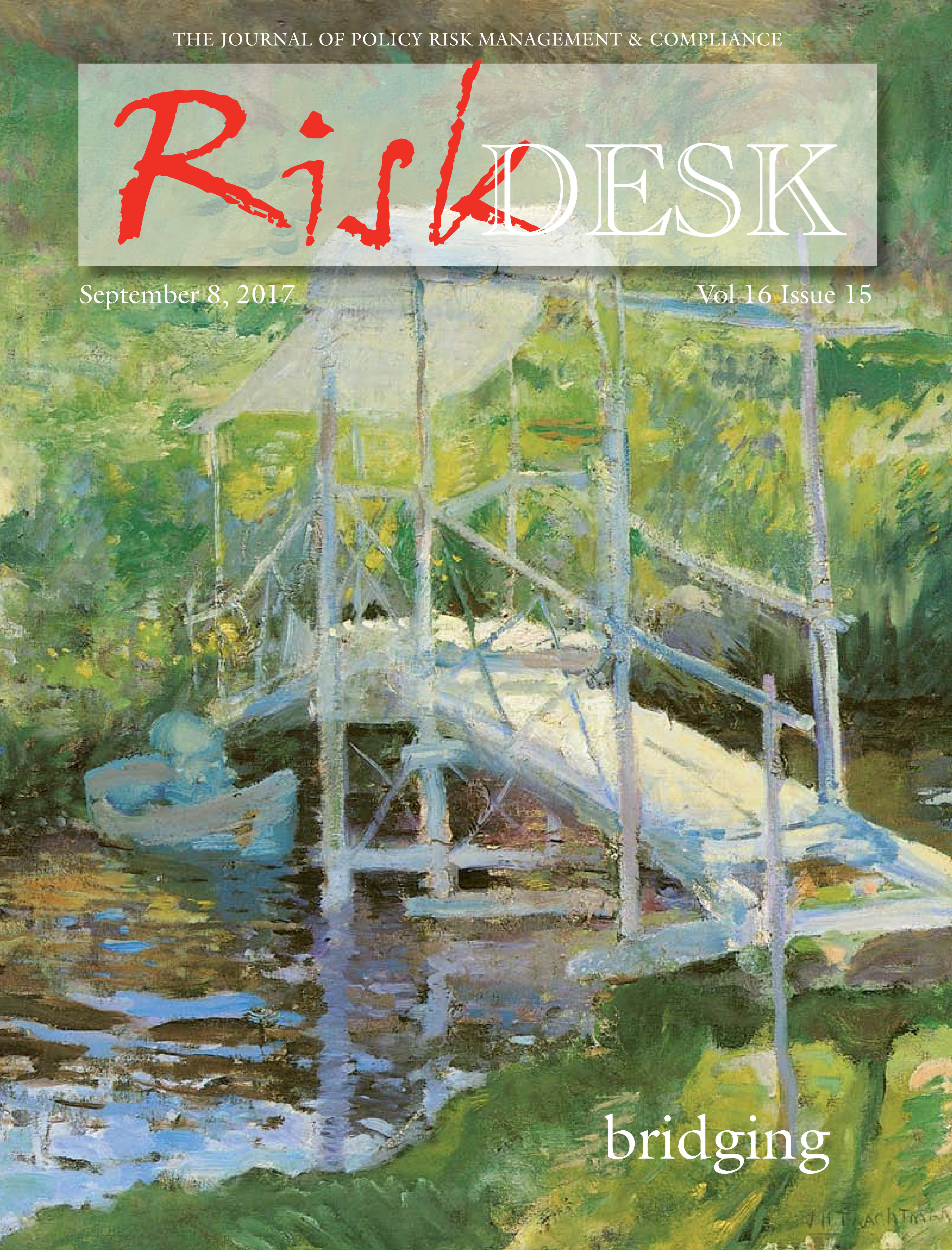

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RiskDESK
September 8, 2017
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# table of contents

## September 8, 2017


4 around the desk (regular feature)
editor's market commentary
7 environment risk desk (regular feature)
8 blockchain musings
10 blockchain + regulators
11 blockchain will make our markets better
13 drums along the potomac (regular feature)



