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Case: Impacts of COVID-19 on the Energy Industry

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FEDERAL ENERGY REGULATORY COMMISSION

Technical Conference:
Impacts of COVID-19 on
the Energy Industry Docket No: AD20-17-000

TECHNICAL VIDEO CONFERENCE

Federal Energy Regulatory Commission

888 1st Street NE

Washington, DC 20426

Thursday, July 9, 2020

9:00 a.m.

Panel 3: Natural Gas and Oil Demand

Panelists:

Robert Brooks, Founder and President, RBAC, Inc.

David Bryson, Senior Vice President and Chief Commercial Officer, Gas Transmission and Midstream, Enbridge

Anatol Feygin, Executive Vice President and Chief Commercial Officer, Cheniere Energy

Gary Gibson, General Manager and Chief Executive Officer, City Utilities of Springfield

Terry Lewandowski, Senior Director - Energy, Nutrien, and President of the Process Gas Consumers Group

Matt O'Mahoney, Managing Director - Fuel Procurement and Operations, Delta Airlines

Toby Rice, Chief Executive Officer, EQT Corporation

Panel 4: Access to Capital - Credit, Liquidity, and Return on Equity

Roger Collanton, Vice President and General Counsel, California Independent System Operator, on behalf of the ISO/RTO Council

Kimberly Dang, President, Kinder Morgan

Mauricio Gutierrez, President and Chief Executive Officer, NRG

Charles Jones, Chief Executive Officer and Member of Board of Directors, FirstEnergy Corp.

Philip Moeller, Executive Vice President - Business

Operations Group and Regulatory Affairs, Edison Electric Institute

Antonio P. Smyth, Senior Vice President, Transmission Ventures

Strategy and Policy, American Electric Power.

Christine Tezak, Managing Director, Clearview Energy Partners

Steve Young, Executive Vice President and Chief Financial Officer, Duke Energy

P R O C E E D I N G S

(9:00 a.m.)

Panel 3: Natural Gas and Oil Demand

MR. CABRALES: My name is Omar Cabrales, I am with the energy projects for the Commission. We're happy to welcome you to this today. The Commission Technical Conference to consider the impacts of COVID 19 on the energy industry. Before we begin with opening statements, I want to outline some of the items for today.

We'll have two panels today with a lunchbreak in the middle. Only the Commissioners, Panelists, and a small group of Commission staff will have speaking roles today. This Conference is being livestreamed and transcribed, however the Conference will not be archived for future viewing.

With those matters out of the way, I will now turn it over to Chairman Chatterjee to begin his opening statement. Mr. Chairman?

CHAIRMAN CHATTERJEE: Thank you Omar. Good morning everyone. Welcome back to Day 2 of the COVID-19 Technical Conference. Please bear with me while I wear a mask. I've got staff in here helping me with my computer and out of concern for their safety and my own, I though it would take an abundance of caution.

I'd like to again thank all of our distinguished

speakers who have joined us yesterday and those who will be participating today. I think the best thing to do is just to dive into today's discussion. As I noted yesterday, our focus here is gaining a longer term view of the COVID-19 Pandemic's impact on the energy industry. Today we've teed up two more great panels. For the first panel, we'll be taking a look at the potential effects, the changes in natural gas and oil demands may have on operations, planning and infrastructure development.

One of my goals is to better understand some of the specific trends we may be seeing, including shifts in the number and types of proposed projects, effects on pipeline construction and changes to rate filings. Additionally, I hope to understand more about the effects on supply and demand patterns and national and regional pipeline flows and utilization rates.

There's also been a lot of discussion about the potential impacts the COVID-19 national emergency may have on LNG exports from existing and planned terminals. I have had many discussions with those intimately aware of the economic impacts of the Corona Virus Pandemic on LNG exports in the short and long-term. We'll touch on these issues during the first panel as well.

For today's second panel, my goal is to better understand the effects the COVID-19 Pandemic has had on the

financial markets and the financial health of individual energy companies and what new risks may have emerged that could potentially impact future access to capital.

The magnitude of the pandemic's impact on access to capital, credit risks and other facts will vary for different entities in the electric, natural gas, and oil sectors and will affect our ability to continue to provide reliable service. I also hope we will explore today whether certain risks associated with the pandemic will affect ROE issues as well. With that I turn it over to my colleagues for any opening remarks they may have, starting with Commissioner Glick.

COMMISSIONER GLICK: Thank you Mr. Chairman. Glad to see you're wearing your mask. I don't have a lot to say this morning. I think we had a very good day yesterday. I learned a lot. I would say that certainly that electric and gas utility sectors have done a very good job in certainly being prepared and with the reacting in terms of the reaction to the COVID-19 Pandemic.

We're going to learn a little bit more today about what the impacts might be on pipelines and oil pipelines in particular, I understand it will be more difficult, so today I'm going to learn a little bit more about that. And then, of course, the last panel will be on financial impacts of the COVID-19 Pandemic and what that

might mean for electric utilities, gas utilities, gas pipelines and so on.

So with that, I'll just pass it on and say thank you Mr. Chairman.

COMMISSIONER MCNAMEE: Mr. Chairman, this is Bernie. I also want to thank all the panelists for joining us today and thank panelists from yesterday. It was a very productive day. I'm looking forward to today's discussion, it's a variety of important issues as we all know. We know that our first panel is focusing on oil and natural gas. I think that it can't be overstated the benefits that the shale revolution has provided to the United States, to our economy and really to the world, that took place you know, with the acts of George Mitchell, you know, connecting directional drilling and hydraulic fracturing.

And I think that you know, we saw great benefits to that and obviously the COVID-19 has created some great challenges. And the challenges aren't just on producers of natural gas and oil, but it's also the consumers. Because even though prices are cheap, demand for the services aren't there. So whether you're you know, an industrial, commercial, and airlines, we're going to be interested in hearing how these impacts and how COVID has been impacting their demand and how we can take advantage during this time of thinking about the future.

Do we think that there's going to be growth in the future? Do we think economic growth is going to come back? And what are the things we should be thinking about now both as a Commission, what industry should be thinking about, what consumers should be thinking about as we hopefully come out of this pandemic sometimes soon and be able to be prepared to grow, take advantage of our domestic resources, be able to make sure that we have strong economic growth and provide jobs for the American people, and continue to provide tools to our policymakers to make sure that the United States and its allies are in a strong position versus adversaries that might want to use energy as a weapon against us.

I'm very much looking forward to this. Honestly, included in this will be the challenges to raising capital, cash flow issues, and some of those things are issues that we'll also be dealing with in the next panel, so I'm really looking forward today.

And once again, thank you to our panelists for taking the time to be with us and educate us.

MR. CABRALES: Thank you Commissioner. Mr. Chairman?

CHAIRMAN CHATTERJEE: Thanks Omar. I don't know if Commissioner Danly will be joining this morning, so with that I think you can go ahead and introduce Panel 3.

MR. CABRALES: Thank you Mr. Chairman. The panel this morning is entitled "Natural Gas and Oil Demand". Each panelist has four minutes to give an opening statement. At that time we'll begin -- after that time, we'll begin a question and answer session.

I will call for a 15 minute break partway through the third panel. As we begin with opening remarks, we remind all participants to refrain from any discussions of pending or contested proceedings. If anyone engages in these kinds of discussions, a FERC staff will have to interrupt the proceedings and ask the speaker to avoid the topic.

I will call on each panelist in turn to give his or her opening remarks. First we have Mr. Robert Brooks, Founder and President, RBAC, Inc. Please go ahead Dr. Brooks. Dr. Brooks, your sound is on mute.

DR. BROOKS: Okay, thank you. My name is Dr. Robert Brooks and I'm the Founder and President of RBAC. We developed and licensed predictive analytic software focused on the energy industry. Our principal product is GPCM, a widely used market simulator for forecasting North American natural gas pipeline flows and market prices.

The COVID-19 Pandemic has primarily impacted energy markets by reducing energy demands. Its greatest impact has been in the transportation sector. People aren't

driving or flying nearly as much due to lock-downs and travel restrictions. EIA has reported that jet fuel, distillates, and motor gasoline demand declined between 40 and 60 percent during this period.

In response, decline in utilization rates dropped from 90 percent in January to less than 70 percent by mid-April. The pandemic has also affected the gas market by reducing commercial and industrial demands as well as LNG exports. Year over year industrial gas demand in April declined by 13 1/2 percent, more than 3 billion cubic feet per day.

LNG exports fell by more than 50 percent from January to June. Declines in the commercial gas sector have been partially offset by increases in residential use because people have been spending more time at home. Several system operators have reported declines in weather adjusted electricity demand, but most of these average less than 10 percent. Low natural gas prices have made it more competitive in power generation, so the affect on gas powered generation is likely less than this.

