Bob Charlet: Good morning everyone. I'm Bob Charlet with the *Houston Business Journal.* Thank you very much for being here. First, I'd like to thank Steptoe & Johnson for hosting us this morning.

We're going to be a little bit informal today so our format will be that we'll have our expert panelists introduce themselves and give some opening remarks and then we'll do a Q&A. But we'll be informal today. There's a card on the table, if you'd like to write out a question and send it in. Or if you feel ambitious, just raise your hand and we're going to call you. Okay? We're all friends in here.

So, guys, let's go ahead and get started. Our topic for today is a new era in Washington: how will the commodities and derivatives markets be impacted? Who would like to be our first to make an introduction? Thank you so much.

Randy Barron: Thanks Bob. I'm Randy Barron, Vice President-Treasurer at Southwestern Energy. We're the third largest gas producer in the United States. It's not in favor to be a gas producer, but we are, and we think gas has got some, as you'll hear later, some ways to move up the rest of the year gas prices.

I've been with Southwestern for about 15 years, before that with ExxonMobil for four years. I've been in charge of the financial hedging practice at Southwestern for all 15 years. I had a lot of experience there and seen lots of cycles and think I have lots of, hopefully, good things for you guys to hear today.

Dan Nossa: My name is Dan Nossa. I'm a member of Steptoe & Johnson PLLC. We're a national law firm with 13 offices across the country. Some of our core areas are energy, employment, litigation and transactional law. Our biggest practice group is energy. We have approximately 150 attorneys serving the energy industry across our offices. We have a number of attorneys here in the Houston-Woodlands office consisting of litigators, transactional attorneys, title attorneys and commodity and derivative attorneys as well.

I've been working in the derivative space for 16 years. I started my career in New York working primarily on financial derivatives and credit default swaps and then about 10 years ago I moved to Texas and retooled and started focusing on energy-related products.

Brian Jenisch: I'm Brian Jenisch with Cargill and my role in Cargill, I'm the Senior Managing Director. What I do is oversee energy origination on behalf of the corporation. For us, energy origination is to provide risk management services and capabilities to the customers that we serve and those customers can be refiners, airlines, oil and gas producers, large corporations into the CNI space. We have a lot of deep industry insight as to what our customers are seeing, feeling, what's impacting them in the marketplace whether it's from economic drivers, regulation and whatnot. As we proceed throughout the morning, I certainly look forward to interaction and am happy to share what we know.

Bob Charlet: Okay guys, let's get started. Question number one: at a high level, what role did derivatives and commodity trading play in the energy industry?

Who wants to take a stab?

Brian Jenisch: I'll take a first stab at that. I can't think of many things in the energy industry that don't have an involvement of derivatives. If you think about derivatives, derivatives provide assurance, guarantees, protection. They mitigate doubt in the unknown. Maybe just give you a couple of examples: airlines. I mentioned airlines before. They use derivatives to manage the cost of jet fuel and as they forward-sell an airline ticket. About 30% of an airline's operating cost is jet fuel. What they want to do is manage that, so in essence they sell a ticket here, they have a jet fuel cost component here, they want to lock in that spread or theoretical, a profit margin.

Utilities use derivatives to help manage the price risk for the natural gas they acquire rather through distribution into the system, or perhaps even for electricity generation. What that does for the consumer is to create a much more stable pricing environment as opposed to being exposed to daily, monthly swings throughout the duration and time. We like a much more stable pricing, and so they're large users of derivatives as well.

Then you have a whole host of refiners, midstream guys, fuel distributors who hedge inventory. Now, that inventory is often referred to as in trans and that can be in tank, it could be in a pipeline, it could be in a vessel. But if you think about just the distribution of all the commodities that everyone in the energy space is involved in, that distribution time can be anywhere from, gosh, 3 days to 30 days and if you look at it from an acquisition cost point of view to when it either goes to that next step in the processing stream or perhaps sold into the marketplace, no-one wants to take 3 to 30 days of price risk, so they use derivatives quite often to manage the exposure to that in transit time.

Then, there's oil and gas producers who are large users of derivatives. We won't go into that. I'm sure we'll get into that throughout the course of the morning. Then, lastly just probably even the role of speculators. While speculators aren't managing a profit margin per se, they're trying to create a profit margin with the use of derivatives, financial instruments if you will. What's attractive to them is that they can own a financial instrument and not have to take physical delivery. They don't have to have pipeline capacity to take a position in the energy marketplace. When you think about all those various avenues, the use of derivatives is heavily, heavily entrenched just in all aspects of the energy space.

Bob Charlet: Anybody else on that one?

Randy Barron: Well, I'll take that also Bob. As a natural gas producer, 90% of our production is natural gas so when you produce basically one commodity, your whole existence, all your cash flow is dependent on whether you can hedge that cash flow and have some certainty so you can make a plan for the next year. All you guys are in business. You know you have to have a business plan for the next year and the next year and a five year operating plan. If you have no certainty of cash flow or no certainty of revenue, it's almost impossible to have a plan that you can actually invest capital to make that plan work and so we've been hedgers.

Obviously as you grow, you have to hedge more and more production. It gets more difficult to be able to do that and we'll talk about liquidity in the market later. So it's important to have speculators, important to have buyers on the other side of that transaction so producers and utilities and airlines have somebody on the other side of that transaction.

And regulation is also obviously key. Any type of regulation that reduces the amount of liquidity in the market makes it difficult for companies to hedge, makes it difficult for companies to plan, makes it difficult for companies to invest capital, which is very difficult for our economy. So, derivatives are crucial for our economy.

Bob Charlet: Since we're talking about the change in the regulatory environment, what are the vulnerabilities? How can that impact just derivatives in general? What impact could it have?

Randy Barron: I'll let these guys talk more about it later too, but the Dodd-Frank legislation in the last, I guess, 2010 ... so it's been seven years ... Wow, it doesn't seem that long ago ...

Randy Barron: Dodd-Frank legislation definitely rocked the energy derivatives world. It's a very good thing back then that we lobbied. I think a lot of different industries lobbied that we have end-user exemption with Dodd-Frank, which was crucial. The end-user exemption allowed producers, airlines, utilities to basically not have as much regulation when hedging, allowed us to hedge and not have to post margin, things like that.

I can't imagine if that had not been put in place during this last downturn. If energy companies had had to post margin for Dodd-Frank regulation with lower prices, the downturn would've been a lot worse. I think the end-user exemption was a phenomenal add by some of the legislatures in the Dodd-Frank legislation. But I'll let these guys talk more about it. I know Brian's dealt with Dodd-Frank a lot, probably.

