

Texas Windstorm Insurance Association Interim Board of Directors Meeting

2017 Reinsurance Discussion

March 21, 2017

January 1, 2017 Reinsurance Market Overview



PRICING & CAPACITY

- Rates on line fell in nearly all regions and segments, but more moderately than the past 3 years
- Global ROL Index decreased 3.7% as opposed to 8.8% at Jan 1, 2016
- US and EMEA ROLs decreased less than risk adjusted pricing primarily due to the impact of programs with increasing exposures and localized losses
- Capacity was more than adequate in all regions
- Individual renewals experienced a **wide range of outcomes** dependent on loss activity, past renewal experience and other company-specific features

COVERAGE

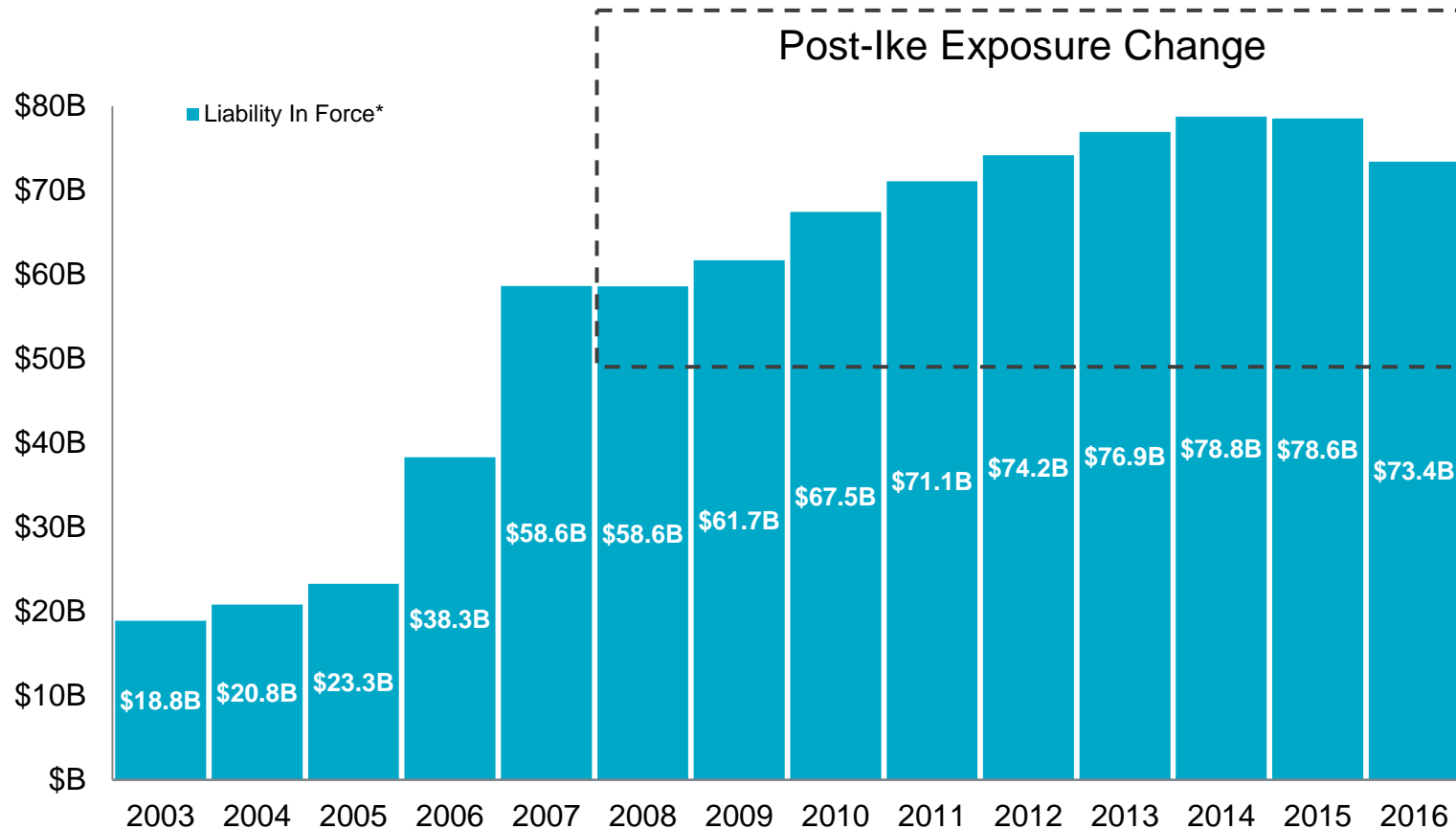
- Price over coverage continued to be the main focus in most regions
- Local coverage issues were addressed on a case by case basis
- Hours clauses garnered attention for a range of perils and in the US, based on possible outcomes from Hurricane Matthew, Guy Carpenter lead a discussion with reinsurers to create preferred event-based language
- Multi-year placement activity spread geographically with several regions seeing activity in this regard