The combination of a low-priced environment and general uncertainty has delayed investment decisions for several infrastructure projects including the Permian and Haynesville Global Access pipelines, as well as federal LNG export companies.

And producers are rightly focusing on return on investment rather than new projects and production growth. In the longer run, permanently lower demand and increasing overseas production would tend to pressure oil prices lower. This would reduce oil production which in turn would reduce associated gas production on oil focused areas such as the Bakken, Permian and Niobrara.

Together these three areas accounted for almost 25 percent of U.S. gas production in 2019. The recent oil price rebounds of $40.00 a barrel has resulted in the reopening of some shut-in wells and may lead to a building rebound in the best locations. Should oil prices rise above $40.00 to $50.00, we would expect an increase in crude oil and associated gas production.

However, if prices remain at or below this range, gas production growth will shift to non-associated areas such as the Marcellus and Haynesville. That the price of oil is a major determining factor in the location of future natural gas supply growth. This has important implications for pipeline utilization and constraints. Using PPPM we've analyzed several Permian basin production scenarios and found that gas production could grow to about 14 Bcf per day by 2022, but would then reach the limit of the basin's pipeline takeaway capacity.

Further increases would force producers to sell

their gas at distressed prices, like what happened last year. Additional pipeline capacity would be needed to support further increases in production largely destined for LNG export terminals on the Texas Gulf Coast, as long as prices remain low enough to encourage those LNG exports. I look forward to your questions, thank you.

MR. CABRALES: Thank you Dr. Brooks. Next up is David Bryson, Senior Vice President and Chief Commercial Officer Gas Transmission and Midstream Enbridge. Please go ahead Mr. Bryson.

MR. BRYSON: Thank you. Can you hear me Omar?

MR. CABRALES: We can hear you.

MR. BRYSON: Okay great. Thank you very much. Good morning everyone. On behalf of Enbridge, I would like to thank the Commission for hosting this Technical Conference to better understand the impacts of the COVID-19 Pandemic on the industry. I would also like to thank the Commission for their hard work and commitment to business as usual in a work from home environment.

Enbridge's operations are widespread across North America and are primarily made up of interstate natural gas and liquids transportation - both industries regulated by the Commission. Enbridge transports nearly 20 percent of the natural gas consumed in the U.S. and 3 million barrels of liquids products per day on more than 22,000 miles of

federally regulated pipelines.

The backbone of Enbridge's liquids transportation Mainline is our Lakehead system which transports primarily Western Canadian and Bakken crude and natural gas liquids to refineries throughout the U.S. Midwest and eastern Canada. Our connectivity across this footprint has facilitated market access expansions through the Mid-Continent and to the large concentration of Gulf Coast refineries as well.

As we all know, the pandemic triggered a massive reduction in oil demand. With the Enbridge Mainline as a common carrier, most competitors are generally 90 percent contract, we expect as much as 300,000 barrels per day of lower throughput on average through the end of 2020. This translates into a significant reduction in earnings while in contrast, our operating costs remain fixed, save for power costs as we continue to maintain and operate our systems in a safe and reliable manner.

As a result of these conditions, Enbridge has taken tough but deliberate steps to financially weather the impacts of the pandemic, including a voluntary workforce reduction program, salary rollbacks and deferment of considerable spending in our capital expansion program.

With this backdrop, FERC's five-year review of the oil pipeline rate index is a critically important proceeding for the industry. Higher costs for operating and

safety efforts, along with the COVID-related demand decline, underscores the need for the index to be fully reflective of actual cost changes experienced by the oil pipeline industry, especially when the volatility for the energy sector will likely remain for quite some time.

As for the Enbridge gas transportation network, it is comprised of several pipeline systems across the continent serving industrial, commercial, residential, power plant loads as well as the growing LNG export demand.

The throughput on our gas transportation system has been impacted as well with demand being reduced by 5 to 15 percent across various markets. We do expect this demand to recover more quickly when the economy gains momentum, but the exact amount and pace is yet to be determined.

As operators of essential energy infrastructure systems, we quickly incorporated the COVID-19 expert guidance and health protocols across all of our systems and offices, and as a result have been able to safety continue to serve our customers and deliver the energy they need.

Throughout the pandemic, we were proactively taking steps to ensure our employees and our contractors were able to continue working safely on identified and prioritized critical system needs. We will continue to actively seek and execute our expansions of our existing systems to meet incremental demand across our domestic

markets and supporting growing exports.

Although these development opportunities continue to present themselves, there's no doubt some will take longer as supply and demand stabilize. In parallel with this, processing of permits is taking longer in some cases as agencies work from home and we continue to face the challenge in some states with permits or easements not being issued or granted.

I would encourage the Commission to keep reviewing and processing certificates and rehearing requests in a timely manner. America needed more natural gas and liquids transportation capacity before the pandemic, and this certainly will be true moving forward. This energy infrastructure development will play a critical role in stimulating and sustaining America's economic recovery. Thank you for the opportunity to be here today.

MR. CABRALES: Thank you very much Mr. Bryson. Our next panelist is Anatol Feygin, Executive Vice President and Chief Commercial Officer of Cheniere Energy. Mr. Feygin is not giving a formal opening statement today, but please feel free to introduce yourself and your organization Mr. Feygin.

MR. FEYGIN: Good morning, can you hear me okay?

MR. CABRALES: Yes we can.

MR. FEYGIN: Terrific. Well first and foremost,

I would like to thank Chairman Chatterjee and the other Commissioners and the Commission staff for inviting Cheniere to speak on this distinguished panel. I am Anatol Feygin and I have the honor of representing Cheniere and running the commercial operations for the business.

In the commercial group, we're responsible for two tasks -- one is procuring all the gas that goes into our facilities and then marketing all of the LNG that the facilities produce. As such, we're responsible last year that 80 percent of U.S. LNG exports. As has already been mentioned, exports have declined and today the LNG export system is running at about 30 percent of what we think its total capacity is in a response to the decreased demand that we have seen globally.

That said, just to put some things into perspective, the global gas market is a just under 400 dcf a day market. LNG, after several years of spectacular growth, makes up a little over 50 dcf a day of that 400 dcf market and the U.S. today an export approximately 10 dcf a day. So, through May of this year, as has been mentioned, exports are down and down substantially, basically starting in June.

Through May we really didn't see much of an impact on the LNG market, because it was overwhelmed by the balancing factors of pipeline gas, and that happened in Europe and in Asia. So I often made the statement that if

you look at the LNG markets for May, you wouldn't actually know that anything was going on. Obviously, that was not the case for gas overall, and has already been mentioned, that was not the case for transportation fuels.

So today at full capacity we are still about 6 dcf a day at our two facilities in Sabine Pass, and Corpus Christi, Texas. And we have already given them one of the largest capacity holders on infrastructure. We've had a wonderful relationship with the FERC early -- it hasn't always been smooth sailing, and we have worked through that together in a partnership that has allowed us to become one of the largest exporters U.S. overall, is basically tied with Qatar in Australia in the top three LNG exporters.

And has already been mentioned, infrastructure to continue to support our growth is absolutely critical as we continue to build out our two facilities out of the U.S. LNG market continues to take market share in this rapidly growing hydro carbon business. With that I'll stop and hand it back over to Omar.

MR. CABRALES: Thank you Mr. Feygin. Our next panelist is Gary Gibson, General Manager and Chief Executive Officer City Utilities of Springfield. Mr. Gibson?

MR. GIBSON: Thank you. Good morning. I appreciate the opportunity to participate in this panel today and thank Chairman Chatterjee, the Commissioners, and

Commission staff for organizing this important Technical Conference regarding the impacts of COVID-19 on the energy industry.

I am Gary Gibson, General Manager - CEO for City Utilities of Springfield, and I appear on behalf of the American Public Gas Association of APGA. City Utilities of Springfield is a community-owned utility serving over 110,000 customers in southwest Missouri with natural gas, as well as electricity, water, broadband and public transportation services. For the last 75 years, City Utilities has been governed by a dedicated board of local citizens.

APGA appreciates the Commission's commitment to addressing the significant impacts that COVID-19 has had on our industry. Throughout this crisis, approximately 1,000 communities across the U.S. have relied on their public gas utilities for sale, reliable and affordable fuel use for cooking, clothes drying, and space and water hearing, as well as for various commercial and industrial needs. APGA members have delivered.

APGA members are locally-owned and governed to be accountable to the communities they serve -- community aid and service is the mandate for these utilities. Consequently, APGA'S members, including City Utilities, have taken significant steps to ensure natural gas continues to

safely flow to all during this crisis, especially to those with emergency financial needs.

