

Brute Force: PCS® H1 2017 Catastrophe Bond Report

Overview

We saw a show of brute market force in the second quarter of 2017. Following a record-setting first quarter, catastrophe bond issuance activity surged even further. Sponsors completed 21 transactions and raised an eye-popping \$6.5 billion. That brought first-half totals to 29 transactions and nearly \$8.8 billion in new limit. To put this in perspective, the first half of 2017 was larger than the largest full year in catastrophe bond market history—and the second quarter alone would be among the top five years.

With this much activity, it's hard to characterize it in specific terms. While transactions came from experienced sponsors, there were four debut issuances. Fourteen were small transactions (\$200 million or less), and the remainder ranged in size from \$200 million to \$950 million. Two nearly reached \$1 billion each. Three sponsors accounted for more than \$2 billion in capital raised in the second quarter, and since the beginning of the year, \$3 billion came from only five. Since the beginning of the year, 14 transactions have come from transactions of less than \$200 million, showing that a handful of larger catastrophe bonds have made a difference.

Essentially, with so many catastrophe bonds completed, it's safe to say that there's (at least) a little of everything.

H1 2017 Catastrophe Bond Issuance

According to data from the Artemis.bm Deal Directory, insurers and reinsurers sponsored approximately \$8.8 billion¹ in catastrophe bonds in the first half of 2017, up a staggering 213 percent year over year. Sponsors completed 29 transactions—up from only 14 in the first half of 2016. Average transaction size climbed significantly (51 percent) to \$303 million due to the disproportionate effects of one of two Kilimanjaro Re transactions and Ursa Re—not to mention five other transactions of at least \$400 million.

H1 2017 Issuance Activity

	H1 2017	H1 2016
PCS trigger use (\$ millions)	\$4,500	\$1,700
PCS trigger use (# of transactions)	12	8
North American issuance (\$ millions) ²	\$8,300	\$2,400
North American issuance (# of transactions)	27	12
Total issuance (\$ millions)	\$8,800	\$2,800
Total issuance (# of transactions)	29	14

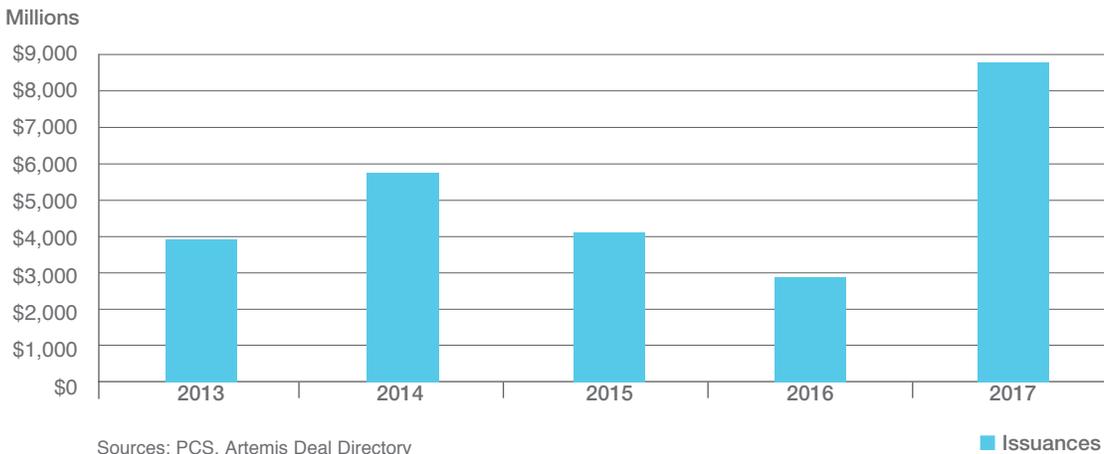
Sources: PCS, Artemis Deal Directory

1. This does not include cat bond life transactions, private catastrophe bonds, or transactions not focused on lines outside property.

2. This includes catastrophe bonds that included the United States and other regions.

Twenty-seven of the 29 catastrophe bonds completed so far this year had exposure to North America. Six included Canada. The two Kilimanjaro Re transactions, Spectrum Capital, and the Galilei Re from the first quarter use the PCS Catastrophe Loss Index, and Riverfront Re has an indemnity trigger with PCS for independent catastrophe designation. Galilei Re includes Europe and Australia, while Lion II covers Europe only and Aozora Re covers Japan.