MARKET DRIVERS

- Increased capital
 - After remaining roughly flat in 2015, dedicated reinsurance capital as calculated jointly by AM Best and GC, increased to approximately USD 420B
- Capital overall increased by 5% while alternative capital was up by 10%
- After remaining fairly stable from 2014, catastrophe bond pricing decreased in the second half of 2016, in some cases up to 30%
- Increased global loss activity
 - Significant global loss increased in 2016 by more than 50% over 2015

TWIA Exposure Change

\$15B in Exposure Growth Since Hurricane Ike



*TWIA Board of Directors Meeting Materials, Historical Data 1971 - 2016

Exposure Summary – Year over Year Comparison

	June 1, 2016 Treaty Data 12/31/15	June 1, 2017 Treaty Data 12/31/16	% Change
Exposures			
Statutory Limits (Renewal Data)	\$86,375,020,559	\$81,212,801,694	-6.0%
Total Values (Renewal Data)	\$93,603,417,084	\$87,898,571,662	-6.1%
Total Insured Values (Estimated Peak Wind Season)	\$84,000,000,000	\$74,000,000,000	-11.9%
Total Insured Values (Actual Peak Wind Season)	\$82,577,547,331		-1.7%
In-Force Premium (Renewal Data)	\$506,685,780	\$487,354,000	-3.8%
Modeled Outputs*			
RMS**			
1-250 Year Return Period	\$6,576,948,692	\$6,236,968,359	-5.2%
1-100 Year Return Period	\$4,042,905,827	\$3,820,094,204	-5.5%
Portfolio Average Annual Loss	\$255,686,343	\$241,979,983	-5.4%
AIR			
1-250 Year Return Period	\$8,236,546,880	\$7,851,626,974	-4.7%
1-100 Year Return Period	\$5,243,792,396	\$5,006,777,931	-4.5%
Portfolio Average Annual Loss	\$274,114,171	\$260,941,278	-4.8%

* Baseline Modeling for Year over Year Comparison purposes. Near Term Results, 0% LAE and 0% SS

**Decreases in RMS are driven by model version change; event rates, vulnerability, square footage, etc.

Current Financial Picture

	<u>2016 Actual</u>	<u>2017 Budget</u>
Direct Premiums Written	\$487.4M	\$456.4M
Net Premiums Earned	\$370.4M	\$334.6M
Incurred Losses and LAE	(\$38.7M)	(\$81.1M)
Expenses and Other	\$109.6M	\$96.9M

Catastrophe Reserve Trust Fund (CRTF)

Current Balance	~\$587.9M
<u>2016 Statutory Fund Payable & 2017 NI Assumption</u>	<u>~\$212.1M</u>
Projected CRTF	\$800M
Member Company Assessments (Class 1, 2, & 3)	\$1,000M
Public Securities Program (Class 1, 2, & 3)	\$1,000M