To best serve these communities, APGA members have been pausing shutoffs, waiving fees and penalties for late payment and restoring service to those in need. As a result, many APGA members have had customers request deferrals of payments, resulting in the deferral of hundreds of thousands of dollars in revenue for some systems.

Furthermore, APGA members and other pipeline operators have developed COVID-related procedures to ensure that personnel have the planning, resources and technology they need to perform their roles and to minimize exposure to the virus. While enforcement of certain regulations has been relaxed to provide relief to regulated communities pipeline safety has remained the top priority during these challenging times. Employees of APGA members have been on the front line supporting their customer owners by responding to a variety of service calls.

Municipal gas utilities have also fallen victim to the hardships presented by this pandemic, having lost roughly $140 million since March and being projected to realize additional revenue losses in the coming months. While Congress has acted swiftly to provide much needed aid to various industries, local governments including municipal utilities, have been large ineligible for many of these

programs.

Consequently, APGA has requested Congressional assistance to help offset revenue losses as a result of COVID-19. Until public utilities receive appropriate support, APGA's members will continue to have significant financial hardships, which could impact infrastructure projects moving forward.

With these challenging times, there has been heightened awareness of many APGA members' dependence on one pipeline for gas supply. While no issues were experienced during this pandemic, the Commission is encouraged to ensure that it is taking the appropriate steps in approving infrastructure that allows for America's abundant energy resources to reach the homes and businesses that need them.

During this crisis, many of the best solutions have come at the local level -- those closest to the needs of our communities. Public gas utilities continue to be essential to thousands of communities across the country, and we look forward to working together with the Commission and other stakeholders towards solutions that support these critical entities through responsible recovery. Thank you again, and I look forward to today's discussion.

MR. CABRALES: Thank you Mr. Gibson. Next we have Terry Lewandowski, he's Senior Director of Energy at Nutrien. He also represents the Process Gas Consumers

Group. Mr. Lewandowski is not giving a formal opening statement, but please feel free to introduce yourself and the organizations you represent. Mr. Lewandowski?

MR. LEWANDOWSKI: Thank you Omar. Thank you Chairman Chatterjee, Commissioners and staff for the opportunity to be part of this panel, but also for your diligent oversight of our industry. I'd also like to acknowledge those in the energy sector from producers to the financial community, natural gas pipeline, electric grids, where all have given an amazing effort during these difficult times and we've seen no lapse in their reliability.

As Omar said, my name is Terry Lewandowski. I'm the Senior Director of Energy at Nutrien. We are the world's largest provider of crop inputs and services and I oversee the energy management for North America. Energy is the life blood of all of our operations at Nutrien, but that need is significantly higher wherever we manufacture nitrogen fertilizer.

At these facilities reliable, low-cost energy is critical to our efforts to grow the world from the ground up. I am also here on behalf of the Process Gas Consumers Group or PGC where I serve as the Chair. Our membership at the PGC is a group of energy intensive large industrial end users that operate hundreds of manufacturing sites in

virtually every state of our country.

As a group, we consume large amounts of natural gas via interstate pipelines that run all over the U.S. and Canada. PGC advocates on behalf of its members to ensure that end users continue to receive safe, reliable and competitive costs in the global marketplace. I look forward to participating on the panel today, and thank you again.

MR. CABRALES: Thank you Mr. Lewandowski. Next up is Matt O'Mahoney, he's Managing Director of Fuel Procurement and Operations of Delta Airlines. The floor is yours Mr. O'Mahoney.

MR. O'MAHONEY: Good morning. I would like to thank the Chairman, Commissioners and Commission staff for scheduling this conference. It is very timely and important to discuss the unprecedented and complicated impacts from COVID-19 on the energy infrastructure in our nation. My name is Matt O'Mahoney, and I am Managing Director of Fuel Procurement and Operations at Delta Airlines.

And today I'm representing Airlines for America, which is the key trade association for most of the major U.S. and Canadian Airlines. Unprecedented is a good word to describe the economic damage that has occurred to our industry. While there has been a small uptick in passenger demand recently, the road to recovery is wing speed and will come with serious challenges.

One of those challenges, the ability to transport jet fuel via pipelines, I will discuss today. But first I would like to acknowledge the significant importance of a refined product pipelines to airports. Career airports like Atlanta, Chicago O'Hare, Washington Reagan and Dallas Fort Worth, some of our nations busiest, there are simply no other suitable means for transporting jet fuel than by long-haul multi-product pipelines.

As an example, it would take approximately 325 tanker trucks daily traveling down from Exxon's Baton Rouge refinery to the Atlanta Airport to supply all the jet fuel needs. This cost would be ten times higher than the pipeline tariffs, and environmental risk would be far greater. Pipelines are simply the most efficient and effective means of transportation to airports.

To mitigate the risk of shortages and to reduce costs, airlines have evolved a self-supply strategy of buying jet fuel direct from a refinery or terminal, and shipping that product via pipeline to the airports themselves. In fact, individual airlines are often the largest customer shippers on the various pipelines.

As a result of self-supply strategies, airlines have established considerable pipeline shipping history which allows airlines to continue to access pipelines in the

future. However, shipping history which is most often calculated based upon a trailing 12-month period, will be seriously impacted by COVID-19.

Due to the pandemic, airline passenger demand has plummeted, with April passenger counts showing a 95 percent drop versus April of 2019 and only a slight improvement in June at 81 percent down. Commensurate with the declines in airline passenger volume, jet fuel consumption is also down dramatically.

This drop in jet fuel is far more significant than the fall in use of gasoline or diesel. June 2020 data showed jet fuel demand at 39 percent of June 2019 levels, while gasoline and diesel were at 86 percent and 80 percent respectively. Furthermore, while there's a lot of uncertainty, it is generally expected to take two to three years for the airlines to recover.

One estimate is that jet fuel consumption for the full year 2020 will be at 45 percent of 2019, and 2021 will be at 75 percent with 2022 at 95 percent. This situation is unlike any other in the past where there has been such a lengthy and sharp disconnect between one refined product -- jet fuel in this situation, and the other major refined products -- gasoline and diesel.

This disproportionate fall in jet fuel consumption and therefore segments on the pipeline has

allowed gasoline and diesel to take away valuable space on allocated lines and therefore shipping history. Calculations for future shipments is based upon the trailing 12 month shipping history, so at 2020 levels, are at only 45 percent per jet, there will be an inability to ship the 75 percent expected to be needed in 2021.

Without the adequate amount of jet fuel, airlines will be challenged to add back flights. I would very much like to discuss this issue in further detail this morning, or at a subsequent meeting. Thank you very much again for the time today and I look forward to the Q and A portion of this panel.

MR. CABRALES: Thank you Mr. O'Mahoney. The next panelist is Toby Rice, Chief Executive Officer EQT Corporation. Please go ahead Mr. Rice.

MR. RICE: Good morning and thank you for hosting today's Technical Conference. My name is Toby Rice, and I am the CEO of EQT Corporation. Based in Pittsburgh, and operating in the core of the Appalachian Basin, EQT is the largest producer of natural gas in the country.

The combination of COVID-19 and the OPEC plus price war has fundamentally changed the trajectory of the American oil and gas industry. Over the past two decades, the shale revolution has powered our economy, improved our environment and strengthened our national security. The

principal drives behind these positive steps were not big oil, they were the independent oil and gas producers like EQT, which today account for over 80 percent of U.S. natural gas production.

Competition led to a drastic improvement in operation performance, ultimately reversing the decades' long status of the U.S. as an energy importer. Today it is anticipated that numerous public independent oil and gas producers will go bankrupt in the next few years.

The value of the approximately 80 public independent oil and gas producers is roughly the same as the value of the four largest midstream companies as well as the two largest utilities. EQT alone provides the feedstock for nearly 2 percent of the country's power, effectively powering one out of every 60 homes, offices, hospital and yes Tesla's in the country. And yet we are valued at approximately one-quarter and 1/20th the values of the midstream companies represented on today's panel.

The reason for this value disconnect is simple -- the combination of cheap capital and significant productivity improvements drastically increased domestic production and significantly reduced the cost of the products we sell. The price at which we sell natural gas is less than half of what it was in the early 2000's, while many of the most significant midstream costs remain the

same.

That reduction in price is a good thing. It is a good thing for the American citizens who see lower power bills. It is a good thing for the environment, lower natural gas prices have replaced coal fired generation with clean burning natural gas in our power plants, and this is the primary driver behind why CO2 emissions have dropped to their lowest levels in a generation.