Brian Jenisch: Oh yeah. You think about the things that Dodd-Frank has created and obviously it was deemed to create transparency in the marketplace, but Dodd-Frank hasn't been easy. It's onerous, it's complex, there's a lot of moving parts, it's capital intensive, it's required dealers like ourselves to increase cost. Those costs comes in the form of IT and infrastructure. It can come in the cost of an increased compliance team, even from a trading team 'cause we take a lot more steps to do what we used to do.

That being said, obviously we've been able to get through that, but when you think about what's happened over the years and when we start talking about liquidity ... I'll touch on this again ... but all the players that used to be in the marketplace talking about liquidity don't exist anymore in the energy space. A lot of that is because of the Dodd-Frank regulations that were enacted. It's been a tough go, but I think we've gotten past the tough parts. We're operating under it and we'll see what the future holds.

Randy Barron: I'll even add to that I think there were definitely unintended consequences. It had a worthy cause to put in place, but unintended consequences were definitely a drive of liquidity in the market, and I don't know if they foresaw that, or maybe they did, maybe it was planned on purpose, who knows with that administration at the time? But the liquidity ... the other side, the buyers of the commodities, the hedge funds, things like that, like Brian said with the Dodd-Frank, that liquidity effect I think will affect us for several years and hopefully we can find a way out of that.

Dan Nossa: It's interesting, both of you were emphasizing the risk management aspects of derivatives and in my experience in the energy space, that tremendous emphasis is on risk management and on hedging, unlike my previous life advising entities on Wall Street before the financial crisis where there was far more speculation and I think once Dodd-Frank came out, I think there was a general feeling in the energy industry that, look, we did not create this mess, so why should we be subject to all this burdensome regulation?

Nevertheless, they still were, so that's just the world we live in. The players in the energy space are, in many ways, regulated the same way as the derivatives and traders in the financial space, but having said that, I think in many ways the Dodd-Frank rules that have been finalized and that have been implemented have been doing a fairly good job of creating some level of stability but it required a Herculean effort in the industry to really implement and put in place the compliance programs that were necessary in order to comply with Dodd-Frank. It was a tremendous amount of work, a tremendous amount of money, not just in energy, but in financial services and other areas in corporate America.

Randy Barron: Not to mention the ongoing cost of that compliance.

Dan Nossa: Right, yes, the ongoing cost of that compliance in terms of personnel and technology investments, yes.

Bob Charlet: Anybody else on that one? What other kinds of companies in the energy space participate in this market?

Randy Barron: Well, I think Brian hit on it earlier. There's lots of energy companies as far as hedging. For Southwestern Energy, we hedge with a lot of banks. We also hedge at Cargills, BP and Shell, so I think it's important to have a diversity of counterparties, whether it be diversified energy companies or banks. Those are the companies that we deal with, basically, in the energy space. You guys might want to comment on this.

Brian Jenisch: Yeah, and then from an end-user perspective we touch base on utilities, airlines, large corporations, others in the CNI space. It could be trucking companies ... anyone who's manufacturing anything with natural gas or is generating BTUs. They have exposure to the price of natural gas, or even power wouldn't fall into that realm. It's very deep, it's very broad.

Dan Nossa: I work with kind of an array of entities in this space and even with entities that touch the consumer as well, such as retail electric providers who buy their power and gas on the wholesale market and then are able to sell it to their customers, that's one example. But it's a very diverse ecosystem, even within the energy space. I think all of us here are pretty biased as we work in this space, but I generally believe that derivatives in the form of hedging is a net benefit to the economy, not just the country but definitely for the Houston economy.

Bob Charlet: Talked a little bit about Dodd-Frank. How have commercial end-users acclimated to Dodd-Frank regulation?

Randy Barron: Well, I think commercial end-users, by my comment earlier, haven't had to adapt as much as other people because of the end-user exemption. I think what has affected us is how Dodd-Frank has affected the Cargills, the banks ... like we talked about earlier, the things that they've had to put in place, the cost that they've had to incur definitely has somehow passed on to companies like us who hedge with those counterparties so that the cost of Dodd-Frank and the system, well, we'll probably never be able to quantify that. I think it's been tremendous.

As far as commercial end-users, we don't have to report to trades. Cargill and counterparties like Cargill have to do that. We haven't been affected by margin, we don't have to post margin, so the end-user exemption and the Dodd-Frank legislation definitely saved the end-users in that particular exercise.

Brian Jenisch: I think that's a good call out. So, for the end-users they haven't been impacted nearly to the degree that a dealer has, but you're right, it's a second order effect and quite honestly, I say this kind of tongue and cheek, but we're not as easy to deal with as what we used to be because of all the things we have to go through on our side as we engage with an end-user or a customer.

Dan Nossa: Yeah, for pre-trade, onboarding and even afterwards, I remember when the Dodd-Frank rules were finalized, or many of them were finalized and started to be implemented on a daily basis, I'd be getting calls from end-users who were just trying to figure out what on earth their swap dealer counterparties are sending them and see now there's a whole new host of documentation and onboarding docs that they need to complete, although I must say over the last two years or so, there are far fewer calls. I think in many ways the dust has settled again with respect to the regulations that had been finalized and implemented, and I think that end-users generally feel a lot more comfortable with it. At least they know what they should or should not be doing.

Brian Jenisch: Then you get the occasional amendment to current documentation which always creates some frustrations and, "Well, this document isn't updated," and we've actually had to hold up trades because of that in the past. It's frustrating. It's frustrating on both sides.

Bob Charlet: Any questions from the audience so far? Yes sir, fire away.

Audience: Would you please try to detail the end-user exemption and what you're exempt from?

Bob Charlet: Good question.

Dan Nossa: Yeah. Well, that's something I can answer because I've had to deal with it quite a bit. Basically, end-users are entities that are not dealers, who are not dealing in swaps. They're basically the customer who is purchasing the hedging products from the dealers and in order to avail yourself of the end-user exemption, one: you can't be a financial entity, and that's defined fairly broadly, but you really have to be in the business of producing or marketing the commodity.

Number two: you need to be using these derivative contracts for hedging or mitigating commercial risk, and then thirdly, you also need to report to the regulators as to how you satisfy your financial obligations to your counterparties. So, it's a relatively, I think, reasonable task that I think end-users feel very comfortable with and they're exempt from mandatory central clearing, which is one of the probably fundamental tenets and one of the most important rules that were mandated under Dodd-Frank. There was a big push to move derivative transactions onto the exchanges and to have them subject to central clearing and that works in certain circumstances, but for a lot of end-users central clearing and these more standardized exchange traded products don't necessarily work for them. They need products that are tailor-made to their risk and that's something that ... I don't know if Brian can address briefly either.