Review of Objectives Impacting 2017 Reinsurance

- Risk Management Objectives
 - Grow Catastrophe Reserve Trust Fund
 - Maintain funding at a minimum to the 1-100
 - Limit spending to fixed amount
- Determination of attachment point
- Determination of total capacity requirements
- Second Season Planning
- Impact of Tornado/Hail exposures on CRTF growth

Texas Insurance Code - SB 900

“The association shall maintain total available loss funding in an amount not less than the probable maximum loss for the association for a catastrophe year with a probability of one in 100.”

- Major variables can impact this “1-100 Year” statistic:
 - Exposure Data – Data Quality, Risk Characteristics, Geocoding, etc
 - Catastrophe Model Selection and versions – RMS, AIR, other
 - Frequency/Severity Selections based on weather (i.e. sea surface temperature)
 - Modeled Perils – Hurricane, Tropical Storm, Tornado, Hail & Other Winds, Wind Related Storm Surge
 - Loss Cost Factors – Loss Adjustment Expense, Litigation Factors, Insurance to Value, Co-Insurance
 - Other

Catastrophe Model Results Summary

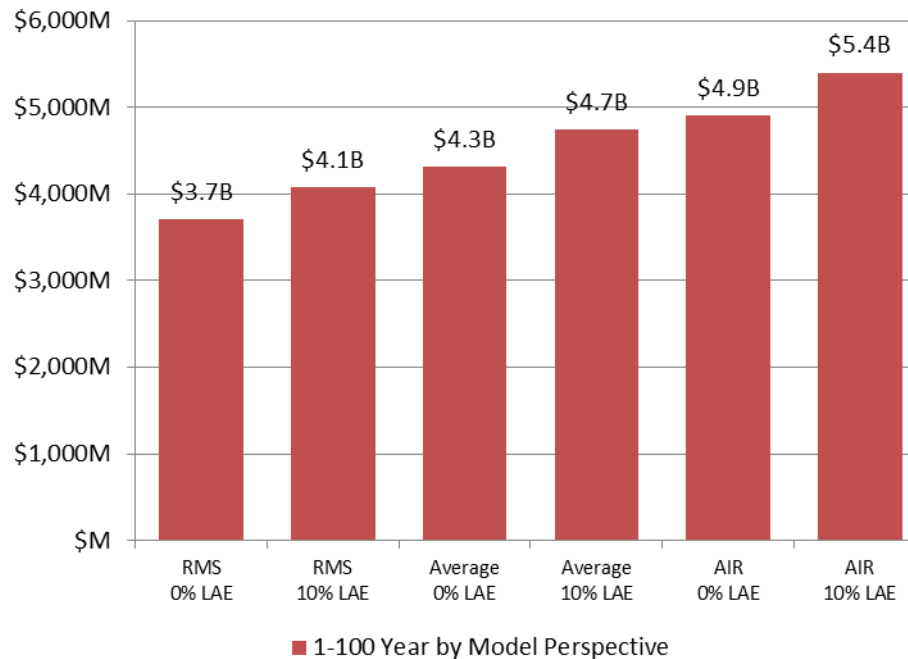
Data at 12/31/2016 Less 80% Take-up Rate for Depopulation

Return Period	RMS Model		Model Blend		AIR Model	
	0% LAE	10% LAE	0% LAE	10% LAE	0% LAE	10% LAE
250	\$6.1B	\$6.7B	\$6.9B	\$7.6B	\$7.7B	\$8.5B
100	\$3.7B	\$4.1B	\$4.3B	\$4.7B	\$4.9B	\$5.4B
50	\$2.4B	\$2.6B	\$2.6B	\$2.8B	\$2.8B	\$3.1B