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# around the risk desk

By John Sodergreen, editor in chief

## Lots of News Around the Risk Desk This Week…

Damage assessments are now flowing with great regularity in the Houston area, and pipe, storage and processing facilities are leaping back into the game at a pace nobody thought possible a week ago. Ports are back in business. LNG export is nearly back up: Argus reported that ships at the US Gulf Coast Sabine Pass LNG export terminal will likely return to loading on a normal schedule soon. "Gas intake at Sabine Pass is ramping up, with the facility scheduled to receive 1.15 Bcf (32.5mn $m^3$) of gas Thursday, more than double than the average intake of 402mn cf/d on 1-6 September, according to gas pipeline nominations." Unbelievable. So, it appears that the Great State of Texas is pulling off a lightning-paced recovery. Incidentally, the good folks of that state still need our help, so please donate directly to the Red Cross efforts at *http://www.redcross.org/local/texas/gulf-coast/disaster-response*. And speaking of helping hands, the good folks at OTC Global Holdings will be observing a charity day on Friday. That is, employees across the company's global offices will be donating their commissions to Hurricane Harvey relief efforts and the company will match those pledges dollar for dollar. For details, go to www.otcgh.com ... The general lack of wild volatility in the energy sector, crude in particular, surprised a lot of us in the wake of Harvey (and doubly so now in advance of Irma). And yet, somebody lights a road flare in Libya or makes aggressive hand motions in Kuwait and it seems the markets go haywire. Scott Shelton, who heads the crude desk at ICAP, reminds us just how much has changed in the US energy sector in the Gulf since Hurricane Katrina. "The truth is, we have built a massive amount of assets, many redundant assets, since the last major hurricane. There are now a lot of different places you can go with crude and products, a lot of different tankage, a lot of pipelines going to a lot of different places. Therefore, there wasn't such a dislocation due to Harvey," Shelton says. "Plus, a couple years ago, we could only import crude. Now, we have the option to export. The asset infrastructure has changed everything. It's made the market more efficient, and a lot more bulletproof." True enough. However, for the coming week, he says to expect a "few more shoes to drop on the refinery side," that is, "we'll actually learn what's really broken and what's not and what delays we might see. All is not rosy in Port Arthur, Texas." Further, focus on the top-line inventory numbers for the next couple weeks. "So long as the crude stocks are not mammoth builds next to the products' increases, then we're probably in a situation where we can still rally." … Overall, the natural gas sector is said to have weathered Harvey a bit better than the crude sector, but not by much. According to data supplied to EIA from PointLogic Energy, the average total supply of natural gas rose by 2 percent compared with the previous week, in spite of Hurricane Harvey. Amazing. We understand that Eagle Ford producers were on the ground fiddling with knobs and pushing buttons to get the pumps in motion again, within a couple days of Harvey making landfall. This is a critical point in the natural gas calendar, of course, and all eyes are on the needle at the top of the gas storage tally. A couple weeks ago, it looked like the bulls owned the joint this Winter, as final seasonal tallies for 2017 looked nowhere near the record builds we've seen in recent years. This week, we're not so sure. This week RBN Energy's Sheetal Nasta posted an excellent blog called "Summertime Blues – Potential Natural Gas Storage Scenarios for the Balance of Injection Season." In the end, she offers three solid scenarios for end-of-season tallies, based on historical highs and lows seen in recent years. On the low end, capping injections to the five-year minimum of about 334 Bcf, or an average 48 Bcf per week (as seen in 2012) for the seven weeks from Sept. 22 through Nov. 10, the inventory would end up around 3,764 Bcf by Nov. 10, or 283 Bcf less than 2016. If we take the maximum injections seen in the past five years during this period (623 Bcf in 2014), the inventory could end up peaking at a record 4,053 Bcf, 6 Bcf higher than the previous record set in 2016. "And, finally, the middle-of-the-road scenario – that the market injects 466 Bcf in that period as it did in 2016 – would lead the inventory to a peak of about 3,890 Bcf, 151 Bcf lower than 2016." Not so bullish if you ask us … Lots of comings and goings in and around DC lately ... Congress returned from its five-week Summer break last week to little fanfare. Top of the agenda? Voting on the president's immediate request for billions in federal emergency aid, lifting the debt ceiling temporarily and, confirming all the president's nominees at long last. On Thursday, the Senate Committee on Energy and Natural Resources held nomination hearings on FERC's final two commissioners, Richard Glick, and he who would be king of the agency, Kevin McIntyre. It was a cakewalk. So, too, for two new Interior Department assistant secretaries. Hopefully they will be voted on and confirmed soon. FERC's temporary chairman, Neil Chatterjee, announced that James P. Danly has been named general counsel at the commission. Danly comes to the commission from Skadden, Arps, Slate, Meagher and Flom LLP in DC. Acting GC at the agency, David Morenoff, will resume his duties as deputy general counsel ... Across town, new CFTC Commissioner Brian Quintenz has officially named Kevin Webb as his chief of staff. Recall that Webb previously served as special counsel to Chairman Chris Giancarlo, and as a senior trial attorney in the agency's enforcement division. He also did his time on the Hill, which is good, since Quintenz has been away from that corner of the federal zone for many moons … In a recent Platts podcast with outgoing EIA acting chief Howard Gruenspecht, reporter Brian Scheid asked about agency independence in the age of divisive politics. So, how hard is it these days to stay neutral?