Brian Jenisch: Yeah and so when you deal with someone who's ... not the exchange, no OTC provider such as ourselves, or even, we mentioned Shell and BP before. No wonder the areas where we excel is ... I'm going to use the term customized and if you think about a customer who has a risk profile of an energy spend or energy production, it may not necessarily align. As a matter of fact, often, it doesn't align with the instruments available on the exchange, so we can easily retrofit those instruments into a unique risk mitigating structure for you. We actually do that every day for our customers and that can't be done on the exchange unfortunately. The exchange doesn't offer 10,000 different clearing mechanisms where we can take a crude oil future contract and twist it and turn it. It's all kinds of different variations to fit it into an individual's own needs.

Randy Barron: And also with clearing it, if an end-user was forced to clear, you would have to post margin, so as an oil and gas producer, we're a very capital intensive industry. We need all the cash we can get to drill the wells, sort of have to set aside cash to post margin for something that we didn't have to before when it's not even necessary is not a good use of capital.

Brian Jenisch: And that's another big benefit of using an OTC provider versus managing your positions or your risk on the exchange is that we're in the business of extending credit. The vast majority of our customers have credit thresholds. They can range anywhere from 50 thousand to 50 million, but by taking things on the exchange you have a credit threshold of zero, you have to post initial margin, variation margin on an ongoing basis and again that's a big difference between the exchange and OTC type of activity.

Audience: Trump administration has talked about rolling back provisions of Dodd-Frank and I was just wondering if companies are starting to think about planning for that? What do you think companies have to do to prepare for that?

Dan Nossa: I have an opinion about this. I've looked into this and I've spoken to people about it. The way the mainstream media, anyway, describes Dodd-Frank and rolling back Dodd-Frank, they tend to conflate a lot of different aspects of Dodd-Frank and Dodd-Frank covered a number of different areas well beyond derivatives regulation, and so when Trump or his advisers or certain congressional Republicans say that they want to roll back Dodd-Frank, what they really mean is they may roll back certain provisions of Dodd-Frank, but to date I have not seen any proposals to roll back existing derivatives regulation that has been finalized and has been implemented. And quite frankly, I don't know if anybody, even the end-users and the dealers, would necessarily want to see a roll-back just because they've invested so much time and money trying to put a new compliance regime in place. It would be very expensive and very complicated to roll that back. I think the general consensus is that a lot of entities are somewhat comfortable with what they have. They've been living with it for a few years. I think it would be very difficult to roll back existing regulation that has already been finalized and implemented.

But having said that, there are certain aspects of Dodd-Frank derivatives regulation that has yet to be finalized, such as position limits that have been kicked around for now close to six years and for many reasons. One reason being is they're so darn complicated. The rules go on for well beyond 900 pages and there are numerous tasks. I think there's been a lot of pushback from the industry, and actually back in 2011, the CFTC finalized these position limit rules and they were to go into effect in 2012, but then just a few weeks before they were to go into effect, the U.S. District Court in D.C. vacated the rules because I guess they agreed with entities that sued the CFTC that these position limits did not satisfy, I guess, their goal, which was to manage or minimize commodity price risk.

That particular set of rules has been re-proposed multiple times, most recently in January of 2016, and what I've heard is that those rules will not be finalized at least until the end of this quarter, maybe next year, and maybe never because the acting chairman of the CFTC, which is the entity that regulates commodity derivatives, commodity products, said that they're not going to make a decision anytime soon. A lot of people interpret that as meaning that it will be pushed off, maybe indefinitely. That's just one example of one rule that just may never pan out, and I'm sure there are a lot of people who would be happy that they don't.

Having said that, the exchanges have their own position limits requirements, but what makes this different, the Dodd-Frank position limit rules, is it would apply to transactions that are not traded on the exchange. It would not only affect futures contracts but economically equivalent swaps and that was also a cause for a lot of consternation as to what qualifies as an economically equivalent OTC product. What makes it economically equivalent to a futures contract? Without delving too deeply into it, because I know not everybody is familiar with this space ... that's just an example of one Dodd-Frank rule that may just remain in suspended animation for the indefinite future.

Randy Barron: Position limits would affect liquidity also, right?

Dan Nossa: Yes

Bob Charlet: Let me come to your question next but let me ask just for the panel, since Dodd-Frank keeps coming up. What was the goal of Dodd-Frank? Did it accomplish its goal? Why is there this constant discussion about repeal? What was it intended for? What was the goal?

Randy Barron: I'll let you handle that, Dan.

Dan Nossa: I mean, fundamentally, the goal of Dodd-Frank was to minimize systemic risk and after the demise of Lehman Brothers and then the government bail out of the large financial institutions, there was a huge outcry, not just from the public but also from legislators, that we need to do something about this industry. Most of those who were part of that group ... and I don't blame them, this industry is highly nuanced, right? So, what they were seeing was the fallout from the financial crisis ... not to put all the blame on Wall Street, but a lot of it emanated from Wall Street in some of the very risky products that they were creating and that eventually defaulted and kind of had a cascading effect throughout the economy.

Nevertheless, those other industries that used derivative products, such as the energy space, were kind of pulled in. They're still subject to the same rules that these Wall Street firms and hedge funds, for example, are subject to under Dodd-Frank.

Audience: My question is: earlier you were talking about absorbing the cost, those things being passed on. How much has it changed the strategy behind your use of derivatives in your business and on the trader side?

Randy Barron: As far as changed the strategy, I wouldn't say it's changed the strategy because as an oil and gas producer, we need to hedge. Like I said earlier, there might be ... it's hard to say ... Brian could probably tell me the number or he might not want to tell me the number, but there's probably a penny or two in the margin there when I hedge with a counterparty, but that's not in the overall scheme of things. We're not going to stop hedging because there's a penny or two cost in the transaction. It's a must. We need to hedge to plan our business and move ahead profitably.

Brian Jenisch: From a dealer perspective it's a great question. Our business model 10 years ago hasn't really changed much to what it is today and we still generate revenue in the same fashion, we go through the same processes, the motions, how we manage risk is done in the same fashion, but the reality of it is we go through 10 more steps to accomplish what we're trying, from point A to point Z. But from outside of that, outside of the internal things that we have to go through, just to give you an example: every conversation that a dealer has under Dodd-Frank is recorded, captured, a lot of that is sent to the CFTC every evening. Every email, every instant message, phone call, text, even just the technology capture, the spend on that has been ... it's material. It's beyond significant.

But, again, we're still engaged with customers in the same manner, we're still managing risk in the same manner on the other side. From that aspect I'd say it hasn't changed, but the things in the middle of the soup bowl have changed a lot.

Audience: As a follow up, do you think the capture of all of the phone conversations, those kind of things, is a direct result of what we heard about in Enron?

Brian Jenisch: Well, in part, yeah, but I think when Dan mentioned that they wanted to eliminate systemic risk, which is one of the reasons Dodd-Frank was enacted, they wanted to do that also through transparency and that transparency, our need to submit all of this information every night is around the transparency part of it.

I kind of laugh about this. What the government does with that information, the CFTC, I have no idea. I don't know where they warehouse it, what they can do with it, how they synthesize it, but they get a lot of information from everybody, from industry, each and every day.

