 %	6,054,090	0.9 %	535
No Cov A	22,078	2.1 %	1,145,333,500	0.3 %	7,391,513	1.1 %	335
<b>Condo Total</b>	<b>114,767</b>	<b>11.1 %</b>	<b>13,250,121,000</b>	<b>3.0 %</b>	<b>56,681,899</b>	<b>8.1 %</b>	<b>494</b>

# California Earthquake Authority

## Insurance Operations - Governing Board Report

All Companies - As Of 2/23/2018 - Policies in Force on: 01/31/2018

TOTALS	Policies In Force	% Total	Exposure	% Total	Written Premium	% Total	Avg Written Premium
<b>Renters - by Cov C Ded</b>							
25% Total	1,437	0.1 %	27,257,500	0.0 %	63,032	0.0 %	44
20% Total	527	0.1 %	16,216,500	0.0 %	33,577	0.0 %	64
15% Total	21,961	2.1 %	519,912,000	0.1 %	1,274,871	0.2 %	58
10% Total	5,089	0.5 %	274,218,000	0.1 %	676,627	0.1 %	133
5% Total	50,195	4.9 %	2,184,383,500	0.5 %	6,657,516	1.0 %	133
<b>Renters Total</b>	79,209	7.7 %	3,021,987,500	0.7 %	8,705,623	1.2 %	110
<b>Grand Total</b>	1,031,236	100.0 %	442,008,795,376	100.0 %	697,474,339	100.0 %	676

**CEA Project Portfolio**

Schedule	Scope	External Resources	Project Cost	Overall Score	Portfolio #	Project Name	PM	Status	Target Start Date	Start Date	Project % Complete	Target End Date	End Date
✓	✓	✓	✓	✓	2016-01	CEA Agent Sales Tool	Danica Wallin	Active	01/04/16	01/04/16	5%	10/25/18	
✓	✓	✓	✓	✓	2016-02	Training and Registration Form	Stephenie Dagata	Completed	01/04/16	01/04/16	100%	08/03/17	08/03/17
✓	✓	✓	✓	✓	2016-03	Combine Agent Databases	Stephenie Dagata	Completed	01/04/16	01/04/16	100%	08/03/17	08/03/17
✓	✓	✓	✓	✓	2017-01	CPP Data Warehouse & Reporting	Paul Stubbles	Completed	01/03/17	01/03/17	100%	07/31/17	07/31/17
✓	✓	✓	✓	✓	2017-02	Written Premium Write Off	Terri Kletzman	Completed	02/01/17	02/01/17	100%	12/31/17	09/01/17
✓	✓	✓	✓	✓	2017-03	Business Continuity	Paul Stubbles	Active	01/03/17	01/03/17	50%	12/31/18	
✓	✓	✓	✓	✓	2017-04	ECMS	Jason Haxton	Completed	01/03/17	01/03/17	85%	12/31/17	12/31/17
✗	✓	✓	✓	✗	2017-05	Enterprise Resource Planning	Terri Kletzman	Active	02/01/17	02/01/17	15%	12/31/18	
✓	✓	✓	✓	✓	2017-06	End to End Website	Terri Kletzman	Cancelled	02/01/17	02/01/17	5%	09/29/17	04/14/17
✓	✓	✓	✓	✓	2017-07	QuakeGrade (SVIMA P2)	Terri Kletzman	Completed	01/03/17	01/03/17	100%	09/01/17	06/08/17
✓	✓	✓	✓	✓	2017-08	Self Service BI Reporting	Paul Stubbles	Completed	01/03/17	01/03/17	100%	12/31/17	12/22/17
✓	✓	✓	✓	✓	2017-09	EQA Redesign	Danica Wallin	Active	01/03/17	01/03/17	90%	03/29/18	
✓	✓	✓	✓	✓	2017-10	ZIP Code Validation	Terri Kletzman	Completed	01/03/17	12/01/16	100%	02/01/17	01/03/17
!	✓	✓	✓	✓	2017-12	eDiscovery	Jason Haxton	Active	01/03/17	01/03/17	47%	12/31/18	
✓	✓	✓	✓	✓	2018-01	Agent Portal	Danica Wallin	Active	03/01/17	03/01/17	0%	tbd	
✓	✓	✓	✓	✓	2017-13	Rate and Form Filing Project 2019	Terri Kletzman	Active	06/05/17	06/05/17	55%	12/31/18	



**CEA GOVERNING BOARD MEETING DATES FOR - 2018**

**January 25, 2018 – Thursday (Added)**

**March 14, 2018 – Wednesday**

**June 13, 2018 – Wednesday**

**September 12, 2018 – Wednesday**

**December 12, 2018 – Wednesday**

**CEA ADVISORY PANEL MEETING DATES FOR - 2018**

**January 23, 2018 – Tuesday (Added)**

[IMPORTANT NOTE: *This schedule is for future meetings that have been proposed and approved by the respective bodies named. Meeting dates, times, and locations are subject to change. The final dates, times, and locations will be announced on official Public Notice, issued by the CEA 10 or more days before the date of the meeting. Public Notices are also posted on the CEA Web site [www.EarthquakeAuthority.com](http://www.EarthquakeAuthority.com)* ]