*(Continued)*

"Not hard at all," Gruenspecht said without missing a beat. Solid statutory language in the agency's roots he says is the key. He added that he's not noticed a lot of pressure "to bend EIA's data." Recall that he's been with the agency for nearly 15 years. While part of the DOE, EIA is nonetheless "independent," he says, though not in the same way FERC is independent of the executive branch, for example. He noted that the agency's independence is "understood and valued … what they get is the final product." That said, he also mentioned that in the past – presumably at the executive branch or on the Hill, "occasionally people are crabby… but I can be crabby, too." Howard Gruenspecht will be formally joining the MIT Energy Initiative later this month … The good folks at PointLogic Energy published a solid market note earlier this week on the current state of the renewables industry, given the parallel downtrends of coal and nukes in the generation mix, going forward. Bottom line? There is no bottom line in this renewables-versus-everybody-else debate. For now, pick your study (there are a million of them) and wait and see … The hidden costs of renewables continue to vex planners. The Committee for a Constructive Tomorrow noted in a July study that to raise renewables to 20 percent of the current generation mix (we're now around 7-8 percent for wind and solar), we would need to add "185,000 1.5-MW turbines, 19,000 miles of new transmission lines, 18 million acres, and 245 million tons of concrete, steel, copper, fiberglass and rare earths, plus fossil fuel back-up generators for the 75-80 percent of the year that winds nationwide are barely blowing and the turbines are not producing electricity." The PLE analysis also says that natural gas-fired generation looks pretty darn economical for the next 20-30 years, anyway. *https://www.pointlogicenergy.com/market-news/Get-the-Point/2017/2017-8-30-renewables-vs-gas.html* ... Speaking of new regulations, it appears that the president is sticking to his campaign pledge of basically, less is more when it comes to both energy sector and financial rules and regs. The fact that several key agencies have been without a quorum all year, has in fact lowered the number of rulemakings we've seen, compared to the past couple years at this point on the calendar. According to an OMB report last month, a total of 860 federal regulatory actions have been withdrawn or removed from active status. "During that same period agencies proposed about 58 economically significant regulations, a 50 percent drop from those proposed in 2016, while the 372 "other significant regulations" are down by around 40 percent compared with those that existed during President Obama's "Fall 2016 agenda," the agency said. The cuts to the number of rules affecting the energy sector have been wide and deep, particularly in relation to mining on federal lands. The OMB release is part of a semiannual report on the Trump administration's regulatory agenda… Elsewhere around the sector, we see that the Dakota Access Pipeline is back in the news. Energy Transfer Partners LP, a major investor in the massive project has filed a federal suit against Greenpeace International and other green/anti-pipeline organizations claiming they violated federal racketeering

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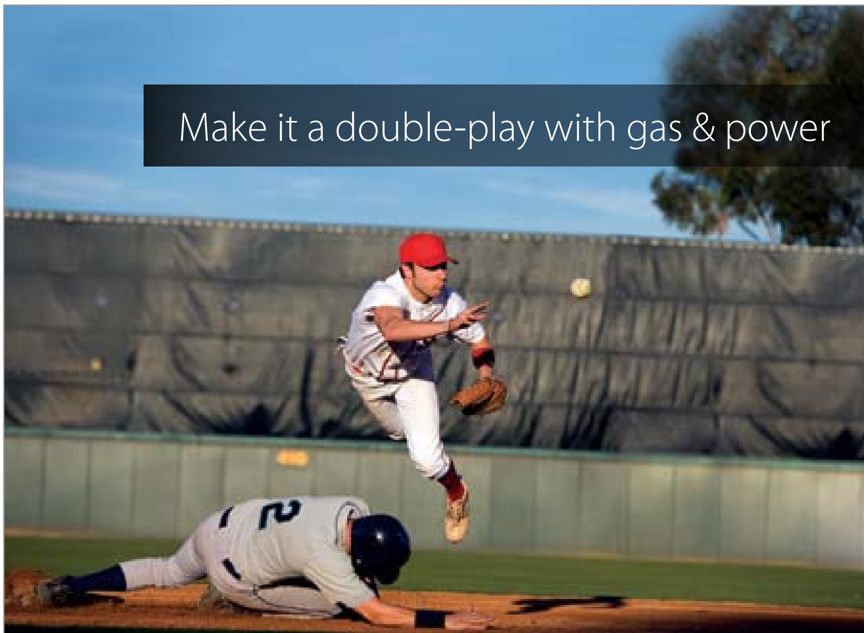


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laws and committed numerous acts of terror. Granted, this isn't the first time an energy company has accused Greenpeace (and others) of terrorist and otherwise subversive acts, but in the current political atmosphere, one observer we spoke to said that "Greenpeace should be very, very worried …" Tuesday's filing accused the groups of cyberattacks, spreading false information, inciting violence during protests and other charges. The 187-page complaint is packed with examples of all measure of alleged dirty tricks by the various green groups … This will be one to watch … Go to *https://www.desmogblog.com/sites/beta.desmogblog.com/files/Energy%20Transfer%20v%20GP%20-%20Complaint%20NDakota%2017cv173.pdf…* Earlier this Summer, didn't BP announce a big new discovery of gas in the San Juan Basin near the Colorado border? Back in Q2, didn't the USGS release new estimates of between 4 billion barrels of oil and 304.4 trillion cubic feet of natural gas sitting untapped in the Haynesville and Bossier shale formations? Aren't we floating on gas? Not according to the Industrial Energy Consumers of America's (IECA). For the past year or so they've aggressively lobbied against further gas export authorizations. Whether by pipe to Mexico or by way of LNG ships, IECA won't have it. The group fired off a letter to DOE noting how the "the previous administration failed to properly conduct public interest determinations on LNG application volumes for export to non-free trade agreement (NFTA) countries as required under the Natural Gas Act (NGA)." As such, the IECA is urging the department to "conduct a legal review of this matter and halt further considerations of LNG export applications to NFTA countries until the legal review is completed." The IECA sees more LNG facility authorizations as a "mortgage" on our "natural gas future." The reason we bring this up is that technically, this request can technically slow the process for several projects in the pipeline until it is fulfilled. One legal expert we spoke to thinks this particular approach may be a bigger thorn than anybody expects, as it pulls the NAFTA card at a time when that little agreement is under the microscope … Beware the Polls. The president called it right last year – fake polls can be a danger. A story that made the rounds has Kid Rock leading the U.S. Senate race in Michigan over incumbent Sen. Debbie Stabenow, according to a recent poll. Only, upon reflection, nobody had ever heard of the polling group, Delphi Analytica. We scanned the company site and found nothing, no contacts, leadership, expertise, nada. Russians? Who knows. Note to self: beware political polls … And no, Stabenow isn't all that concerned about losing her seat to some guy named, "Kid." *And so, there it is…*

business.nasdaq.com/commitment

# environment risk desk

The head of the United Nations says he will try to convince President Trump that the US should remain a party to the Paris climate agreement. The two men will meet at an annual UN conference later this month. "We hope that all countries will understand that it's not only the right thing to do, it's also the smart thing to do because the green economy is the economy of the future," Secretary-General Antonio Guterres told reporters this week.