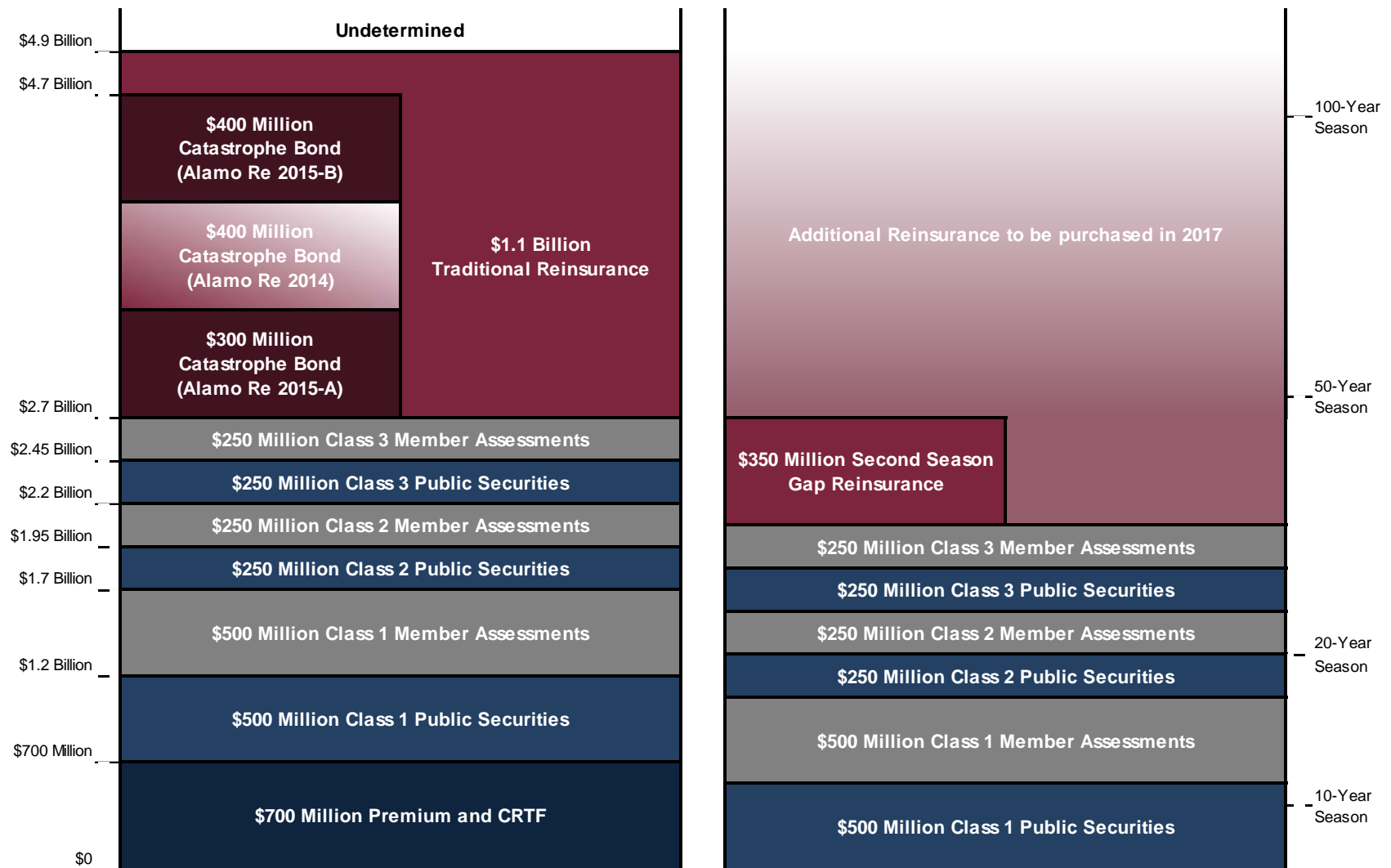
RMS v 16, All Peril, Aggregate Losses, NT Frequency, no SS