Bob Charlet: Do we have any bankers here?

Bob Charlet: I don't know how they make any money with the regulatory environment they work in, it's just unbelievable. Any other follow up? Thank you.

Randy Barron: We have 25 banks in our credit facility.

Bob Charlet: Back to the new administration from the business perspective, is the new administration's approach to energy and regulation generally good, bad, neutral, too early to say?

Randy Barron: I guess I'll take that one. As far as the Trump administration, I'd say it's generally going to be good, we think, but it may be too early to say. I think anything he does to grow the economy will be good. As an oil and gas producer, the economy growing is definitely good for us, creates demand for our products and obviously increasing demand increases the price of our commodities. I definitely think that's going to be a good thing. Anything he can do to decrease regulation both to allow us to acquire land and drill wells and drill them safely, obviously, and protect the environment, but not overly burdensome regulation is going to help.

I think the Shell revolution in the last 10 years has been one of the best kept secrets as far as growing the economy of America. The fact that we've been able to almost become energy independent in the U.S. is something that no one likes to talk about because everybody thinks carbon is bad, but the fact that we've been able to use hydraulic fracturing in Shell and produce the gas and oil that we have, even under an administration that wanted to put regulation on us to prevent it, it's pretty amazing. But just think what we can do if we get some of that regulation relieved.

The good thing about regulation obviously on the environmental and safety side has forced out some of the bad operators. Some of the bad operators are no longer with us as far as oil and gas producers. I think the ones that are left are definitely more focused on that. Kind of getting off the topic of the question.

The Trump administration ... generally, I think it's going to be good but I'd say the verdict's still out. I think Trump's a little bit unpredictable.

Bob Charlet: He said that, not me. Let me do a follow-up question to that. Pipeline is impactful to your business, yes? Could you talk a little bit about your company specifically? What's your dependence there, and then how might regulation impact that part of your business?

Randy Barron: Natural gas industry pipelines or infrastructure takeaway capacity is tremendously important. The fact that we've moved several big pipeline projects on ... and I probably should've mentioned that earlier in a previous answer ... since Trump has been in office there's been several big natural gas pipeline projects that have started, Rover being the one that impacts Southwestern Energy the most, ET Rover, which the first phase should go in in July, hopefully, and the second phase in November. It'll move 3.2 Bcf of gas out of the North-East region which will relieve a tremendous amount of pressure 'cause that gas right now is kind of trapped in the Northeast region.

For producers in the Northeast region it'll shrink the differentials. It'll be a great boon to both the economy and the United States and to gas producers and the end result is a lower cost of energy for all the manufacturers in the United States which, again, will grow our economy. I have a hard time figuring out why those pipeline projects weren't allowed to proceed. I'm sure we have some ideas on some things but it's a tremendous boon for our economy and our industry.

Bob Charlet: Anyone else on what the current administration ... is it too early to tell? Is it going to be good? Is it going to be had? What do you think?

Brian Jenisch: From a dealer perspective, from a Cargill perspective and my personal perspective, we're kind of in a too early to tell camp and again, I agree with all the comments that Randy had mentioned. Put it this way, from a regulatory or policy perspective, we came in Monday morning to the headline Trump wanted to break up the big banks. Didn't see that one coming. But there's a lot of uncertainty in Washington right now. I think the early chat was we felt some positive things would happen but it's kind of wait and see right now.

Dan Nossa: I think there are probably going to be a lot of political distractions as well in the coming months because there may be other priorities from political perspective such as tax reform, maybe infrastructure spending, although I think those initiatives could potentially have a positive impact on the derivatives and trading space because obviously you need a lot of commodities for infrastructure and a tax reform could potentially be good for all types of corporations.

But, again, based on what I've heard and what I've read, there doesn't seem to be a tremendous emphasis on directly addressing the derivative regulations, whether it’s rolling them back or watering them down in some way and, again, I think a lot of that comes down to political expediency. I think it would be very difficult for congressmen and senators to go back to their home state and tell their constituents, "We want to roll back these derivative regulations." Most of their constituents are not familiar with derivative contracts and the value that they bring to the economy. All they know are all these horror stories that they heard from following the financial crisis. So, I think it would, from a political standpoint, again, it may be difficult to change those derivative regulations that are finalized and have been implemented.

Randy Barron: I'll add to that. I think with the Trump administration, there's competing priorities for energy.

Bob Charlet: I think we'd all agree with that statement. Any questions from the audience on any of that?

Brian, I'll move to a question for you. Why has liquidity come out of the marketplace and what can reverse it?

Brian Jenisch: It began after the financial crisis. It's been in the making for a long time and a good chunk of it is because of Dodd-Frank. I hate to point the finger at a regulation but what happened is with the onerous requirements of Dodd-Frank and the capital requirements, and again, I'll keep this specific to energy ... a lot of the banks said, "You know what? We don't want to sign up for that. We don't want to be involved. We don't want to be a spot dealer." As such, traders left, they quickly left the marketplace. You have to ask yourself: where did that liquidity go?

I mean there's ample other houses out there that could pick that up, but in terms of customer flow, the next natural progression would be the trade houses, and the trade houses, when they took a look at the regulation and requirements of it both in a regulatory policy and capital, didn't want to step into the marketplace and become a swap dealer. Once you're a swap dealer, you're subject to all the things that Dodd-Frank requires and has to offer. So, while there's capacity in the marketplace, the trade houses did not step up into that void.

People like Cargill, we did. Our business is growing and doing well and some other shops are growing as well, but it's probably 10 to 1 the amount of liquidity that left the marketplace versus others who stepped up into the space ... up and comers if you will ... it's left a void in the marketplace and I don't see anything in the near-term that's going to change that.

If you think about the banks who are still left that shut their energy desk. Obviously Deutsche Bank, SocGen, even RBC, to some degree, they've all downsized because of all the things we just talked about. The minimalist threshold [inaudible 00:42:25] Dodd-Frank is eight billon dollars to date goes to ... is it three billion, or something like that?

Dan Nossa: Well, it's scheduled to go down to three billion at the end of 2018, but, again, rumors are that that's going to be extended longer and possibly made permanent at eight billion dollars.

Brian Jenisch: So, what that means is that as others think about getting into the space, you have to become a swap dealer once a notional value of your outstanding derivative positions reaches eight billion dollars in notional value. A part of Dodd-Frank has said at the end of 2018 that eight billion dollars is going down to three billion dollars, and we've always had the fear that once that happens, even more liquidity will come out of the marketplace because, again, no one wants to be a swap dealer. If you're not one now, the likelihood of you becoming one in the future is probably not very good. But to your point, if that one has a stay, then perhaps we've hit the bottom of the liquidity prices, but just looking ahead, I'm not sure what catalyst needs to happen in order to change it.