Guterres described the current spate of extreme weather events around the world as a "dramatic aggravation" of climate change, noting that humans are facing four times as many natural disasters as they did 40 years ago. He said singular weather events should not be confused with larger climate change concerns, but that these extreme events are exactly what climate models project will be "the new normal of a warming world," according to an Associated Press story.

Does it matter whether America signs on to the Paris accord? The fear has been that lack of US participation sends the wrong signals to others, especially the newly industrialized nations that are today's major emitters. Moody's Investors Service, for one, is dubious. In a report issued this week, the investment group says any ding in global emissions reduction if the US officially bows out would be "small and fall in line with the uncertainty typically inherent in long-term projections."

"We do not believe that the global emissions pathway would be materially derailed over the coming decades even if the US were to formally abandon its Paris agreement commitments," Moody's says.

The Paris agreement has been ratified by 160 of the 197 countries that signed the accord, and US states, cities and private corporations have pledged to fill in the gap left by the federal government reneging on its commitment. Economic trends are doing the rest, as the cost of renewables continues to decline and cheap gas-fired generation gains additional market share. Low prices at the pump, coal plant retirements and tax credits for wind and solar "will maintain the pace of decarbonization for the next three to five years," according to the report.

Moody's notes that the private sector adoption of so-called sustainable, responsible and impact (SRI) investment strategies has more than doubled in five years due to increased pressure from investors and shareholders. Today it stands at $8.7 trillion in assets under management.

In a statement opposing Trump's withdrawal from the Paris accord in June, the US SIF Foundation, the group that promotes SRI investment, said concern about climate change is increasing among the largest American institutional investors. In a survey last year, the organization found that climate change was "the most significant overall environmental factor in terms of assets." Climate risk is now factored into investment analysis for nearly $4 trillion in assets under management, triple the amount just two years ago. Ninety-three separate shareholder resolutions on climate risk were filed last year, and shareholders successfully negotiated commitments from many companies to disclose and reduce emissions.

Those trends are casting longer shadows. Proxy voting records released last week show that Vanguard Group, the massive mutual fund manager, voted to require two oil majors, ExxonMobil and Occidental, to disclose their exposure to climate risk in greater detail. This is notable both because Vanguard management initially opposed the resolutions and because it indicates a sea change in attitudes. Vanguard CEO Bill McNabb made a public statement that the firm considers climate risk an "economic bottom line" issue for its investors, in particular because they have significant long-term holdings in "many companies in industries vulnerable to climate risk."

This unequivocal signal to the oil and gas business – not an industry accustomed to being thought of as "vulnerable" – is likely to be repeated ad nauseum in the wake of Hurricane Harvey's refinery shut-ins and gas price spikes, even as the energy industry gets back to work.

Not surprisingly, many a voice has already been raised on this topic in the wake of the hurricane. One of them, environmental policy analysis Nora Mardirossian, wrote this week that public companies are stuck in a bit of a feedback loop when it comes to climate risk. "Companies have been providing scant information on their climate risks, in part because they see the risks of disclosing as greater than the risks of failing to disclose," she said. For instance, internal climate risk assessments are avoided so they don't have to be disclosed and could generate litigation.

But she argues that more disclosure will enable firms to better understand and address their climate risks, allowing them to shore up long-term profitability by preparing for potential problems. She also pointed to the growth of securities fraud actions against companies that failed to appropriately disclose material climate risks.

Don't wait for market or regulatory changes before measuring and disclosing climate risk, Mardirossian cautioned. "When the market starts pricing in climate considerations, it will happen quickly, and investors cannot afford to ignore the impacts of climate change any longer," she said.

But she also wrote that institutional investors should get active on this issue if they are serious about taking a long-term approach to shareholder value. "Institutional investors should stop outsourcing voting decisions to proxy advisory firms that might not share their long-term perspectives," she said.

# blockchain musings

Nine out of 10 people you ask in this sector about blockchain distributed ledger technology (DLT) and the reply is usually, "Sure, Bitcoin stuff, right?" The other nine out of 10 people you ask might say, "What's a blockchain?"

It's a mixed bag for sure at this point, but it won't always be that way. After speaking with a number of folks in the know for this month's issue of *The Risk Desk*, we're now convinced that blockchain technology will have its day in the sun across the energy sector, sometime within the next four to seven years. The financial markets, in general, should prove to be maybe two to three years ahead of this sector in terms of implementation. So there is no better reason to bone up on the technology basics, possible costs of acquisition and implementation, plus benefits, savings and compliance (yes, very important). You'll find out why putting this one off 'til the last minute will likely crimp your company's style on several levels, particularly if you have ambitions abroad that touch foreign regulatory regimes. Plus, regulators are now actively pushing the technology as a solution for all sorts of market ills, like standardization, transparency, security and speed, to name but four.