AIR Touchstone v4, All Peril, Aggregate Losses, NT Frequency, no SS

Assumes 80% take-up on Depopulation Policies

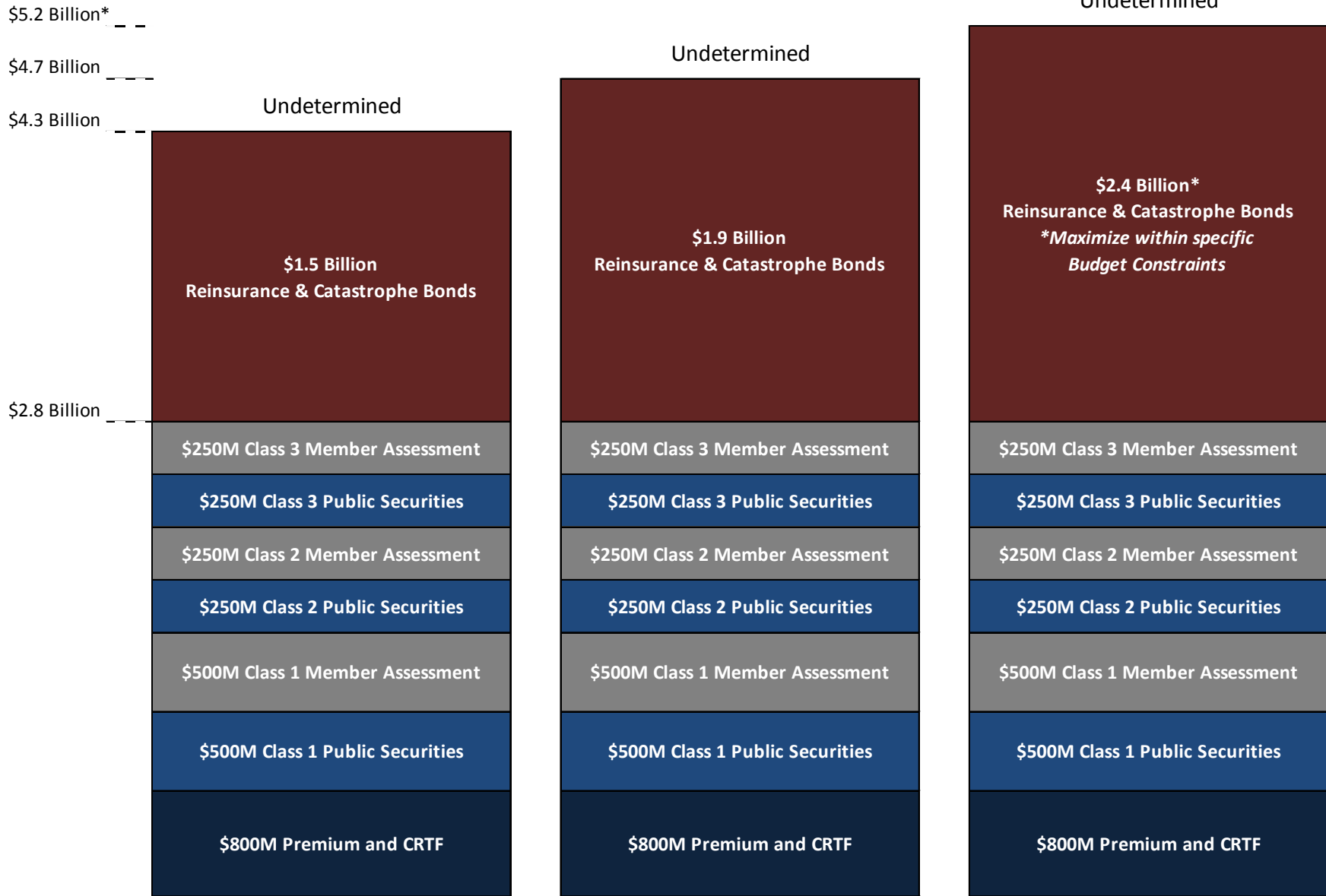


TWIA 2016 Funding Structure Including 2017 “Second Season Gap Cover”