It is a good thing for the United States, allowing for the development of a competitive LNG export industry that is a critical piece of expanding U.S. energy influence around the globe rather than relying on a handful of other countries that may not share our nation's values

While the topic of today is the impact of COVID-19, it is important not to lose sight of the significance of the OPEC plus price war. What was made clear to me, and what should be on the top of minds for all of us is that just as outside influences can drive the price of oil to under $20.00 a barrel, these same influences can drive the price to over $100.00 per barrel absent a competitive U.S. industry. We cannot allow that to happen.

I am excited to offer a voice for the upstream industry on today's panel. It is difficult as an upstream company to decouple the impacts of COVID-19 and the OPEC plus price war as the results are the same. We are going to

be entering a world where there are fewer of the companies that drove the country to the place of strength that it sits in today.

For the Commission, it is our opinion that heavy consideration of the strength of the upstream industry is needed when assessing the actions that it takes going forward. Just this week we saw the cancellation of another major newbuild long-haul pipeline in the Atlantic Coast Pipeline. Regardless of one's views on whether that is a good or bad thing, the reality is that many believe that we will soon be wrapping up some of the last completed oil and natural gas pipelines in the country.

Additionally, a change in investor sentiment over the last couple of years is resulting in an expectation that the days of growing domestic supply are behind us as well.

So what does that mean? In my opinion, if the subsidization of supply growth is behind us, the only manner in which we can continue to provide economically efficient energy to consumers is for the system to transition its focus away from supporting supply growth and instead focus on supporting efficiencies.

In our opinion, the best way for the FERC to support efficiencies is to maintain the competitive dynamic that bolstered improvements of the past. That means maintaining a high level playing field among operators, and

avoiding propping up underperforming operators by providing arbitrary competitive advantages. It also means assessing how the policies of the FERC result in value allocation across the entire energy lifecycle, and how that value allocation affects the health of the system as a whole.

The benefits of a competitive market are real, and we have seen this in our company. In just the last year since taking control of the EQT, we have reduced well costs by over approximately 40 percent. That improvement has transitioned EQT - again, the largest natural gas producer in the United States, from a financially distressed company to a sustainable and thriving company.

In a world where supply growth is no longer in demand, only efficient development allows for sustainable businesses. If we do not have a market that drives efficiencies, the benefits of the shale revolution felt over the past two decades will be at risk of reversal. Thank you again for the opportunity to join today's discussion.

MR. CABRALES: Thank you Mr. Rice. And thank you to all of our panelists. We now will begin the question and answer session. If panelists would like to answer a question, please use the Webex raise the hand button. Alternatively, if you are having issues with the raise the hand option, please turn on your microphone and indicate that you would like to respond.

I will call panelists that raise their virtual hands or who have otherwise indicated that they would like to answer a question. Once I do so, please turn on your microphone and respond to the question. Please turn off your microphone and lower your virtual hand when you have completed your answer. I will now turn it over to Chairman Chatterjee for his questions. Please go ahead Mr. Chairman.

CHAIRMAN CHATTERJEE: Thank you all for your informative remarks. Very interesting. I have a few questions for this panel. My first is not directed to a specific individual so anyone feel free to weigh in. What regulatory challenges have been faced, if any, due to the anticipated changes in natural gas and oil demand due to the COVID-19 emergency?

MR. CABRALES: I see Mr. Rice has his hand up. Mr. Rice?

MR. RICE: I'll jump in on that. You know, while EQT is not regulated with the FERC, you know, one of our biggest costs is our cost to transport our gas across the United States, an industry segment of our industry is regulated.

And I think that you know, this probably isn't due directly to COVID, but I think that one thing that's really important to keep in mind is even though demand is

down temporarily in the short-term, the need for you know, large scale pipeline projects to connect markets and drive efficiency of our -- of the upstream and the downstream markets we consume is still very high and I think that you know, it's been, the regulatory uncertainty that many of our midstream peers have faced, are real and challenging and it's very concerning to us as an upstream operator who relies on these pipelines to provide an efficient market, to see the challenges that they're going through with their regulatory challenges that they face.

MR. CABRALES: Thank you Mr. Rice. Mr. Gibson, you have your hand up.

MR. GIBSON: Thank you. While APGA members haven't experienced any direct impacts to regulatory challenges, I just wanted to echo how important it is that pipeline projects for capacity continue to be permitted and happened. And the Commission has addressed this issue in the past, due to the challenges to try to give access to our communities by addressing the gas day and the intraday cycles.

But it's just going to be very important for communities that we get to the end consumer access to the natural gas that they need to enjoy their daily lives.

MR. CABRALES: Thank you Mr. Gibson. Mr. Chairman, I don't see any other hands up, so please

continue.

CHAIRMAN CATTERJEE: Great, thank you all for your responses. Next I'm curious about projections for global natural gas LNG demand. What mid and long-term demand trends are you projecting? And what should the Commission be considering as we look at whether U.S. LNG infrastructure is well positioned to meet expected global demands? Again, anyone please feel free to weigh in?

MR. FEYGIN: Mr. Chairman, this is Anatol Feygin with Cheniere. You've allowed me to offer some thoughts on that. Again, in the last few years the gas market and the LNG market as a subset of that have experienced tremendous growth. The gas market in 2018 globally grew by about 6 percent. Last year it grew by about 2 percent and reached an all-time high of almost 25 percent of primary energy.

While capacity is not necessarily prolonged, we do expect that to continue. We expect that long distance transportation of gas as emerging markets, primarily in Asia, are difficult to supply by pipelines, will be supplied by LNG and LNG will become a growing percentage of the overall gas pie.

So we are quite sanguine on future demand for natural gas, but we expect that the LNG market which has doubled every decade in the last two decades, will not quite double in the 2020's but will go from about 400 million tons

to about 700 million tons between 2020 and 2030. We expect that to happen in compliment with growth in renewables and as a cleaner hydro carbon fuel as well as of course, as a back stop for renewable intermittency and we're seeing that develop really globally.

So we are quite optimistic about what the future brings. That said, the U.S. LNG market, while being very flexible and given everything that Mr. Rice has said about the upstream developments quite competitive based on a tremendous amount of global competition -- East Africa, Arctic Russia, Qatar expansions today are our primary competitors and they of course have enormous hydro carbon resources and very attractive upstream costs.

So we need to do everything possible as Mr. Rice said, the upstream space needs to continue to remain healthy, innovate, bring down costs, these prices today -- obviously depressed because of all of the virus related affects, both domestically and globally. Next year are in the net $2.00 range, and that kind of level makes U.S. LNG globally competitive as long as we continue to efficiently build infrastructure to supply the facilities and can efficiently permit and construct facilities.

So today Cheniere is approximately half of the U.S. LNG capacity that is already online. We're also coincidentally about half of the LNG capacity that's under

construction and in order to do that, the relationship with the FERC as well as with all of our upstream and midstream partners needs to remain healthy and everyone needs to do their part to put us into this globally competitive position that Mr. Rice and others mentioned have been tremendous in positioning the United States overall as an energy dependent rational, flexible and secure player in the global energy space.

So we all need to do our part. We are competitive today but while it is a growing pie, it is an extremely competitive one globally. With that I'll stop.

MR. CABRALES: Thank you Mr. Feygin. Mr. Rice has his hand up.

MR. RICE: Yeah, I'd just like to throw out a couple comments specifically centered around how important LNG is to a healthy upstream industry. With about 10 bcf a day of export capacity, we'll pretty soon you know, call it 85 to 90 bcf a day, right now. 10 bcf a day for LNG is a pretty significant market for domestic U.S. producers and we're currently seeing the impact of COVID today, you know call that in three half -- the 4 bcf a day of demand right now from LNG.

So while we do see that LNG will recover with COVID, we still think that there is a tremendous amount of potential to open up the LNG market and while we've got a

lot of great facilities built on the Gulf Coast area, you know, we talked about access to the European market, you know, opening up more locations that are more geographically advantaged to service that market, we're going to be opening up LNG facilities on the east coast to be able to deliver that gas.

I think the cost savings, the logistics are about 50 cents per mcf, cost advantage just from having been close -- launching LNG from, you know, the Northeast compared to the gulf. The challenge is the Northeast is the most difficult place for us to -- for midstream providers to produce, to lay pipelines in.

So, I think that's an incredible opportunity and it's something that the FERC should focus on opening up for the health of the business.

MR. CABRALES: Thank you Mr. Rice. Dr. Brooks, you have your hand up.

DR. BROOKS: Thank you Ramses. The question is an incredibly complicated one to answer because there are so many uncertainties throughout the world. You know in response to the other speakers I would say that we have a very different situation globally as far as Asia is concerned compared to Europe.

Europe is on track to reduce the amount of natural gas that it utilizes and so I think in the long-run,

though it is an LNG market and certainly there are places in particular in the eastern part of Europe who would like to receive more LNG supplies and have greater supplies rather than simply rely on rationed gas at the gas pump.