DLT can provide secure, indisputable records of every single transaction your company enters, anytime, anywhere. And each individual sequence of each transaction (legs, for example), are completely transparent and completely unalterable. What's not to like? IBM believes that blockchain will do for business and finance the same thing that the internet did for communications. No small claim.

We started paying attention to the term almost three years ago, following an early speech by the then new guy at the CFTC, Chris Giancarlo. His speech was about the fragmented nature of global regulations resulting from the 2008 market meltdown, and the need to bring the various rules and mandates, regulations and all else together. He noted that blockchain may be the game. Across the two-plus years he's served the commission, we can't find a single speech – regardless the subject – he's delivered that didn't mention blockchain. His new staff tech guru, **Daniel Gorfine,** the director of LabCFTC and CFTC's chief innovation officer, spoke to us at length about blockchain technology for this month's issue.

We also had a lengthy conversation with Mike Prokop, a guy who's spending much of his time these days on blockchain tech implementation for the energy sector. He leads Deloitte's energy regulatory and risk practice.

"DLT may help market participants manage the enormous operational, transactional and capital complexity brought about by the legion of disparate mandates, regulations and capital requirements promulgated globally in the wake of the 2008 financial crisis," Chairman Giancarlo said in a past speech. "For regulators, DLT may help transcend the fragmented regulatory structure by providing reference to a single, verified record of all financial transactions across regulated markets." Giancarlo's "roadmap" for the agency includes pressing international regulators to embrace DLT for their own markets. "In my humble opinion, DLT could be the biggest technological innovation in the financial services industry and financial market regulation in a generation or more," he said at an annual Markit event.
Last October, Federal Reserve Governor Lael Brainard delivered a rousing speech to the annual meeting of the Institute of International Finance here in Washington, DC, on the great potential for distributed ledger technology, as it related to payment, clearing and settlement functions. She has given similar speeches many times in the past year. In January, you'll recall the CFTC proposed to amend its recordkeeping requirements set forth in Regulation 1.31 of the Dodd-Frank act. It was a solid idea and basically set the groundwork for the agency (and by extension, market participants) to adopt "technologically neutral rules" supportive of innovative recordkeeping functionality and basically ease the assimilation of new fintech developments such as DLT.

So, regulators you care about are now on board with DLT and moving this ball forward. Thus, ignoring the potential for DLT is no longer a risk-averse position. We found a thousand instructive and fairly dynamic sites dedicated to helping you understand this stuff, in 30 minutes or less. We recommend the following:

From IBM (Blockchain 101): *https://www-01.ibm.com/common/ssi/cgi-bin/ssialias?htmlfid=XI912346USEN&*

The Next Big Digital Disruptor for CFOs: *http://info1.exlservice.com/blockchain-the-next-big-digital-disruptor-for-cfos-thank-you?submissionGuid=b8ecde02-462f-448a-90de-96179b9b8353*

From Deloitte University: The Trust Economy/Blockchain: *http://info1.exlservice.com/blockchain-the-next-big-digital-disruptor-for-cfos-thank-you?submissionGuid=b8ecde02-462f-448a-90de-96179b9b8353*

And, Breakthrough with Blockchain at: *https://www2.deloitte.com/us/en/pages/financial-services/articles/blockchain-series-deloitte-center-for-financial-services.html*

The EU and Blockchain: Taking the Lead? See at: *https://www.finextra.com/blogposting/14216/the-eu-and-blockchain-taking-the-lead*

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| | **Globex Tick Size** | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.0010 |
| | **Last Trade Date** | 3rd bus. day prior to end of contract month | 3rd bus. day prior to end of contract month | 3rd bus. day prior to end of contract month | 3rd bus. day prior to end of contract month | 4th bus. day prior to end of contract month | 4th bus. day prior to end of contract month | 4th bus. day prior to end of contract month | 4th bus. day prior to end of contract month |
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# blockchain + regulators

Among independent federal agencies, the CFTC has for years aggressively taken a lead role on a number of policy and acquisition matters related to fintech. The fellow who current Chairman Chris Giancarlo replaced, former Commissioner Scott O'Malia (now CEO of ISDA), had fought long and hard during the agency's annual budget cycle for additional high-tech investment at the CFTC, including market surveillance technology, data storage and management, communications, and so on. The current chief appears interested in securing significant high-tech investment and tech deployment for the agency as well, but he's also fairly fixated on promoting certain market-enhancing technologies and technology trends to the markets over which the agency presides. Blockchain, or DLT technology, is one example of this. The chairman's focus on elevating the diverse tech innovation in our derivatives markets led to the creation of a new internal initiative at the agency called LabCFTC. The initiative is directed by Dan Gorfine, who is also the Chief Innovation Officer at the agency. We rang up Gorfine to discuss blockchain technology and his take on how this emerging technology may one day produce some serious upside for the derivatives space, the energy space or any space for that matter, by increasing efficiency of transactions, raising the bar on security, transparency and hopefully lowering transaction costs by removing a step of two from the current transaction process. Some call it market-changing technology. In theory, widespread adoption of DLT may also signal a new transition phase for more traditional market participants, like futures exchanges and FCMs. Lots of new territory with this one. Gorfine, much like the chairman, sees the technology's potential as quite promising.