Randy Barron: There's probably a couple of other things too with the Volcker rule. Banks are now allowed to hold much risk, so banks are on the other side of the transactions, so if we sell natural gas to the bank they have to pretty much immediately offload it to someone else. Not immediately, but they can't hold the risk because of the Volcker rule. That's decreased liquidity. Banks used to ... could warehouse that risk, they could hold the position and over time sell it to someone else, so banks aren't as likely to do that anymore.

Also I think with the financial crisis, I think a few years after that volatility definitely came down in natural gas and somewhat in oil, so if you're a hedge fund or someone on the other side of the transaction and you have to hold more capital because of the margin clearing requirements in Dodd-Frank ... they always had margin clearing requirements anyway, but they had more capital to hold those, and then your volatility's lower so you can't make as much money, those players have exited the business too. A lot of dry up in liquidity and hopefully the swap dealer threshold is never reduced to 3 billion. That would make it even worse.

Audience: I think you were just starting to touch on this, but is the relationship between commodity prices and liquidity that stability leads to less liquidity or you actually have to have high commodity prices to kind of drive down liquidity, or am I completely off? Is there a relationship between the price of the commodity and availability of those opportunities?

Randy Barron: They probably can answer better than I can, but I don't think there is much of a relationship between the price of the commodity and the liquidity. I think the liquidity in this particular instance is a function of a lot of regulation and rules placed on the industry. I think if you released the regulations to the rules, the more people can play in the space and not have to put up much capital against their position so I think that's the main driver. Would you guys agree with that?

Brian Jenisch: Yeah, I would agree with that, probably not a great correlation between flat price and liquidity, but think about liquidity in terms of capacity. If you're a swap dealer or another house, you can only do so much because of all the other things that we've talked about: the capital requirements mostly and whatnot. It's probably more of a capacity issue with the rules we have to work with than anything else.

Bob Charlet: Randy, I think I've got a follow-up for you on liquidity.

Bob Charlet: How do large producers like Southwestern Energy deal with the lack of liquidity in financial markets as compared to five or 10 years ago? What was different then?

Randy Barron: Five or 10 years ago, I would say we had probably 10 counterparties, mostly banks in our credit facility. What we saw with the financial crisis is that it was important to have a variety of counterparties, not just banks in your credit facility. Banks in your credit facility have a tendency when the credit situation looks bad they shut you down so you have no ability to hedge, so we were very proactive. Probably say, probably about 10 ... maybe even longer than 10 years ago ... went out and got some non-bank counterparties similar to Cargill, BP, Shell and a few others like that. So the diversity of counterparties can definitely help with liquidity because the non-bank counterparties don't have ... I think this is right ... Brian, correct me if I'm wrong ... don't have all the same restrictions that the banks do. Is that correct?

Brian Jenisch: From a Dodd-Frank perspective, if you're a swap dealer, yes, you're beholden to the same, same rules and regulations.

Randy Barron: Okay. There's some other things that banks have to deal with that the non-banks don't. We have a diversity of counterparties. We probably have, gosh ... Isaac probably knows over here, we work with EGIS the consultant and ... probably got 20 counterparties. So, 20 counterparties definitely spreads the risk out, spreads the opportunity out so no one set of counterparties can shut you down from a liquidity perspective.

Also, when we go to do a transaction, what's changed is we have to do smaller amounts and do it over a longer period of time. In the old world, we could do 10 contracts a day with one counterparty and there was enough liquidity in the market that it absorbed that transaction . . . it wouldn't affect the price. Now if you went out and tried to do 10 or 20 contracts a day in a short period of time with one counterparty, that might affect the price because there's just not enough liquidity. The bank on the other side, or the counterparty on the other side, can't offload that transaction to someone else quick enough, so now we just have to in smaller increments over a longer period of time, smaller sizes over a longer period of time, with more counterparties. It increases your execution risk because you have to do it over a long period of time.

Bob Charlet: Change gears a little bit. How will new technological developments impact the commodities and derivatives industry? Dan, I think this is your specialty.

Dan Nossa: Well, this is an area that I find really interesting, and I also believe that technology's probably going to have a larger impact on the derivatives and trading space than regulations will over the next four years. I think there are a number of areas and one in particular, that I think could really be a game-changer in many ways, not just for commodity trading, but energy generally and for transactions across the board globally.

Just to start small: one area where there's potential for change or a push for change is the standardization of documentation in the derivative space and as a lawyer obviously that's one of the areas I focus on quite a bit. Those who do work in the industry are well aware of the fact that there are already standardized master agreements for all different types of commodity types. You have the ISDA agreement, you have the NAESB for natural gas and liquids. You also have the EEI agreement for power and then the general terms and conditions that have been used for a long time in the crude oil market and they are standardized documents.

But as many of you who've negotiated these agreements or know even if the document's somewhat standardized, there are a lot of bespoke or unique provisions to that particular transaction, so over time any one entity that has multiple counterparties is going to have really a range of both legal and commercial terms across all their contracts. That can become quite burdensome over time, especially in the wake of all the regulations that have been passed, so you find yourself constantly having to amend these agreements. It can be difficult in certain situations.

Anyway, there's been a push from certain industry groups, including ISDA, and ISDA is probably the most prominent of all the derivative industry groups. It's International Swaps and Derivatives Association, and they publish a lot of the most widely used master agreements in the derivative space, both for financially settled and physically settled transactions. They recently announced ... they kind of have a program to try and make them more standardized than they had been and case in point is the 2016 variation margin credit support annex ... sorry, if that's too much inside baseball for those of you who are not in the space ... but those of you who do deal with it and are familiar with it, that's a good example of a new ISDA document that gives you relatively few options to negotiate the terms, especially the key commercial terms and that seems to be the direction that they're going.

The reason I'm mentioning this in the context of technology, there's a good reason which I will mention in a few minutes, but it's essentially to facilitate the automation of the pre-trade process and basically to expedite negotiation of these contracts before the traders can start trading. A lot of times there's a huge lag between the time you identify your counterparty and the time you actually start executing transactions with them. So, being able to streamline that process by standardizing the documentation will help and, again, there is a strong technological component to it.

Another area is RegTech, regulatory technology. A lot of companies and a lot of end-users rely on RegTech to automate a lot of the reporting processes that are required for reporting to either the regulators or to third party repositories like the SDRs that are required to collect information on every trade and there's still more advances in that space.

But finally, and what I think has the potential to be a game-changer, and I've been looking in this space for about the last two years not just in Houston but in other markets, is blockchain technology. And some of you may have started hearing about this. There are more articles in the mainstream media about blockchain.