Still the overall trend in Europe is not favorable for natural gas and I don't think it ever is going to be. They are going full ahead -- anybody who has visited and talked with clients there or just in the news and so forth, in spite of the cost, in spite of the fact that the technology is not really there in a cost protected way, they are moving ahead with hydrogen.

They're obviously moving ahead with non-natural natural gas you might say, other forms of natural gas whether it be bio-gas or other ways produced, than by dealing in the natural gas process under the ground. So I think the future of LNG markets for American and Canadian LNG producers is actually in Asia.

Now the good news is of course, that there's a tremendous potential for a conversation of power generation facilities in Asia that are currently burning coal to improve their local environments as well as to address in a bigger way the climate change challenge by converting those coal plants to gas pants or by building more gas plants and retiring older coal plants that are in existence.

We've seen this a lot in China of course, and I

think that will continue in China but we're also seeing that in some other places, although it has flipped costs in terms of some governmental policies. It appears that Korea, South Korea, is moving on a track that would involve more natural gas and less coal.

We are also starting to see price in Southeast Asia do the same, even in places like Vietnam which are largely -- their power generation is largely supplied by local coal resources. We're starting to see some uptick in LNG demand in building of LNG import terminals.

The Philippines, Thailand, by and large just recently opened up to LNG. And of course, we also have India which in the next 20 years is likely to be the most populous country on the plant. Their LNG growth is also something that is extremely important, and I would say a really good opportunity globally.

So the U.S. however, has Anatol has said is facing intense competition from other sources and as we all know, Novatek has done a tremendous job at the Yamal facility and the opening of many months of the year to direct transport over the northern sea route to Asia is something that can't be ignored. And their success has been very really astounding actually. And we have Qatar with a major expansion program.

East Africa is also potentially something that is

very big, although the news recently is actually not very good, I would say, because insurgents who don't want to see those LNG facilities to be built, who basically want to take over the country of Mozambique. So we have those kinds of issues throughout the world.

So what I'm saying is ultimately it is very complex. I'm sure all the participants, you know, who work in this field including perhaps mainly on this call Cheniere, understand. But I think in general it is an optimistic picture and you know, I'm certainly personally optimistic that there is going to be substantially increasing demand in Asia that the United States and Canada will be able to participate in that growth. Thank you.

CHAIRMAN CHATTERJEE: So Dr. Brooks, thank you for that. To build on that and bring it home here domestically. In light of what you've just laid out, do your models point to a significant increase or decrease in the need for new interstate pipeline infrastructure in any particular geographic area of the country in the short and mid-terms?

DR. BROOKS: Well I think you know it's pretty clear. I guess I'm going to have to disagree a bit with our colleague Toby Rice here, regarding the Northeast. I don't think that that is a fertile ground for LNG exports. But you know, certainly the Gulf Coast, there is additional

pipeline capacity across Texas which I don't think FERC has actually -- well, and you may or may not be involved with to be honest with you, I'm not really quite sure.

But additional pipelines from the Permian basin to the Texas Gulf Coast are apparently in the works, although they may be slowed down because of the pandemic and other issues. And I think that that's going to be important. There are other pipelines that need to bring -- Oklahoma Gas, Permian Gas, Haynes gas into the Louisiana Gulf Coast and those facilities. So you certainly need that.

And of course, recently the FERC has approved Jordan Cove and we know that there would need to be a pipeline that would supply gas -- feed gas for LNG across Oregon from either Rockies Gas or even Canadian Gas to that facility. So, you know, certainly those would be the main things I would be concerned with.

I think as far as the Northeast, we're concerned. We know that there have been long-standing issues with getting pipelines built in that area. And I don't believe it's really for exports, strangely enough, of course we still need LNG imports into New England because it's been so difficult to build pipelines from the Marcellus up into you know, through New York State and into New England.

So I'm not sure if that fully answers your

question, Commissioner, but I'd be happy to further answer it if it would be helpful.

CHAIRMAN CHATTERJEE: No, no, thank you for that. You've given us a lot to build on in the discussion. I want to pivot now to Mr. Bryson.

MR. CABRALES: Mr. Chairman, Mr. Rice has his hand up.

CHAIRMAN CHATTERJEE: Okay.

MR. CABRALES: Mr. Rice?

MR. RICE: Yeah. You know to answer the question on where do we need to have more interstate pipelines, I'd just like to simply make one point. To have that be sort of a data driven decision, I think you can look at just the local basis in different regions and the larger the disconnect between the pricing that we are seeing in that region, is going to be the symbol where more interstate pipelines are needed.

I think another thing to look at when thinking about this issue is also what does the disconnect look like during times of distress? I think from emergency preparations, like COVID, but maybe more from extreme weather, I think that's very telling and we'll see where the stresses are on the system and where we need to have more pipelines.

When you look at the Bomb Cyclone weather event

that we experienced in 2018, you saw gas prices -- you see extreme examples of this disconnect, where gas prices were you know, skyrocketed over $150.00 in ncf in New York area, in the areas in Pennsylvania where they had access through connective markets with adequate pipelines, gas prices only rose to up above $5.00. So I just want to throw that, that's sort of some of the things that we would look at over in answering those types of questions.

CHAIRMAN CHATTERJEE: Thank you for that Mr. Rice. And you guys really have the most interesting background of any of our three panels so far, so we appreciate your participation. Mr. Bryson, in your view, is U.S. LNG infrastructure well positioned to meet the expected global demand that's being discussed?

And has the COVID-19 Pandemic affected your company's schedules to renew infrastructure project applications with FERC?

MR. BRYSON: Well thanks for that. I think it would probably follow-on to some of the discussion that we covered off previously. You know, if we look at our suite of projects today, the ones that are typically -- have been in construction, continue to be in construction. It's been quite amazing how our men and women have been able to safety continue on with those projects and actually commission a couple of them when we were in the pandemic itself.

In terms of LNG infrastructure, we have been very focused on that. I would agree that I think that Asia is likely the premiere market in our opinion, but we have been working very hard to try and bring our infrastructure to the table and allow exporters, like Cheniere and others, to be cost competitive.

In some of those cases that's actually been taking existing infrastructure that even used to bring off-shore production in the Gulf onshore, and repurposing those facilities, reversing them, repurposing them and allowing us to take production from the Permian or the Marcellus to those LNG facilities.

So you know, I would say that the projects that are underway are continuing the discussions with the customers in terms of our negotiations and progress on those that haven't reached their final investment decisions are being pushed out and that's no surprise. But we as the company, remain very optimistic and bullish in the long-term in terms of the potential to bring that LNG to the world market competitively.

CHAIRMAN CHATTERJEE: Thank you. Do any others want to weigh in on this question?

MR. CABRALES: Dr. Brooks has his hand up. Dr. Brooks?

DR. BROOKS: Thank you. I just want to wait and

make a brief comment. Again Mr. Rice pointed out something that is very true that from an economic perspective, it makes a lot of sense to look at instances where the price differential between a supply area and demand areas is wide, is economically justified building a transportation system that can move gas from one place to another.

I mean I think that's very logical, it's something that we all learned in our basic economic classes from college and it makes sense in the real world. You know the problem has been its not just because of COVID-19, but there are also, as we all know, that there are political and environmental courses that are aimed at stopping those projects at all costs.

And even when you win in court as we just saw this last week, it is not necessarily true that a company will decide to continue its project because when they look in the future they see that the opposition to build these new pipelines -- in other words, the opposition actually to gas use in itself, is so great that they just don't want to continue the battle.

And unfortunately, what you're facing in the Northeast is something that the panel that was part several years ago in 2014 and '15, and it did not go well for the mid-stream industry. So changes its something that is an additional factor that we all have to consider, not just

COVID-19, but these other oppositions to buildout of what seems to be an economically sound decision, or something that the industry needs to figure out solutions for. And so far I don't think that they have very well.

CHAIRMAN CHATTERJEE: Thank you. Pivoting a little bit, Mr. O'Mahoney, just curious as to what challenges your company is experiencing potentially with regard to contracted pipeline capacity and available capacity in this crisis.

MR. O'MAHONEY: Yeah, absolutely and I appreciate the question Chairman. I think that you know, some of the comments I made in my, you know, opening statement are very true that you've seen a dramatic drop in the demand for jet fuel, because simply the passengers are just not there. You know there's a lot of uncertainty around when the passengers are going to return.

You know, with this recent uptick, it squashed a lot of the positive momentum that we were starting to feel as an industry. So with all of that uncertainty around when we're going to need the jet fuel, you know, our concern is that we're not going to have the pipeline space available to ship the jet fuel that we are requiring once we start to rebound.