But first, he says, for the sake of discussion, we need to separate out blockchain technology from the greater virtual currency world. Though the blockchain distributed ledger technology (DLT) was first designed for Bitcoin or its many virtual offspring, the truth is, DLT can rock any digital market, from retail to crude oil processing. Bitcoin is simply one market application. OK, got it.

As for how this technology might impact the various levels or functional areas that guide so many transactable markets, the answer is a bit more nuanced at this point in the technology's evolution, he tells us. "We're very much in a listen and learn mode right now. We're spending a lot of time these days meeting with companies who are either using or considering some application of blockchain technology," he says. As such, he says, it's a bit premature maybe to prognosticate too far out. "However, it is true that sometimes there are technological changes that have some radical, immediate effect, and gain widespread adoption. Most things, however, move in a more evolutionary pace." And from what he says he's seen so far in blockchain, "my guess is that in the near to medium term, blockchain application users will be focused on creating better efficiencies, within existing systems and models. So, we're talking iterative advances, as opposed to radical advances."

The sort of efficiencies he was referring to may involve so-called private networks of similar or connected organizations, utilizing blockchain apps for greater security, speed or cost savings. We discussed the recent announcement by Walmart, Target and other organizations that had opted to use IBM's blockchain technology for tracking supply chain. "Here we have a private ledger that makes the tracking of this sort of information more efficient. So, the same could be true for applications in capital or financial markets," he says. "I can certainly see networks of certain market

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participants that realize, by applying a private ledger to a system that may have been more fragmented and manual, to make it more of a real-time, automated, data-sharing system. These sorts of proofs of concept are being tested out now in some discrete market areas." This is what we'll be seeing mostly in the short to median term, he says. "Longer-term, if the technology or technology applications prove effective under certain use cases, you may see wider adoption."

What this might mean for intermediaries, at this point anyway, is anybody's guess. We pressed him on the subject, nevertheless, repeating what we had heard from some observers who viewed blockchain as a sort of death knell for FCMs and that it may also cause a lot of pain for DCMs.

He didn't see it. "Intermediaries can also adopt and incorporate technologies as well. Nothing says that this necessarily has to lead to disintermediation as an outcome, as you suggest," Gorfine says.

True enough. Ten years ago, everybody believed digital markets and trade screens would kill the voice brokerage sector. It certainly hurt the sector, but hardly killed it. Around five years ago, every major and minor voice brokerage morphed into a "hybrid voice brokerage," incorporating voice, the Web, screens and lots of data. Customer leakage stopped.

However, with the widespread adoption of public ledger applications, chances are good that some parts of the current transaction chain would simply be rendered unnecessary. But to hypothesize a market where we see total disintermediation, after widespread adoption, is a stretch, he says.

Thus far, he noted that public ledgers don't resolve certain confidentiality concerns and security concerns. There are a number of issues with the public ledger being applied "in certain use cases, like markets," he says. "Trust, and also certain controls on information are a problem … until that can be solved by public ledgers, you're more likely to see (some elements of disintermediation) with private ledger (networks or) permissioned systems. In that latter case, you still need governance and compliance and a trusted structure to manage the ledger. Which, in that case, you're not really disintermediating anything, are you? But you may be just creating a more efficient, permissioned blockchain network."

So, blockchain, really is a much more evolutionary technology for markets, as opposed to revolutionary. "I think so, though it does have the potential for much more. This is the goal of LabCFTC, to be proactive with new technologies, to be forward-looking. We look at these innovations and consider the regulatory opportunities or challenges or risks they might pose in the future," Gorfine says.

*For more on LabCFTC, go to http://www.cftc.gov/LabCFTC/index.htm*.

# blockchain will make our markets better

Who knew, right? In the digital universe, there are so many new worlds rising and falling each week it's nearly impossible to keep track of everything. We heard the other day that email was dead and chat/messaging is its immediate replacement. That is quick. Like the CFTC's Dan Gorfine, Deloitte's Mike Prokop sees Blockchain as potentially a revolutionary technology, but not before it resides in the evolutionary camp for a good long while. We had an offhand chat with Prokop recently and was shocked, shocked to learn he's spending much of his time these days on Blockchain application development and deployment for energy sector clients.

"A lot of education too," says the long-time energy trading and risk veteran. "Without fail, maybe five times a week I ask a room full of C-suite people from the energy sector if they've ever heard about Blockchain, and everybody mostly raises their hands. Then I ask, 'does anybody know what it really is,' and all the hands go down again."

He says it is by far the most widely talked-about term in this sector – or any sector for that matter – that nobody actually knows anything about. Sounds like the term, "risk management" circa 1999. We recall interviewing many utility chiefs around that time who were for the first time wading into the power and gas trading space, anticipating huge returns, by way of 'aggressive risk management.' Yup.

Despite the learning curve on the technology itself, he says Deloitte is pretty active on implementations of some form of blockchain applications or platforms. "We have over 800 professionals worldwide that are actively discovering solutions and implementing them, across all of our industry sectors."