Blockchain is the technology that underlies Bitcoin Crypto Currency but people have strong reactions to Bitcoin because a lot of times what they hear about Bitcoin is it's a very volatile kind of fake currency and it's used for nefarious purposes, but you have to get over that. The technology underpinning Bitcoin, this blockchain technology, has the potential to have the same type of disruptive effect that the Internet had over the last 20 years, and just briefly ... I can talk about this for a long time but I'll make it short ... blockchain technology is essentially a distributed record or ledger of transactions among a network of computers and it's not controlled by a central authority. The information is not on a server, it's distributed across numerous computers, in some cases it's thousands of computers, which makes it, in many ways, more secure.

Two of the seminal features of blockchain technology are, one: transparency. Everybody who has access to a blockchain can review it and they can see whatever changes are made on the blockchain so I think that minimizes fraud and makes it more difficult for bad actors to participate in that ecosystem. Secondly, it also requires a tremendous amount of collaboration among the different entities that have access to a particular blockchain. I know a lot of that sounds somewhat theoretical, and if you're not familiar with it somewhat confusing, but it has very serious implications in the derivative space.

Over the last two years, some of the largest financial institutions in the world have been investing hundreds of millions of dollars, if not more, into proofs of concept in the blockchain space and a year and a half ago you hear people making comments like, "Yeah, this is the biggest thing since the Internet." But since that time, I'm starting to get convinced that it definitely has that potential. It's still in its very early stages, but you have some very large entities, some very serious business people, teaming with some of the largest most sophisticated technology companies in the world to develop blockchain solutions, not just in the financial space, but also in the energy space.

Last week, I attended the first blockchain conference here in Houston. It was held at Rice University and it was full of very senior folks from the biggest energy companies in Houston and the biggest tech firms in the world. You see the technology guys kind of cornering the energy executives trying to, one: educate them, but I think also the energy executives have seen what's been going on on Wall Street and they want to, at least, experiment, see what they can do with it, but it has tremendous potential.

One of the aspects of blockchain technology that I find especially interesting, and one of the things that I think can really make it explode, is this concept of a smart contract. A smart contract is basically logic that's embedded in the blockchain and they're self-executing transactions, so you can essentially code a transaction ahead of time. So provided that certain conditions are met, the value that's in a blockchain would be released and it can get rather complicated and rather sophisticated, but it goes well beyond Crypto Currency or even digital or financial assets. It also has applications in the physical space as well.

It's when you combine blockchain technology with IOT, Internet of Things, sensor technology and artificial intelligence, you'll be able to track commodities from the well head through the pipeline all the way to the consumer and collect information about, not just a movement, but the time, who had the section of that particular asset at a certain particular time.

In addition to that, there are going to be multiple blockchains in existence and it will facilitate collateral management as well. So, again, for those of you who work in this space, that can be an issue. It's also quite burdensome having to post collateral to your counterparties. The standard legal documents right now have fairly complicated provisions and steps that you have to go through in order to post collateral to your counterparty. The smart contracts will be able to automatically calculate a party's exposure to a transaction, or a set of transactions, and automatically calculate whatever amounts need to be posted.

You're going to have multiple blockchains that will be interoperable: they'll be able to communicate with one another and not only that, the blockchains are slowly being rolled out right now, are going to be able to communicate with current systems. I think that it's an extremely powerful technology that could potentially make significant changes, again, not just in the derivatives and commodity trading space, but across the board and blockchain has come to Houston because half the people who were at this conference last week were actually start-ups that are here in Houston and are looking to team up with energy companies to help them find blockchain solutions for the energy space.

Brian Jenisch: Exciting.

Bob Charlet: Follow-up question to that ... and so, obviously energy is on the very initial exploration in a sense ...

Dan Nossa: That's right, yes.

Bob Charlet: Are there other segments of the marketplace a little bit more advanced to what energy is right now?

Dan Nossa: Definitely the financial side. Wall Street has been maybe a year, a year and a half, maybe two years ahead of the energy space, which is fine. Let the Wall Street banks use all of their R&D money to test out the technology and if they're happy with it, then all right, now energy can maybe start looking at it. So in many ways I think that works out well for energy because the financial guys can troubleshoot it and of course the energy folks are going to be working with a lot of the same developers that the financial institutions have used and, again, some of them are very large companies, like IBM and Microsoft, but then also there's a growing ecosystem of developers that just focus on blockchain.

But I think that we may be, within a year, year and a half away from seeing potentially a significant roll-out of blockchain, at least pilot programs in the energy space. I just want to mention one recent program or blockchain solution that's being rolled out by DTCC New York, the Depository Trust and Clearing Corporation. Many of you are may be familiar with them. They are the soft data repository. They serve a lot of purposes. But, anyway, they are implementing a blockchain platform for their post trade credit default swap warehouse and that market's worth trillions of dollars, so there'll be a lot of transactions there. That will also be a really good pilot program to keep an eye on. But, again, my message to you is that there's a very high possibility this is going to come to the energy space and to Houston.

Bob Charlet: Think I've got a follow-up question for that. Have regulators expressed any opinions on this technology?

Dan Nossa: Yes they have. Actually, the CFTC held a conference last year on blockchain applications and the general takeaway from that is they're very supportive of it and they're going to kind of take a hands-off approach for the time being, kind of like the Clinton administration did with regard to the development of the Internet. They’re going to kind of wait and see, but they're actually encouraging the development of blockchain.

So you have regulators supporting it, you have big industry groups such as ISDA. ISDA has already jumped on board and they wrote a white paper saying that they're already essentially starting to write these smart contracts and they plan to integrate their current host, or their current architecture of documentation, and trying to integrate some blockchain into that. I think there's going to be an evolution there where the smart contracts will not be the entire contract. It's going to be kind of a hybrid arrangement between the computer code and traditional documentation, although I wouldn't be surprised if in maybe 15 years or so, or maybe sooner, that the code will actually be the contract that's entered into by parties. It may not even be entered between human beings, but between machines.

Bob Charlet: That's not good for us.

Brian Jenisch: No.

Bob Charlet: Any questions? That's exciting stuff. When you talked about the energy, where do you see the energy benefiting from this blockchain specifically? What's the application?

Dan Nossa: There are lots of applications that are being considered. I think, initially, it's going to be in the power space, just because that area's maybe a little bit more amenable to communicating with a blockchain. It's more digitized than maybe oil and gas, but IOT technology, the sensor technology's catching up really quickly. I think it's very likely that again, in the near future, that even the oil and gas base will start utilizing it in terms of what are the benefits of using this type of technology? One is transparency, right? Everybody who has access to the blockchain can see the transactions that have actually been recorded on the blockchain. Two is immutability. Once a transaction has been recorded on a ledger, it's permanent. That doesn't mean it can't be changed if for whatever reason there was some type of error, but it would require a lot of computational power, a lot of computational effort, but also collaboration among all the participants in the blockchain.