So a lot of the major pipelines, refined products pipelines in the U.S. have become allocated again. There

was a brief period of time where they were not full, but now they are full again. And so if they're not -- if jet fuel is dramatically lower than it previously was, that means gasoline and diesel are taking up that space.

So how do we get assets to that space when we need it when we start to grow again? I think that's our biggest challenge. We've tried to work with some of the pipeline companies and they are very, you know, specific with their calculations and there's not a lot of flexibility in how they calculate shipping history. It's based you know, mostly on a 12-month trailing period of time to calculate future periods.

And so, you know, therein lies the challenge. If we're dramatically reduced for a period of time, and we're starting to rebound, how do we get access again to the space that we need. The traditional means are that you would ship a different product. Well obviously, as airlines, we don't consume any other products besides jet fuel in any major quantities, nor do we buy or sell gasoline or diesel.

So that traditional option is not really available to us. Some of the pipelines have secondary markets where you can purchase line space, but there's not always a lot of transparency, you know, around the purchase of line space and sometimes it's quite costly. You know, obviously given our financial situation, we're not in a

position to be spending a lot of money on purchasing line space.

And then the third traditional option is new shipper. There's some small allocations that the pipelines make for new shippers, but obviously we're not new shippers. We've been shipping for decades, and created a fair amount of shipping history. So that really is our major concern and what we wanted to work with the FERC on a potential solution around is how do we have some flexibility in how shipping history is calculated so that we're not handcuffed when we start to add back flights and therefore add back jet fuel, and therefore needs to be shippers, you know, again and in larger quantities than we have the last couple months.

CHAIRMAN CHATTERJEE: So to follow-up on that, do you believe the Commission's current regulations incorporate sufficient flexibility for regulated entities to adapt to these unanticipated changes?

MR O'MAHONEY: I would say that as their written now, it doesn't provide the amount of flexibility that is required for this unprecedented situation. And I think a lot of the regulations you know, make sense 99 percent of the time.

You know, when you know, things are status quo and there may be small shifts that occur

between the different products, but given the dramatic and unprecedented drop in jet fuel versus the other products, the regulations that are in place specifically for how shipping history and access to line space is calculated, don't really in my mind, provide sufficient amount of flexibility to you know, help us as an airline industry, meet the challenges for bringing back price and bringing back jet fuel shipments on the pipelines.

CHAIRMAN CHATTERJEE: Thank you. I want to pivot next to some questions regarding price and I want to bring in Mr. Gibson and Mr. Lewandowski. To what extent are your companies hedged against a potential rise in natural gas prices between now and the end of 2021? And what would be the impact of a potential significant increase on natural gas prices in your sector given the ongoing financial challenges to your customers?

MR. GIBSON: This is Gary Gibson. I can go first on that one. It's more definitely a winter peaking utility here in Springfield and to make sure we have the supply needed for our customers we have about a third of our natural gas for the winter period in storage, so that's one way we take advantage of.

And then we do have financial hedges for an additional third of that winter gas as well, so we have a third of our gas for 2020 and 2021 hedged, and we have a

programmatic process for doing that. And that's very important for our consumers to make sure that the prices continue to stay affordable.

Hopefully all the products we're talking about here finally impact the end consumer and those customers have been severely impacted, not just through their energy prices, but by other means from either layoffs or job losses, or just the general downturn of the economy. So it's very critical that we pay attention to those customers to understand that many of those customers are already behind on their bills, so any kind of coming out of this where we reinstitute shutoffs is going to be very important for those customers.

Access to gas is going to be critical, so anything you can do to streamline projects for that flexibility is going to be very important. As we go into these projects, -- I just lost my train of thought there. When generally your question was regarding are hedged and then what is the impact going to be.

It's just going to be very important that we are hedged, but where I was going with that was that there's also little appetite, because our boards and our city council's are comprised of local community members, and there's going to be a very low appetite for us to pass those costs on through rate increases going forward.

So from a near stalled utility standpoint, our costs and our ability to ability to pass those costs onto consumers are going to be limited over the next couple of years I anticipate, so we need to keep that in mind as we move forward too.

CHAIRMAN CHATTERJEE: Mr. Lewandowski?

MR. LEWANDOWSKI: Yes. Okay. I would say that for us the success of the shale revolution over the past several years has made much less sense than they used to be for say the last decade. It looks like if you look at the forward curve, that gas prices in North America will remain flat, you know, under $3.00 certainly for the next maybe 5 to 8 years.

But more importantly, we look to the global markets now that gas has become more of a global commodity with the advent of LNG exports. So you know, when we look ahead to gas, we also have to look at the price of fertilizer globally and that makes it much more difficult for us to say, you know, X is a good price and we should hedge here because we don't know what the other side of the hedge is, which is the fertilizer. That's the spread that we manage.

So I would say that we're always looking for opportunities to add hedges at competitive prices, but it's much more difficult than it used to be. So that's in a

nutshell, that's how we look at hedging.

CHAIRMAN CHATTERJEE: Thank you both for that. I want to pivot a little bit. How did the impact of the 2008-2009 financial crisis compare in severity to the current situation and what lessons learned from the experience with changes in natural gas and oil demand that resulted from that 2008-2009 financial crisis could apply now, and I open that to any of the panelists?

MR. CABRALES: Mr. O'Mahoney has his hand up. Please go ahead Mr. O'Mahoney.

MR. O'MAHONEY: You know I think it's been said publicly that you know the crisis that the airlines face right now is similar to September 11th and the financial crisis of 2008 and 2009 to the line.

The rapid nature of the decline has just been enormous, so it's been very difficult for us to respond. I think Delta Airlines and some of the other airlines have done a wonderful job taking out capacity, and trying to reduce cost. But when your revenue is down 90 percent, like the airlines is in the second quarter, it's very hard to react quickly.

So you know, bringing it back to again, the conversations about pipeline access and being able to project what we're going to use in the future, that's the real challenge. You know, we're not sure when customers are

going to become comfortable, despite all the measures that we're taking as an industry. It's going to be difficult and I don't think anybody has the crystal ball to know when people are going to be back on airplanes, you know, like they were before the pandemic. So that really is you know, our biggest challenge from a fuel supply perspective is trying to lay out plans for the next year or two years, not knowing how many flights we're going to be able to operate, how much jet fuel we're going to need.

And so any sort of commercial-type situations that we could take now to try to secure any sort of jet fuel supply via jet fuel pipelines in the future is just very difficult because of all the uncertainty of when that passenger demand is going to return and at what levels.

MR CABRALES: Thank you Mr. O'Mahoney. Mr. Gibson, please proceed.

MR. GIBSON: I think the difference between the COVID situation and 2008 and 2009 is just the speed of it. You mentioned 9-11, that's how this appeared. In 2008-2009 we could kind of see that coming a little bit and we had time to react to it and more time to recover.

Where we're at now with the situation to stay at home orders and then have a public reaction was we saw some pretty immediate changes in our industry and what our consumers were doing. And as we going forward we still have

the issues not knowing if we're going to have a rebound, or things are going to shutdown still, or if we are going to be able to come out of this with problematic threats.

In Springfield, we were seeing really good numbers and worked across the rail with a recovery plan, the consumers are going back to work, we've seen the numbers really increase over the Fourth of July weekend and we're going the other direction. If we continue to go in that direction, I think we'll see some more return demand destruction that may last for several years here in Springfield.

And I think that's going to be the same for many of the APTA members and so that's kind of the difference between the two. We did I think, there were more concerns previously, but I think we're learning a lot of new lessons right now.

MR. FEYGIN: And this is Anatol Feygin with Cheniere, just to add a little bit of the global perspective to that. There was no meaningful transmission mechanism from the less supply/demand and pricing markets and signals to the global markets.

We at Cheniere were the early move to build re-gas capacity in this last cycle of 2007-2008, our facility in Sabine Pass came online right as the height of the financial crisis was hitting us, and of course was

followed by a number of additional facilities for LNG imports.

So we had a price signal and a transmission mechanism to import hydro carbons, of course, in crude unrefined product, but as well as in natural gas from that point in meaningful size -- I believe about 20 bcf a day of capacity -- important capacity ultimately was built. It was not until early 2016 that exports in a meaningful volume started to play out.

Today as we've mentioned, we have 10 pcf a day of export capacity -- that is approximately 20 percent of the global LNG market and as Mr. Rice and others have mentioned again, that global pricing environment and the global effects of COVID are now playing out in a very substantial reduction of domestic demand.

You can see in the publicly available flow data to all of the facilities that relative to the capacity of this online now, again it's only about 30 percent utilized as we speak and that is approaching 10 percent of the total domestic gas demand. So we have become quite global and have become a major player in the global gas market and that is very different than, of course, the 9-11 tragedy and the financial crisis affect.