There are several branded blockchain platform technologies to choose from, he says. Different languages and platforms? Sure enough. In these early days, Prokop says we should think of this evolving technology like this: "Consider the exchange business or the FCM business. There are lots of them and they all work well, and more or less the same. And then somebody comes up with a really great idea and the market then just gravitates in that one direction. So, for all the Blockchain variants, this hasn't happened

*(Continued)*

yet," he says. "But, that in no way should keep from exploring the technology. There are a thousand blockchain innovators out there right now and they are beginning to come together."

At least from Deloitte's standpoint, there are seven established industry sectors that are being targeted for unique, yet mostly standardized blockchain technology, from healthcare to mining. "Really though, any industry that has some – any really – supply chain function, whether just internally to itself or among certain industry participants, or between industry participants and regulators, for example, this technology not just appropriate but will certainly increase the efficiency and security of the transaction process."

That said, he notes to that speed isn't necessarily a Blockchain virtue at this point, particularly among non-open, private blockchain networks.

"It's improving all the time, but in a private blockchain platform scenario, there are a number of variables that can slow the process, depending on who's involved, there's computing capacity to consider among the participants, is it cloud or server-based storage… all of this comes into play in the private networks."

But, he says, like any new, so-called foundational technology, improvements are being developed at a rapid pace, and the money has begun to flow. He says the time horizon for significant technology breakthroughs and adaptation of the technology has moved from seven to 10 years, "way back in 2015," to 2-3 years, today.

Consider the DTCC example of foundational technology that also grew by leaps and bounds. In the 1970's before the banks formed DTCC, they were doing maybe 10 million contracts a day, manually, on the stock exchange. So, banks came together, developed a standardized system and jumped from 10 million to 100 million in fairly short order. Prokop concurs.

"I think this is what we're seeing now," he says. "I don't see this technology ever replacing exchanges or clearinghouses, but it will enable more efficient, secure transfer of information between all the parties, whether it's exchanges or regulators or among participants themselves. We will eventually see both speed and volumes increase with greater adaptation of Blockchain."

The financial sector is largely driving the momentum, he says, but all sectors seem to be rising at a similar pace. Our sector, he says, the energy sector, is investing a significant amount of time and treasure into the technology right now. He didn't mention names, but he noted that at least one US federal regulator has been up to visit the Deloitte blockchain technology lab in New York. He says they now have nine lab centers around the world.

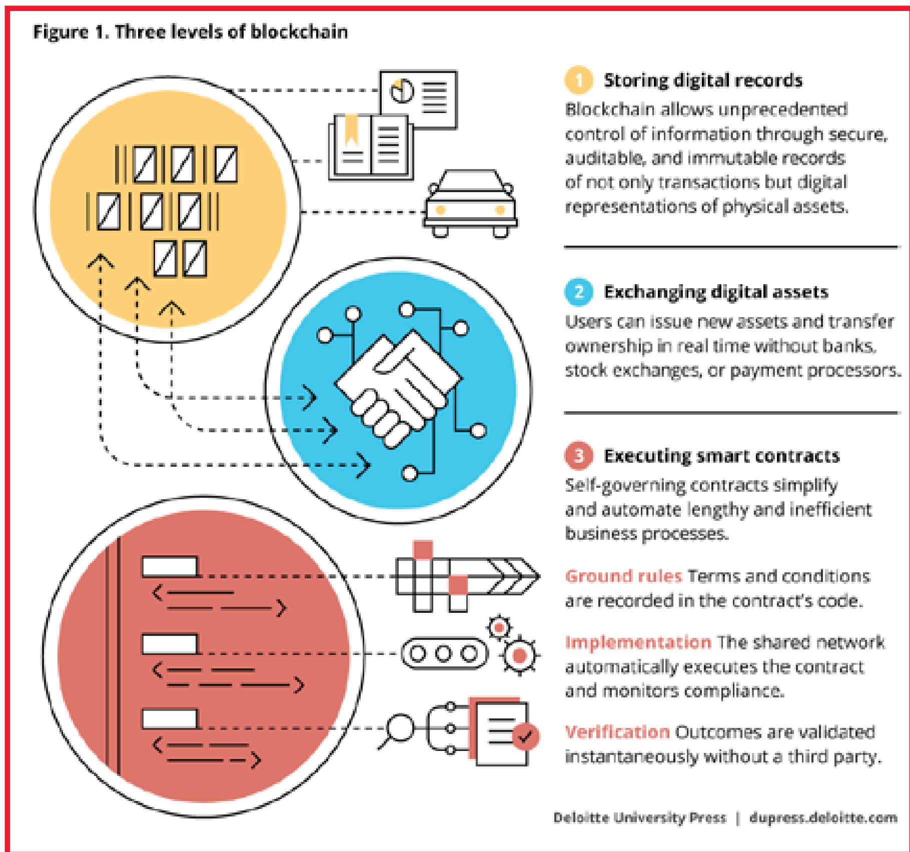
"We developed some technology called RegChain. It's been tested in Europe and Asia with regulators already, and we're preparing a similar test here. The core of the technology was developed for the financial sector, funds to be specific. The technology linked regulators to the information flow, registrations, who traded what and when, and so on. Regulators were on the chain, like everybody else. And, everything was perfectly standardized."

That last bit is key; for all the stories we've heard or written over the years about companies and markets not talking or playing nice with each other -- SDRs and exchanges and regulators come to mind immediately – greater blockchain adaptation will force many of these competing entities to ultimately standardize or basically be left out of the party.