So, again, you're kind of getting rid of one central authority having control of it and having all their data on one server that could be hacked. Again, another big plus of blockchain is that it's cryptographically secure and because of its distributed nature, it's very difficult to hack. Some developers say it's nearly impossible to hack, although those sound like famous last words, but it has a lot of benefit.

Settlement can be instantaneous. In certain types of transactions it can go on for days. There's a period and it depends on industry and the type of product that you're trading, but with a blockchain you can have settlement instantaneously. That could bring a lot of benefit to participants, so instead of having money locked up for three days, you receive the funds and then you can redeploy it for another transaction. I think this will just speed up the transaction cycle and make it far more efficient.

Brian Jenisch: Just as a side comment and outside of energy, a real life example, Cargill is an earlier adopter of this technology, and I'll be the first one to tell you I'm not very well-versed in it, but a real life example because it would impact everyone in this room is Cargill is in the protein business, livestock. The transparency that can be created around a calf to cow to marketplace operation is tremendous. That doesn't exist today. So, a calf is born, it's tagged to a record. You can then follow the foods that it ingests, anything relating to disease, all its immunization records. You can follow the calf from point A all the way until it reaches the marketplace. That doesn't exist today. With that could come additional marketing, sort of with the push for organic products and this and that. It's a potential game-changer.

Bob Charlet: Very interesting. Brian, this one has your name on it. How has power trading been affected, if at all, by the low prices in the oil and gas sectors?

Brian Jenisch: Well, I don't know if necessarily power trading has been impacted by the low prices. Power trading has suffered from lack of liquidity just like the other commodities have. If anything, with the low prices, probably power trading's impacted natural gas more so than anything else. But it's right in the same camp with the other commodities, lower liquidity, and power's largely a weather-driven market as opposed to anything else. It falls in line with the other commodities that we deal with.

Bob Charlet: Anybody else on that one? This is for the whole panel. What role or impact does private equity have, if any, on commodity hedging?

Brian Jenisch: I'll take a stab at that. So, private equity, while not direct hedgers themselves, where they often get involved is that they want to hedge their investments and so they make take an equity position or place debt into ... we use an oil and gas producer example ... they want to de-risk their equity investment and so what they do is they will require, more often than not, that oil and gas producer to hedge to protect not only the oil and gas companies return, but their equity investment into that firm as well.

You know, and it's interesting, we deal with a lot of PE firms, as we do with oil and gas producers. We deal with them on the equity and debt side in conjunction with the producer on the production side, and as we've come out of this downturn we are definitely seeing a renewed interest in getting those positions hedged upon acquisition as assets change hands and certainly in the current environment. People have gotten, I guess ... education is a strong word, but no one wants to be put in the position to be unhedged now that they have a newly acquired asset at a market related price, have a new lease on life. The PE firms have been pretty strong really in the last six months about, "Okay, Mr.

Producer, you own these assets now. We have equity or debt in your company you have to hedge it." They're driving that bus pretty hard right now.

Randy Barron: So it's adding to the amount of people who want to sell their commodity. When you're hedging as a producer or a PE firm you sell that commodity so it makes the liquidity problem even worse because you have more people on the selling side, fewer people on the buying side. Private equity ... I'm sorry. Okay, go.

Bob Charlet: Okay Randy, from your perspective, what currently works well and what could benefit from improvement or change in your niche of the industry?

Randy Barron: What works well or would, could work improving our niche?

Bob Charlet: Nothing needs improving.

Randy Barron: I guess our niche in the industry as a natural gas producer. What works well? I can think natural gas producers have become very efficient low cost operators and have just dramatically increased the supply of natural gas, so we're very good at what we do. We've become very efficient in drilling wells and using technology to get the most out of those wells. I think the efficiency improvements. 10 years ago we needed over a thousand rigs to produce the same amount of gas. We can do with 200 rigs today. So the efficiency improvements are tremendous. We're very good at what we do there.

I think the challenge, the last couple of years, has been with the downturn in prices and credit has become constrained. Investors no longer want to see oil and gas producers outspending their cash flow, so production growth was the main thing five to 10 years ago. Now equity investors want to see our CapEx program match our cash flow. With a downturn last year a lot of gas producers and oil producers had to cut back capital investment so it's a very capital intensive industry. We're always on the treadmill. We always have to be drilling wells because of the decline, we have to overcome the decline in our asset base, so that set us back last year. We continue to have a decline, now we have to drill more to overcome that decline, to grow.

The problem with that is investors don't want us to outspend cash flow. With the balance sheets, most of the [MP 01:12:23] companies we shouldn't have to outspend cash flow. The challenge there is how do we even become more efficient to produce more with less? So, that's the challenge. Shell technology is getting better and better just like .... technology in all facets of our marketplace is driving economy and efficiencies for sure.

Bob Charlet: Folks, we're kind of in the homestretch here. If you've got questions, now's the time. Let us know 'cause I've got more but certainly I know that these guys would like to hear from you. Does anybody have any questions just from where we've been so far? It's a shy audience. Nobody has any questions.

Okay guys, let's continue. I actually moderated another panel on Monday, it was all about renewable energy sources and really fascinating. So, from your perspective, will the growth of renewable energy affect the commodity trading sector?

Randy Barron: Good question. I don't know about trading perspective specifically, but power burn this year is down versus last year about 3Bcf a day and a lot of people think, "Well, that's because of renewables," but primarily it's because of weather obviously and most of that power burn decline for year over year is gas switching to coal. Now, there's a limit because there's so many coal retirements that I don't think there's that much more gas that can switch to coal, but very little of that power burn demand difference has been because of wind and solar but that's not to say it's not coming. We definitely see signs that wind and solar will take market share from gas and gas will take market share from coal, so coal's the ultimate loser and gas will stay steady and we see renewables gaining market share. That's just from the demand perspective not necessarily from trading. I don't know if anybody has any comments on trading.

Bob Charlet: Is there anything unique about Houston that makes it different from other major commodity trading centers like Chicago, New York and London?

Brian Jenisch: Well, I think it's just a heavy concentration of energy professionals in Houston. You can go to New York ... there's an energy presence in New York where you have bonds’ effect equities ... we don't have that presence here in size and scale. I think it's just close proximity to where the production is and just heavily concentrated energy here in Houston.

Dan Nossa: I think with some of the other cities, they kind of have their own unique features. I don't know if it's just these longhouse stereotypes. Chicago has more emphasis on futures and exchange traded products since that was the home of the Chicago Mercantile Exchange. The same with New York, again, on the commodity side with NYMEX being there. London is more of an international center. Obviously London does not just service the UK 'cause the UK market is not nearly large enough to create enough volume, but it's really the hub for Europe and parts of Asia so in that respect it may be slightly more international, but Houston certainly does have a very cosmopolitan, I think, trading in derivatives industry.

Randy Barron: You've seen a lot of the banks move energy trading shops to Houston in the last 10 years when they used to be in New York and Chicago.