Historical H1 Issuance Activity

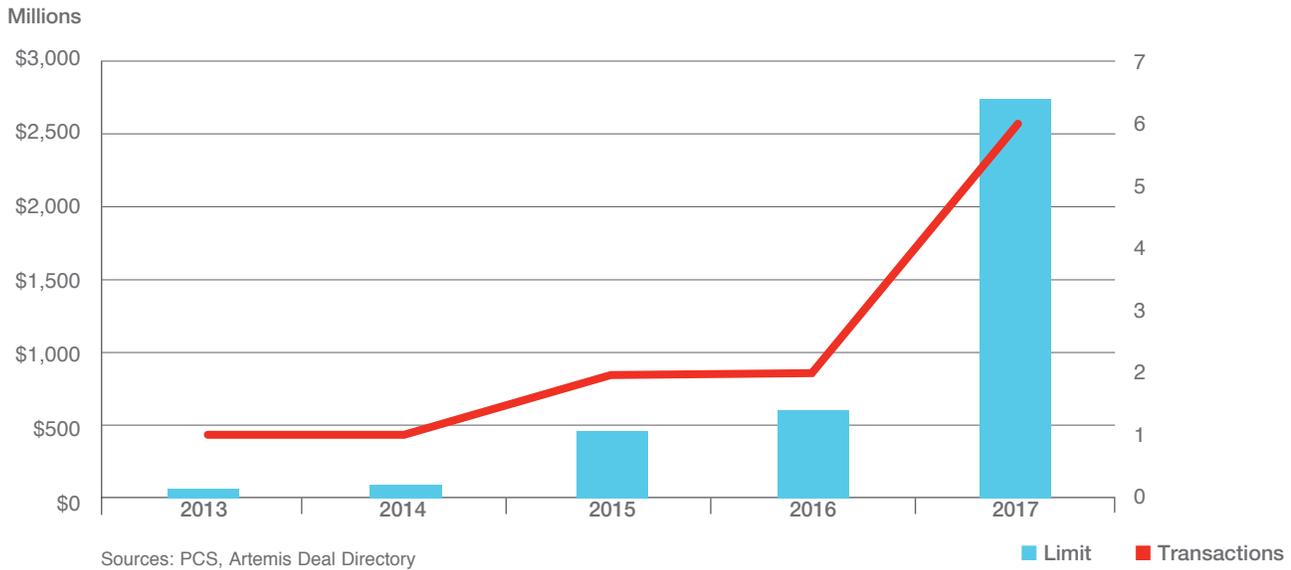


Use of PCS® (Property Claim Services®) data in first-half catastrophe bonds climbed significantly year over year. From \$1.7 billion in the first half of 2016, use surged to \$4.5 billion in the first half of 2017, an increase of more than 170 percent. Five use the PCS Catastrophe Loss Index (\$2.6 billion), with another seven using PCS for independent catastrophe designation (\$1.9 billion). Torrey Pines Re, using the latter structure, comes from a first-time catastrophe bond sponsor. And the first of two Sanders Re transactions has a hybrid structure, with both the PCS Catastrophe Loss Index and PCS for independent catastrophe designation.

Catastrophe Bonds Covering Canada

Sponsors completed six catastrophe bonds with coverage for Canada in the first half of 2017. The first, coming in the first quarter, was the second of two Galilei Re transactions, raising \$525 million in capital. In the second quarter, two Kilimanjaro Re issuances included coverage for Canada, with \$1.25 billion in aggregate limit, followed by Spectrum Capital at \$430 million and Northshore Re at \$350 million. Finally, Riverfront Re included Canada in an indemnity-triggered transaction using PCS for independent catastrophe designation. In all, sponsors raised \$2.7 billion through transactions that included Canada, the most robust year in catastrophe bond market history.