Prokop leads the blockchain advisory group for Deloitte's global energy and resources practice. He says there will be announcement soon about his group's collaboration with a certain regulatory agency, to implement blockchain technology into its market oversight process.

"A lot of people think that blockchain is just about trading or elements connected to that function. This is far from the truth. Blockchain can improve many processes, thousands of processes. Anything that needs to be balanced really, in an altogether secure manner."

He suggests that companies start small and simple with the technology, and build on it. The energy sector actually has several growing consortiums that are now testing "small, microcosm markets" to test the concept, he says. "It's coming," he says, "and it's really shaking everything up. The digital economy is changing fast, all the time, and blockchain is the one thing you can do to keep you up to speed with what's happening." *Prokop can be reached at mprokop@deloitte.com*



# drums along the potomac

It's has been a fairly quiet Summer on the regulatory agency front, but no less busy. So too on the Hill. Sort of. Neither can claim any awards for especially wide swaths of accomplishments, but at least our two favorite agencies, FERC and the CFTC have had somewhat of an excuse this year: no quorums at either agency to press (or pull) major policy decisions. And so, we note that the CFTC has been busy repositioning itself internally, resetting roles and offices, missions and outlooks, hiring new folks and shuffling around others, in preparation for, well, now. With quorums at both agencies for the first time in many moons, we're expecting a hyperactive regulatory front for the final legs of 2017. Amir Zaidi's Market Oversight Division has its dance card full this month on matters relating to its comprehensive review of swap data reporting regulations. Back in July, Zaidi opened a 40-day public comment period that drew 24 comments from market participants. We interviewed him on this effort in July (see RD 7/28 *Allow Me to fix that swap data*). See the submitted comments here: *https://comments.cftc.gov/PublicComments/ViewComment.aspx?id=61299&SearchText=*. Most were sort of expected knee-jerk responses. For example, the comments submitted by Dennis Kelliher from Better Markets gave us a chuckle anyway. In his opening paragraph, he noted that, "The review raises significant concerns that its objective is to weaken the regulatory regime that the commission carefully crafted and previously adopted to ensure that our swaps markets are as stable, transparent, and fair as possible. We urge just the opposite approach. As the commission and the DMO conduct the review and consider new rules in this area, they must always adhere to the letter and spirit of the Dodd-Frank act reforms, and wherever possible, they should enhance the regulations governing swap data reporting rather than dilute them in the name of streamlining the requirements and minimizing industry costs. In addition, the commission and the DMO should explain what prompted this review in the first instance, as the record lacks transparency, shedding no light on that important issue … "

And we thought, what? The the swap data reporting regime has been a complete cluster, last time we checked. Six years in, and the agency and the three top SDRs still can't nail standard practices for reporting data. Nobody is playing nice with anybody. Regulators can't tap the data as effectively as hoped, ever, and without this review, we would argue that swap data would remain this big, tepid pool of data nothingness forevermore. Gary Gensler offered no leadership on any technology matters, nor did Tim Massad. The new guy seems to put technology first and for the first time, we rather think the swap data conundrum may be figured out. "The DMO should explain what prompted this (swap data) review in the first instance, as the record lacks transparency, shedding no light on that important issue … " Better Markets should maybe pay Better Attention to markets. Streamlined reporting, and more accurate, complete and high-quality data on swaps transactions for the agency to access. What's not to like? We should be getting an update from DMO soon … The new enforcement chief, Jamie McDonald, has been busy as well since he came on board. The number and frequency of pounding perps this Summer was admirable. The spread of different types of orders and violations settled was also impressive -- not just low-hanging fruit, but rather all over the field. Insiders tell us the new enforcement chief has also taken little time to transition to the agency's unique vibe and rhythm of the Giancarlo administration. Another observer tells us that morale is generally up at the agency; a few senior folks who have recently left the building were apparently well past their 'sell by' dates. "Despite the lack of quorum this year, folks have been very busy in recent months, basically preparing for this moment," a source said. And with the Hill deadlocked, and focused on other things, we reckon this will be a very successful run for the agency …

PURPA repeal? Reform? Last time we heard that line we think Nirvana was topping the charts. This week the House Energy and Commerce Committee's energy subcommittee held a spirited hearing on whether or not it was time for lawmakers to reopen the 1978 Public Utility Regulatory Policies Act, a key law that, among other things, requires public utilities to buy power from small wind and solar generators. The law was created as a result of the Arab oil embargo, to sort of help fossil generators to diversify their generation fleets. It was also somewhat of a license to print money for small wind and solar firms. It was later amended in 2005. So, what's the argument? Utilities believe today that PURPA's mandatory purchase obligations are actually increasing power costs – in an era of decreasing demand – and also forcing utilities to make less economic decisions when it comes to developing a case for non-QF renewable energy. We would have to agree. Those strongly behind PURPA basically point to the success of renewables growth in the US generally. While true, to an extent anyway, we also see that PURPA's run may have run out of purpose. A lot has changed since 1978; markets took over the renewables debate long ago. They won. In the name of growth and cutting back unnecessary regulations, this is one of those regulatory topics that we could see the current administration getting behind – the new FERC as well. Rep. Joe Barton, R-Texas, wasn't a member of Congress in 1978, but he did have much to do with the PURPA rewrite in 2005. At this week's hearing, the senior member said, "I really don't know where the will of this subcommittee is on this issue, but ... I would be open to (repealing PURPA.)" One to watch.