Bob Charlet: Brian, what's the difference between hedging on one of the exchanges such as the CMA versus an OTC provider?

Brian Jenisch: I think we largely touched base on the conversation over here before, but it's being able to do hedges or derivatives that fit a customer's unique risk profile.

It's the ability to extend a credit threshold versus tying up your capital on the exchange and initial margin and variation margin. Those are the two primary differences, probably the two key ones.

Dan Nossa: I think also from my perspective as an attorney, since I worked with the credit agreements and all the credit support documentation that enables end-users, E&P companies, for example, to hedge, they don't have the liquidity to be posting cash collateral to exchange on a daily basis for daily settlement. They often secure their obligations. The first liens that their lenders or counterparties have on all their assets, so the collateral arrangements I think are more end-user friendly in the OTC space.

Randy Barron: Going back to the Dodd-Frank legislation: one of the, I guess, aims of that was to make everything cash, all collateral cash. With an E&P producer we have reserves in the ground, so a lot of, like Dan said, we use those reserves in the ground as collateral which frees up the cash to be able to invest, so that's another advantage of trading OTC versus on the exchange.

Bob Charlet: This might be the best question I'm going to ask. What impact do derivatives have on the ordinary person? Talk to us ordinary people.

Brian Jenisch: I'll take a start. So, everyone in this room is impacted by derivatives, maybe not directly, but second order, third order, fourth order. Let's think about electricity. Probably everyone in this room has gone onto the Power to Choose website and you'll see out there you can choose a 3 month program, a 6 month program, 9 month program, sometimes you see some 12 month programs out there. In order for a retail provider, a retail electricity provider, to offer those fixed price programs, they're hedging something on the other side. They're managing the price for sure. They're fixing the cost of that in order that they can turn on and pass them to the consumer.

We used an airline ticket example. Airlines hedge their jet fuel and there's probably some sort of fixed price component tied to the jet fuel portion of that airline ticket. A cruise line ticket, heck, even stepping outside of energy, for those of us who have a 15 year mortgage or a 30 year mortgage, there's a fixed price component on the interest rates within that thing. Derivatives play a large role in everything that all of us do, so we're all touched in some fashion or another.

Bob Charlet: Good answer. Dan, I think we've got a couple of questions from the audience and I think they have your name on them.

Bob Charlet: Are there advantages for energy producers who are early adopters of blockchain technology?

Dan Nossa: Yeah, I think there are advantages to early adopters just with technology advancing so quickly. What you've noticed on the financial side is that those who moved first got a lot of attention and right now you have developers literally all over the world, clamoring to find the right business use case for their technology, so if you're one of the first movers, there's a good chance that you may get more attention from some of the top developers and it kind of takes on a life of its own, although that's not necessarily guaranteed.

The technology is still relatively new, so there may be advantages to waiting it out a little bit, let other people spend their money and troubleshoot and figure out what works and what doesn't work, but the incredible thing about this, the blockchain technology, is there's so many different use cases, so many niches. What I've seen is that a lot of these start-up companies are looking at very specific, narrow areas because I think trying to architect a solution for the entire energy space, right now anyway, is impossible. But I think there are tremendous opportunities there for the energy space and, like I said, just based on the discussions I have with folks here in Houston and then seeing first-hand at that blockchain conference at Rice, you have some very serious people at some very big corporations who are already beginning to implement proofs of concept.

The competition is out there and I think a lot of the discussion at the conference was what if we don't do anything? What will happen if we don't do anything? And of course what the developers are telling them is that, "Well, if you don't do anything, you'll become irrelevant." That may be a little extreme, but I think maybe in the medium- to long-term, that that may be correct. If it does seem to have some traction in the next six, eight months or year, I think it's something that the energy companies need to take very, very seriously.

Bob Charlet: I think it's a follow-up. Might be from the same person. Will this new technology make Dodd-Frank obsolete?

Dan Nossa: I don't think it would necessarily make Dodd-Frank obsolete, but I think a lot of the aspects of Dodd-Frank that had frustrated the industry so much is just so complicated in some ways, over-engineered in many ways, and it's possible that this type of technology will be automating part of the regulatory reporting requirements.

Again, when I talked about regulatory tech, regulatory tech can dovetail into blockchains. So the blockchain, when a transaction is transacted on a blockchain, it can communicate to maybe a RegTech blockchain that will then automatically report that transaction to the regulators.

Bob Charlet: Folks, this is going to be last call for questions for this expert panel. Does anybody have anything they want answered?

Audience: I understand that volatility has declined recently in some of the power trading markets. I wanted to get a sense for why you think that's occurred?

Brian Jenisch: Not my area of expertise specific to power. Weather ... has not been a weather event. Power, electricity is largely contingent upon weather and it's also heavily influenced by natural gas and quite frankly both of those markets ... a lot of the markets we deal in whether it's natural gas, power, even crude have become somewhat boring and boring is a relative term versus from the history of where we've been.

Now, is this just a lull in the price action? Yeah, I'd like to think so but we're kind of in no-man's land right now. Some are range-bound markets all across the board. If you think about crude, you could probably move up $10 to down $10 and natural gas ... maybe a little bit more supportive in natural gas, looking into summer and beyond, but we just don't see anything right now that's going to break anything out in a grand fashion one way or another.

Randy Barron: I think the supply oil and gas producer's ability to ramp up supply quicker through Shell drilling has dampened volatility also.

Bob Charlet: Good question. Any other final questions from the audience? How about for each of you, what's some final thoughts you'd like to leave the audience? What would you like them to remember about today? Dan?

Dan Nossa: To summarize really quickly. I think on the regulatory side, I just don't see too many changes to what's already been implemented and those that are pending there's a good possibility that those will either be postponed or will never be finalized and then obviously on the tech side, I think there are a lot of very exciting developments there and that's just something you need to stay aware of and now if you do a Google search for blockchain technology, IOT and AI, you're just going to be overwhelmed with information, but then if you also add Houston, you're also going to see a lot of hits as well.

Brian Jenisch: I think for me, and thinking about the audience, just the world of derivatives, it touches us all and, again, rather as directly or indirectly. They're a good thing, they create stability, they create confidence, assurance, nothing to be feared just because they're regulated.

Randy Barron: I'll piggyback off Brian's comment, I think derivatives in the role of energy has allowed the U.S. oil and gas producers industry to definitely increase supply, help the American consumer with their cost of energy and help the economy. I think with the current administration that's only going to get better, which is a bright future for the U.S. energy industry.

Bob Charlet: How about some applause for this fantastic panel? Awesome. How about some applause for our sponsor, Steptoe & Johnson? Fantastic. Thank you so much.

Thanks to all of you for being here. I know these guys hopefully could stick around a little bit if you wanted some one-on-one with them, but thank you so much for being here. Have a great day.