Notes: Storm frequencies based on an average of AIR and RMS modeled losses using TWIA exposures as of 12/31/15
2017 as shown assumes at least \$700 million in losses in 2016 to demonstrate potential second season gap coverage

2017 Funding Structure Alternatives



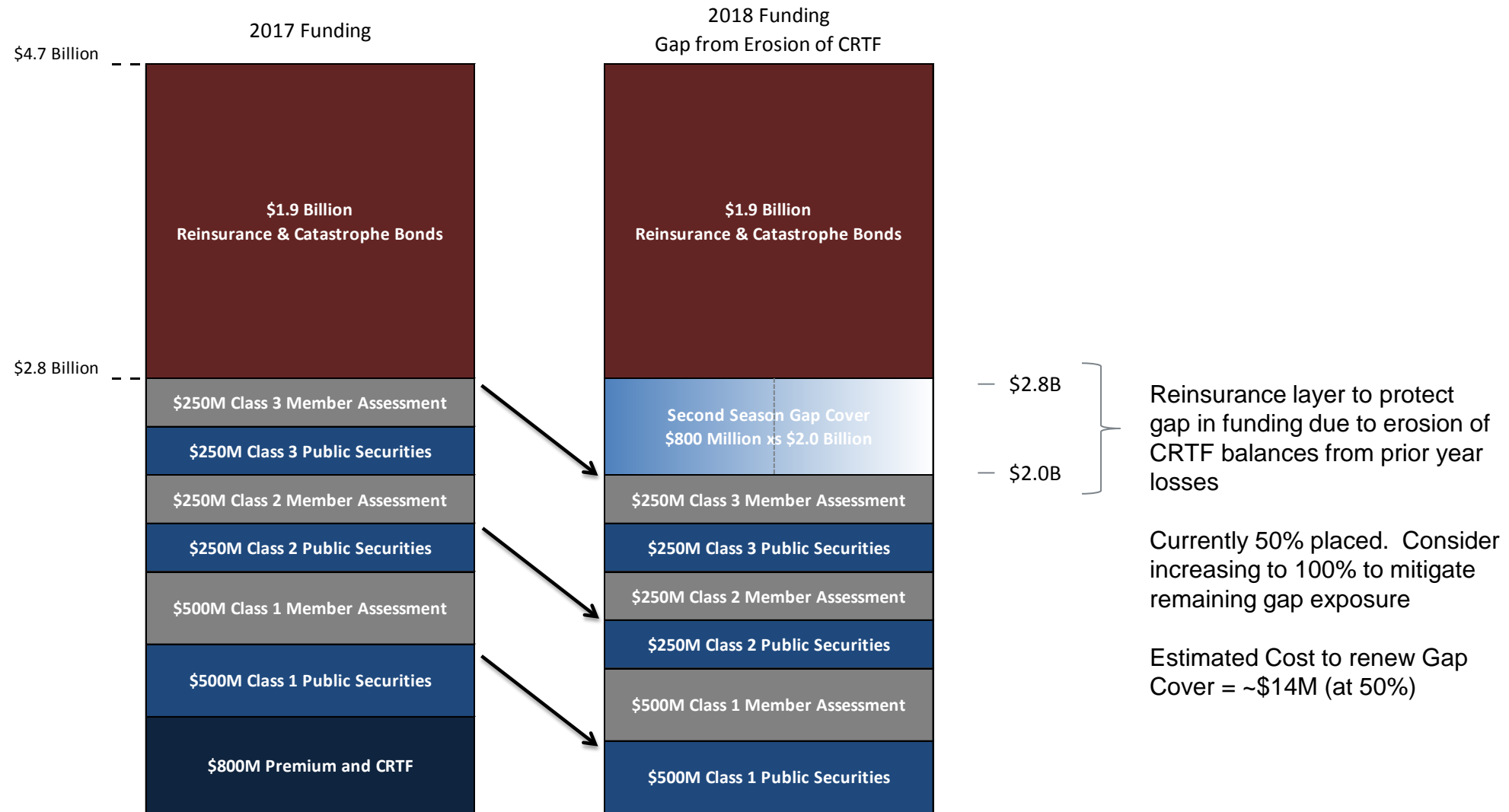
TWIA Property Catastrophe Structure

Initial Pricing Guidance under various Parameters

	Limit	xs	Retention	2016 Budget			
2016 Funding (\$4.9B)	\$2,200,000,000		\$2,700,000,000	\$125.0M			
	Limit	xs	Retention	Estimated Cost			Target Savings from Budget
2017 Funding							
Expiring Level (\$4.9B)	\$2,100,000,000	xs	\$2,800,000,000	\$93.5M	-	\$98.3M	-\$29.1M
Alternative 1 (\$4.3B)	\$1,500,000,000	xs	\$2,800,000,000	\$71.3M	-	\$75.0M	-\$51.9M
Alternative 2 (\$4.7B)	\$1,900,000,000	xs	\$2,800,000,000	\$85.7M	-	\$90.1M	-\$37.1M
Alternative 3 (\$5.2B)	\$2,400,000,000	xs	\$2,800,000,000	\$102.7M	-	\$108.0M	-\$19.6M

- 2016 Budget of \$125M allowed for purchase of Main Catastrophe XOL and 50% placement of Second Season Cover
- Layers above include Reinsurance and Alamo Re Catastrophe Bonds
- Total capacity requirements and allocation to various capacity providers (reinsurance/collateralized/cat bond) will have impact on final pricing which is estimated to be within the ranges above. Suggest TWIA Staff and Guy Carpenter be given flexibility to structure capacity in a way to best leverage total pricing.
- Alternative reinsurance structures to be quoted by the market and tailored based on Committee/Board objectives