Historical H1 Issuance Activity with Canada



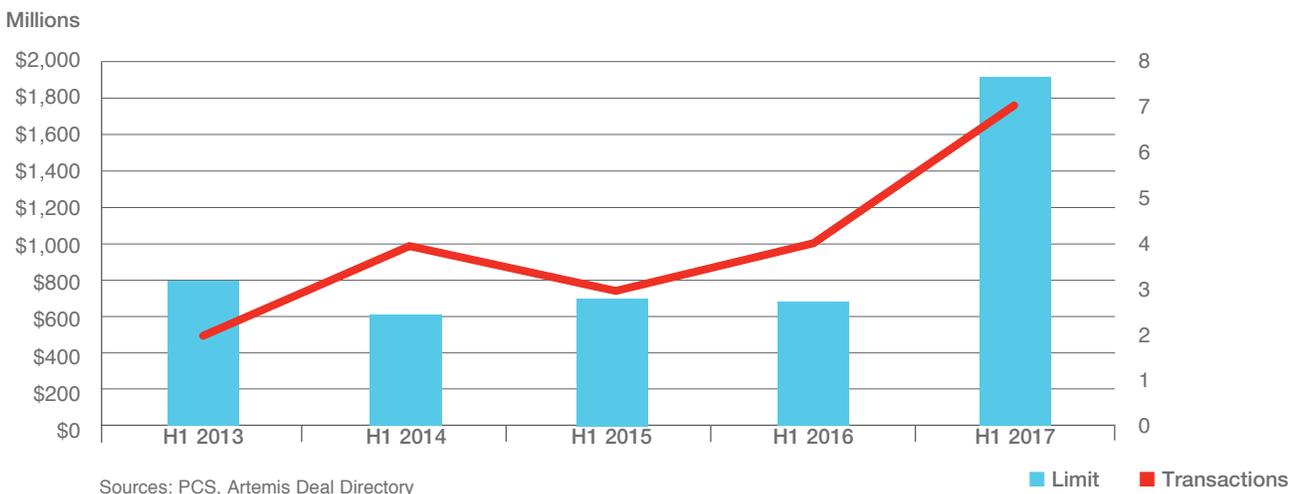
PCS launched its core service in Canada in late 2009, marking our first operation to estimate catastrophe losses outside the United States, Puerto Rico, and the U.S. Virgin Islands. PCS has designated more than 50 catastrophe events in Canada since the inception of the service. Nine came in 2016, including the Fort McMurray wildfire, with four occurring so far in 2017.

To get started with PCS Canada®, please contact Ken Donakey at **+1 801 932 8612** or **kddonakey@verisk.com**.

Independent Catastrophe Designation

Following a slow start in the first quarter, use of PCS for independent catastrophe designation jumped significantly. In the second quarter, seven transactions (one, the Sanders Re hybrid) took this approach, nearly doubling last year's first-half total. In terms of limit with this structure, sponsors raised \$1.9 billion in the first half, an increase of 181 percent from the same period in 2016. In recent years, first-half use of PCS for independent catastrophe designation in the United States and Canada has averaged 3.25 transactions and \$700 million in limit. In the second quarter of 2013, Tar Heel Re brought the amount higher because it was quite large (\$500 million).

Historical Use of PCS for Catastrophe Designation



For PCS to designate an event a catastrophe in the United States, it must generate an industry insured loss of at least \$25 million and affect a significant number of insurers and insureds (the threshold for Canada is C\$25 million and Turkey is TRY30 million). The PCS team generally reviews 50 to 60 events in North America every year that have the potential to become catastrophes.

Cat Bond Lite Continues

Sponsors completed nine cat bond lite transactions to raise \$357 million in the first half of 2017, with six coming in the second quarter. Last year saw six cat bond lites completed as well, although with \$300 million in aggregate limit. According to data from the Artemis.bm Deal Directory, one second-quarter transaction uses the PCS Catastrophe Loss Index, two have indemnity triggers, and the other three are unknown.

The cat bond lite structure aims to provide a route to securitization that doesn't involve the onerous issuance requirements of traditional catastrophe bonds—while still providing the structural discipline and transparency that have characterized catastrophe bonds since the market's inception. As a result, sponsors have greater flexibility to complete smaller and more targeted transactions quickly while managing their cost of capital. Additionally, the cat bond lite structure enables more participants to enter the insurance-linked securities (ILS) sector. Funds with a mandate to participate only in securitized transactions, for example, can use cat bond lite instead of collateralized reinsurance or industry loss warranties (ILWs) to issue and consume risk.