So we have for better and for worse, we have covered ourselves to the global hydro carbon marketplace and

we need to be quite cognizant of that as events off our shores will have a meaningful result -- meaningful effect on our pricing and our supply demands.

MR. CABRALES: Thank you Mr. Feygin and thank you Mr. Gibson for those answers. We have Dr. Brooks has his hand up. Please go ahead Dr. Brooks.

DR. BROOKS: Thank you. So again just to kind of tag along with what Mr. Feygin said. You know there's really a substantial difference -- for us the major substantial difference between the financial crisis of 2008 and '09 and what was happening now as far as energy is concerned is that in 2008 and '09, most people still didn't really understand the implications of the shale gas revolution. It was just starting.

There were and as Anatol just said, basically the Cheniere facility was just really getting started for imports at that time. Fortunately, for his company and actually for all of us here, they started looking at what was happening, and they decided hey, actually maybe we should be going the opposition direction.

So I think they were some of the early -- the folks that spotted the trends as far as shale gas and its potential implications for the long run earlier than many other companies had done. Perhaps I would say that that's the major difference here and even as we point out that

we're much more connected to the global markets now and will continue to be going forward.

I think this is now unstoppable. The actual evolution of a global gas market, something that's never happened before.

MR. CABRALES: Thank you Dr. Brooks. Mr. Rice you have your hand up, please proceed.

MR. RICE: Yes. I'd like to -- I think there's certainly a lot of opportunities and parallels between this crisis and the crisis in 2008. But I'd like to sort of highlight one thing is different. In 2008 coming out of that, you know, when the economy recovered in our industry access to capital was still there and that access to capital is what fueled and transformed the U.S. oil and gas industry to be the world leader in oil production and natural gas production.

Today, because of lack of returns and also growing ESG concerns that we have. You know, I am very cautious about and I think a lot of people have concerns, is that access to capital going to return to the industry? And that's something that causes us concerns.

But you know, what we need to do to make sure that we still have access to capital to fund the great projects that are going to, you know, keep our economy strong, energy cheap, continue to improve the environment

and to enhance our influence and enhance the national security of our country, is we've got to continue to be more efficient and allow the market to be efficient and then satisfy the ESG concerns that are out there.

We have -- and the story we should be able to tell in the United States is really you know, with lowering our CO2 emissions is solely from you know, retiring coal. We've got such a great case study here in the United States and then now with LNG we have a vehicle to repeat this story, but do it on a global scale. And I'm hopeful that, you know, launching more LNG and the amount of coal that's still being burned around this world is quite remarkable.

And markets that we want to serve in LNG are places like China, Asia, now they're still putting a lot of -- burning a lot of coal, so I'm hoping that that story is going to help. We're obviously going to be able to show that you know, natural clean burning natural gas, LNG, are the keys to a cleaner environment in meeting you know, ESG concerns that investors have to bring capital back to our industry.

MR. CABRALES: Thank you very much Mr. Rice. Mr. Bryson, you have your hand up.

MR. BRYSON: Yes, thank you. Maybe just a quick comment, follow-up a few of those comments, Mr. Rice's in particular. I think from an infrastructure point of view

it's no secret projects and large-scale infrastructure take years to build and it's getting more challenging all the time.

And when we develop these pieces of infrastructure, they generally need to be underpinned by producers like EQT on the upstream side, and downstream markets, or industrial users, LNG exports on the downstream side.

So you know, I think that what we hope won't happen is that we'll have unhealthy counterparties on each end of those pieces of the system install infrastructure build, because the long-term forecast would support the fact that we need infrastructure -- need quality infrastructure, and it takes a long time to build and execute, and would hopefully not set us up for a boon bust cycle here in the next decade, thank you.

MR. CABRALES: Thank you very much Mr. Bryan. Mr. Chairman, I don't see any other hands up.

CHAIRMAN CHATTERJEE: Excellent. Thank you to all the panelists, as well as my colleagues, your patience and with all my questions. I have one final question open to all the panelists, and then I'll turn it over to Commissioner Glick.

What is the magnitude of potential natural gas and oil production shut-in's, both to associated gas and

stand-alone natural gas production? And how would this affect supply and regional flows and pipeline utilization? And if folks can please discuss the short, mid and long-term, I would greatly appreciate it to any of the panelists.

MR. CABRALES: Mr. Rice, can you hear me?

MR. RICE: Yes, I can hear you.

MR. CABRALES: Please proceed.

MR. RICE: I didn't see any other hands up, so I jumped in. So I think short-term production curtailments largely on the oil side, I think we've seen a lot of that return to market, the associated gas supply along with it. You know I think the shut-ins that we're seeing from March 13th forward, the start of the OPEC price war.

It's going to be very sloppy for the next through 2020, but I think that when you think about what's going to happen in the future, really what's going to drive the success of this industry is what prices do we need to see continued reinvestment and drilling new wells and seating these pipelines. From a natural gas perspective, I think that you know, there will be gas prices sub $2.50, I think which shut-off.

I mean we're at -- we've dropped from 900 rigs to under 300 rigs today. Frack crews have dropped by 80 percent. I don't think you're going to see return of

activity until gas prices get north of $2.50 and most likely I think the real number is probably closer to $2.75. I think that the other thing we look at is you know, when we see the price of oil and I think that that's really going to be the impact of associated gas.

And I think the world we're in right now, as long as oil prices is under $50.00, we think the impact of associated gas is going to have on adding supply to the market muted, and it's going to require a bigger call for natural gas stations to step up and produce the energy this country needs. And that means, you know, more of a focus on the infrastructure around the gas producing areas like the Marcellus where EQT is at, which produces around 31 bcf a day, a third of the United States production.

And Haynesville, which is to a low extent -- which produces around 10 to 12 bcf a day.

MR. CABRALES: Thank you Mr. Rice. Dr. Brooks, you have your hand up?

MR. BROOKS: Thank you. Yeah, I'd like to second the comments that Toby just made. I think that that's absolutely correct. And as I noted in my remarks, if you do have this continuing downward pressure or a resumed downward pressure on the oil price, the associated natural gas is going to be the one -- part of the supply market that's going to be affected most, obviously.

But that opens up opportunities for gas that's not associated, so again the Marcellus, the Haynesville and other places become at that point then obvious potential sources for new supplies. But as he said also, you have to have sufficient gas prices in order to justify those additional things and additional wells being drilled.

So the fortunate thing is there's plenty of supply in the ground throughout the United States and Canada, so it's not a matter of scarcity of potential supply. It really is the pricing, most of it and to justify it.

And so I suspect that what will happen is you know, the usual kind of thing. There will be some degree of situation where because of the low quantity of drilling, you are going to get somewhat tighter supplies which will cause prices to increase enough to result in some additional drilling.

And it's just going to be about the game you might say or the -- between oil and gas depending on the relative prices there that is going to determine whether the additional supplies are going to be coming more from places like the Northeast, the Appalachian Basin, rather than other places like the Permian Basin and so forth.

MR. CABRALES: Thank you Dr. Brooks. Mr. Chairman, we don't have any other hands raised for this

question.

CHAIRMAN CHATTERJEE: Excellent. Thank you to all the panelists, and with that I'll turn it over to Commissioner Glick.

COMMISSIONER GLICK: Thank you Mr. Chairman and thank you very much to the panelists. I wanted to start with a question for Dr. Brooks. And there was a reference a couple of minutes ago to this, but if I recall, just about the time of the beginning of this pandemic, at least here in the United States, there was also ongoing at the same time kind of an oil production war between Saudi Arabia and Russia.

And I was wondering if it's possible to ferret out how much of that particular skirmish impacted U.S. oil production versus the obviously reduced demand in the U.S. as a result of the pandemic.

DR. BROOKS: Thank you for your question. It did produce an effect and of course the effect was to slow down, I think part of the development of places like the Permian Basin, which had been growing like gangbusters for the last several years.

So you know, that is the kind of effect. I think it also created uncertainties about what was going to happen next. So we had this price war, it didn't really last all that long before some degree of compromise was met. But you

still have that situation where you know, there is uncertainty in the market that is going to reduce appetite for investment in further -- in financing further projects.

So I think that's the main thing. I hope that answers your question at least in part.

COMMISSIONER GLICK: It does, thank you very much for that. I wanted to kind of move on now to LNG and start with Mr. Feygin. As I'm sure you're well aware, the Commission has approved a large number of certificates or pursuant to Section 3 in the National Gas Act, approved a number of LNG projects, an amount of new projects over the last couple of years.

And I can't remember exactly how much capacity we're talking about, but a very significant amount. But before the pandemic hit, we were already seeing a lot of these products were having difficulty with getting contracts -- off day contracts. And there was some discussion earlier that maybe more the markets in Japan and Europe and that seems to make a lot of sense, not Japan, but all of Asia versus Europe.