Review of Second Season Gap Coverage



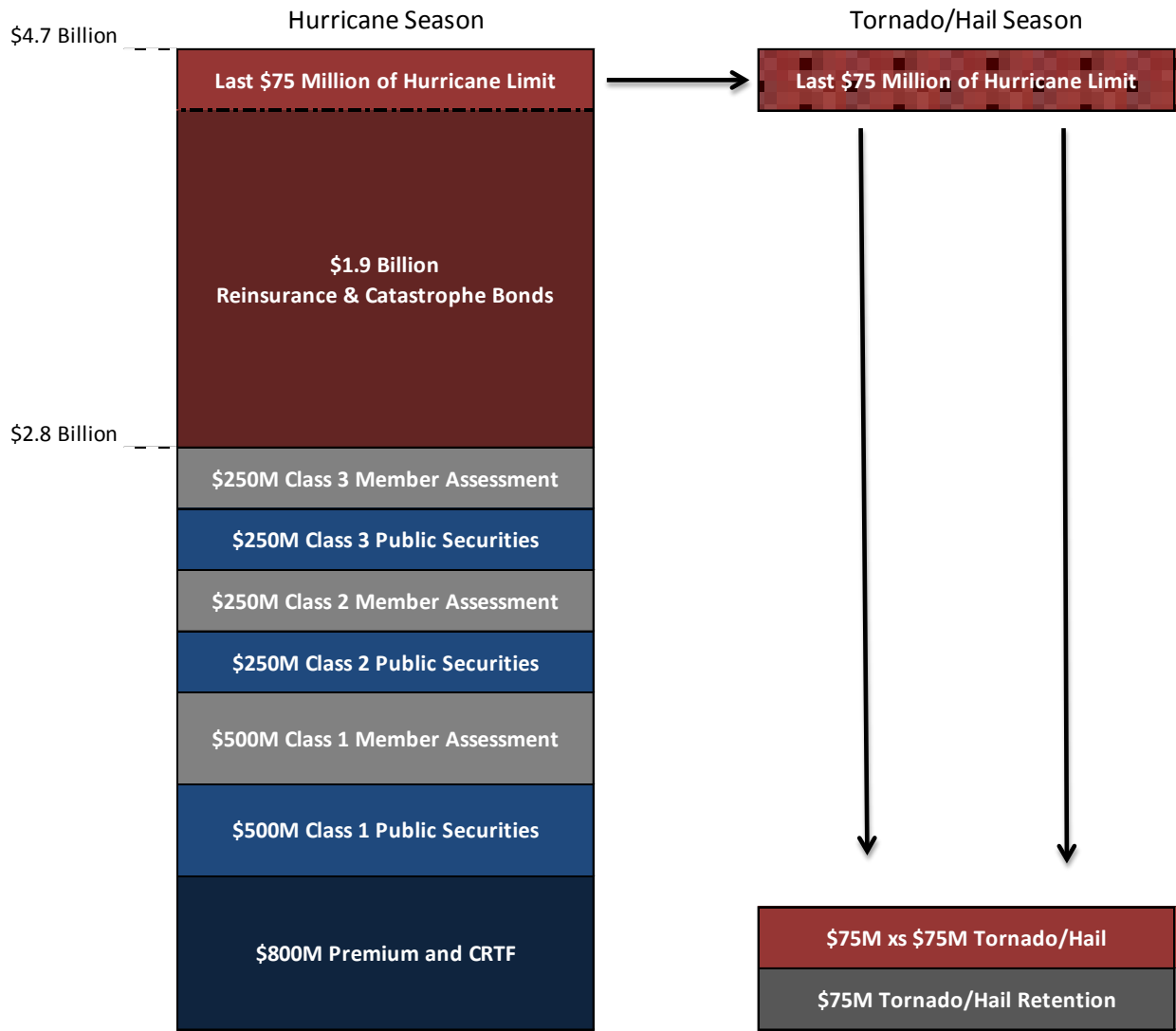
TWIA Property Catastrophe Structure

Initial Pricing Guidance under various Parameters – With Second Season

	Limit	xs	Retention	2016 Budget							
2016 Funding (\$4.9B)	\$2,200,000,000		\$2,700,000,000	\$125.0M							
2017 Funding	Limit	xs	Retention	Estimated Cost (inc. 50% placement of 2nd Season Coverage)		Target Savings from Budget	Estimated Cost (inc. 100% placement of 2nd Season Coverage)		Target Savings from Budget		
Expiring Level (\$4.9B)	\$2,100,000,000	xs	\$2,800,000,000	\$107.1M	-	\$112.6M	-\$15.1M	\$121.1M	-	\$130.6M	\$.9M
Alternative 1 (\$4.3B)	\$1,500,000,000	xs	\$2,800,000,000	\$84.9M	-	\$89.3M	-\$37.9M	\$98.9M	-	\$107.3M	-\$21.9M
Alternative 2 (\$4.7B)	\$1,900,000,000	xs	\$2,800,000,000	\$99.3M	-	\$104.4M	-\$23.1M	\$113.3M	-	\$122.4M	-\$7.1M
Alternative 3 (\$5.2B)	\$2,400,000,000	xs	\$2,800,000,000	\$116.4M	-	\$122.3M	-\$5.6M	\$130.4M	-	\$140.3M	\$10.4M

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Tornado/Hail Drop Down



- TWIA budgets ~\$80M for Tornado/Hail losses on the current portfolio
- Deviations from plan impact CRTF Contributions and growth
- Current statute precludes buying reinsurance that sits below other sources of funding
- However, if current limits are not exhausted from Hurricane Losses, consider dropping reinsurance to protect CRTF balances during spring Tornado/Hail season



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