PCS Global Marine and Energy Update

The full PCS Global Marine and Energy database is now complete and fully available. Following our April launch of the nonelemental loss aggregation platform, we continued the process of estimating past events. The database now contains 23 loss estimates for events with insured loss estimates of at least \$250 million occurring as far back as 2009. Geographic regions represented include the Gulf of Mexico, the North Sea, the Strait of Hormuz, Latin America, Australia, and Ghana.

PCS Global Marine and Energy is our first entry into the noncatastrophe space and will be followed by several other specialty lines loss aggregation solutions.

Representative PCS Global Marine and Energy Loss Events

Event Name	Year	Location
Hanjin (new)	2016	Singapore
SpaceX	2016	Florida, U.S.
Jubilee	2016	Ghana
Pemex	2015	Gulf of Mexico
Vermillion (new)	2014	Morocco
MOL Comfort (new)	2013	Indian Ocean
Costa Concordia	2012	Italy
Vessel Rena (new)	2011	New Zealand
Deepwater Horizon	2010	Gulf of Mexico
SBM Yse Platform (Talisman) (new)	2009	North Sea
Siri	2009	North Sea

Source: PCS Global Marine and Energy

When PCS believes that an ocean marine or offshore energy event is likely to cause more than \$250 million in damage, we assign a four-digit serial number and event designation bulletin, and the event becomes a “PCS Identified Marine and Energy Event.” The bulletin also includes information about the event, such as location, likely cause of loss, type of event, and other anecdotal information (as available).

At the end of the second quarter following the loss event, we issue a bulletin with our preliminary loss estimate. We then publish quarterly updates until we believe the loss estimate is stable, based on feedback from companies providing underlying loss data to PCS. All PCS Global Marine and Energy events are subject to a resurvey process. We conduct resurveys quarterly to arrive at as accurate a number as possible.

To get started with PCS Global Marine and Energy, please contact Ken Donakey at **+1 801 932 8612** or **kddonakey@verisk.com**.

What to Watch

It's been an exciting year so far, and we still have six months to go! While the third quarter is expected to be relatively quiet (as usual), catastrophe bonds will continue to be a topic of discussion at the annual Rendez-Vous de Septembre in Monte Carlo this year. So, as we begin planning for the unofficial start of the reinsurance renewal season, what should we think about? Here are a few ideas:

1. Where in the world is next? The United States continues to receive most of the catastrophe bond market's focus, although we saw plenty of issuance activity that included Canada as well (with all Canadian deals using PCS data). And Europe and Japan continue to be featured fairly regularly. Turkey and Mexico have been covered by multiple issuances, and China came to market once. There's still plenty of world out there, though. The continued demystification of catastrophe bonds should help make them more accessible to new and emerging markets. Additionally, the continued expansion of property-catastrophe loss aggregation tools can make it easier to open new regions. The ideal markets for that should have fairly regular natural catastrophe events and sufficient insurance penetration. While that limits growth possibilities a little, we need to think about high-potential regions that may not be ready for catastrophe bonds yet—but could be in a few years. Getting in early makes all the difference!

2. Is it time to get past property? With a few exceptions, catastrophe bond issuance activity has focused on property-catastrophe events. However, the market wants more variety. And specialty lines continue to come up in conversations about where the market should turn next. The inclusion of liability can make it difficult to structure transactions effectively, but plenty of effort is being expended to address this. The launch of PCS Global Marine and Energy should help bring a transaction from this class of business to market, and we're hard at work on additional specialty lines solutions as well. Terror and cyber remain important opportunities that would help solve a significant problem for the market. And we've also been asked about other lines. Property-catastrophe should be the first stop on the journey, not the destination.

3. Who will be the next new sponsor? For the past two years, we haven't seen many new entrants. Last year, only two debut catastrophe bonds were completed. We've had four this year, but that's in the context of 28 total—it's not much. Many previous new entrants didn't return to the market, while a handful of others have committed to it. For the catastrophe bond sector to grow, we'll need more first-time sponsors. Further innovation should help lengthen the list of benefits that come from the use of catastrophe bonds—although, in the end, the cost of protection matters most.

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