I'm curious whether the effect, that putting aside the pandemic issues, and given the competitiveness of the international LNG business and obviously other countries are also involved in competing with the United States facilities.

What do you attribute the reason was for a lot of these projects having problems getting off their contracts?

MR. FEYGIN: Thank you Commissioner Glick, a wonderful question. You know, we were fortunate since mentioned previously and partially out of wisdom and partially out of necessity to see the turn in domestic hydro carbon production relatively early on, at the end of the last decade and Cheniere was very well positioned and was well underway in its efforts in front of the FERC to get the export project approved in that 2009-2010 we ultimately broke ground at Sabine Pass in August of 2012, fortunately a couple of years ahead of our competition.

And I think it's fair to say that a number of things aligned to put the U.S. LNG market on the map. And one of them, unfortunately, was the Fukushima tragedy and that resulted in global gas prices spiking into the almost $20.00 range at the time and the world took a chance on this thing that it never saw before called NYMEX Sidley Hub, whatever you know, we spent years educating the world on what it is, how liquid it is, how transparent it is, how the pipes that we have been discussing incent a very distributed network of producers and infrastructure, suppliers and getting the world comfortable with this NYMEX based contracting structure.

Heretofore, the LNG market was largely one where

the stranded resource on an integrated basis was combined with a liquefaction facility and until really about 15 years ago, the market which at that point was already "a half a century old", existed as a point to point market.

The U.S. model, Cheniere's model, really broke that mold and said, hey, you know, if you want to buy the commodity, buy the commodity, we'll provide the liquefaction services and we'll either supply it to you at your facilities or you can pick it up at our facility. And then of course, others follows as I mentioned earlier, were about half of the U.S. capacity today.

There have been -- this is a deep cyclical business. It ebbs and flows and right now we are clearly in a period which I would characterize at least as a buyer's market and with the current low price environment, there is no gun to anyone's head to sign up for long-term contracts which have to be at economics that support additional infrastructure.

As the world thought about the LNG market, from the middle of last decade, it's very easy to see all of the facilities that are coming on in the U.S. and Australia and Arctic Russia as the Yamal Project that Dr. Brooks mentioned as well, and say, "Hey, look at all of this supply. Maybe a long-term contract will be needed because the world will have plenty of LNG."

That said, the world absorbed this additional gas and LNG much faster than was previously anticipated because demand is much harder to handicap in these very large multi-billion dollar supply projects. And we found ourselves in a relatively tight market, even in 2017 and '18 it started to loosen up in 2019, that these record volumes of LNG came to market.

For Cheniere and for U.S. LNG frankly, 2018 was a tremendous year. We did not break our record in terms of volume of long-term contracts, but we broke our record in terms of tenure of long-term contracts. So 2018 was our second best year for long-term contracts in terms of volume and on average they had a tenure of more than 20 years. And frankly, you need these long-term deals in order to support the financings for these very large projects.

As the world became very long and of course the additional shock of COVID piled on to that. I mentioned earlier the size of the current LNG market of about 400 million tons today. Since the second half of 2018, this market was absorbing 10 million tons per quarter of additional supply, so absolutely unprecedented supply pushing to the market, even the growth we've seen in Asia and in Europe wasn't sufficient to absorb this.

And then of course, the virus came on top of that, combined with weather -- really mild winters over the

last two winter seasons all over the world. So we find ourselves in an environment which is very loose currently. There is not a lot of supply that is coming on, either out of the U.S. or out of the rest of the world for the next few years.

We fully believe that a long-term contracting will return to the market. It will continue to become a more liquid market and we think that that contracting that the ability of projects to demonstrate their flexibility and their commercial attractiveness, is ultimately what's going to determine which projects get built.

So we don't think this is the end of long-term contracting for LNG projects, but the markets will weed out rather effectively, perhaps some other datum to contribute to this. When we were contracting Corpus Christi, our contracts were the first to trade were in the mid $3.00 range for the liquefaction services. That was significantly higher than the low to mid $2.00 range when we started contracting Sabine Pass.

And the other projects in the U.S. were roughly in that range -- mid to high $3.00 as far as we understand. So today that market given the global competitive nature and given the fact that now the U.S. is an established supplier and a fairly transparent one, the market for liquefaction is back to that low to $2.00 mid dollar range in order to be

competitive with these East African, Qatar, and Arctic Russian Projects.

And it's no longer the new shiny penny that it was in 2011-2012. Fortunately, we don't have to explain how great NYMEX, how transparent, how liquid, how reliable that is, but unfortunately we're faced with a much more transparent and a much more competitive landscape, and that will continue to weed out projects -- even projects that successfully interact with the FERC and the DOE in order to get their fully permitted status.

In fact today there have been a number of fully permitted projects that have hit the proverbial wall and have had to restructure, and we think that that phase of the market develop is always starting.

MR. CABRALES: Commission, Dr. Brooks has his hand up. Okay.

DR. BROOKS: All right, thank you. Well, Mr. Feygin gave me about 95 percent of what I was going to say, so you know, clearly, that was a very good answer on his part, at least in my estimation. One thing that was not mentioned, however, which I think is really important is that many of these projects, I believe we're expecting that they were going to be financially underpinned by investments or contracts from China.

And the trade war with China, certainly if the

magnitude and the duration of that trade war has surprised me and I think it might have surprised others as well. And I think at this particular point in time, I don't think we can underestimate its importance going forward because it's not clear that that trade war is going to end anytime in the near future.

So there were a number of projects that as was mentioned, have gone through all of the groups as far as getting approvals and they're ready to go, but they haven't been able to get the investors, the investment that they need, the certainty of going forward financially through contracts with -- honestly LNG Hungry, Chinese countries -- companies, either on the investment side, you know, the equity side, or on the contract side. We have no more countries Commissioner.

COMMISSIONER GLICK: Okay. Well thank you. I just wanted to follow-up a little bit on the LNG issue. Dr. Brooks, and others if you can comment maybe. As Dr. Brooks mentioned earlier in his written statement, but I think there's been discussion earlier this morning as well about well what happens if -- well, first what happens if they go down? Oil prices go down, domestic production takes a bit hit and further down the road $40.00 it sounds like, U.S. production would take a big hit and then that would mean that associated natural gas production would be down and

that would increase natural gas prices.

If natural gas prices go above $3.00, $3.50, whatever some people are predicting, what does that mean for the competitiveness of the U.S. LNG?

DR. BROOKS: Thank you. So you're right. I mean this is a very interrelated marketplace now, so these affects are, you know, they have their consequences. So you know, everyone who's involved in the upstream of course, would like higher prices. But those higher prices make the LNG less competitive.

And remember that these LNG contracts, one of the important things about them is that they genuinely do have take or pay aspects to them. So the pricing may -- the availability that our pros may be higher than local prices actually justify. But in the end if the prices do get too high, then that part of the contract that is not take or pay, plus any spot capacity availability is going to be at a disadvantage compared to Qatar, compared to Malaysia, compared to other -- Australia obviously, to other places that are closer to markets in Asia.

So that is definitely effective. Doing -- computing the quantitative values for those things to get decent forecast is something that we do try to do with our global gas and LNG market bottling systems. But it is still a difficult challenge, kind of a combination of science and

art, to make those forecasts.

MR. FEYGIN: Commissioner Glick, if I may add just a few words. Again, given everything that Dr. Brooks said very globally competitive market. I don't think at this point the world thinks about the U.S. market, the commodity that is the component of the LNG equation in the U.S. products as a sub-$3.00 commodity, but if we saw levels of this -- and the world started to believe that levels above $3.00 are what's required in order to bring on additional supply of non-associated gas that is sufficient to support additional infrastructure, we would have a very tough time competing with our -- in the global context.

We all know that Qatar is from an upstream standpoint, the Mozambique resources from an upstream standpoint are extremely attractive. We are told that the Arctic Russian resources are extremely attractive, but no one knows that other than Novatech and Gas -- , but they are seriously competitive.

My summary statement is that in order to be globally competitive, to Dr. Brook's point that China is the rapidly growing market for gas and especially for LNG, we need to be in an environment where we can deliver our product or our product can be delivered into Asia in the 7 to 7 1/2 dollar range. And as you work backwards from that liquefaction fee that AI mentioned in the relative mix $2.00

range, about $2.00 for the transportation for the shipping component, you're left with something in the $2.50 to $3.00 range for the commodity in order for that long run cost structure to be competitive.

And again, we do not expect north of $3.00 to be sustainable, given everything that Mr. Rice and his company who are great partners of ours have done in order to keep the supply cost competitive, but if we do see additional impediments on the infrastructure side, additional meaningful costs imposed on the upstream sector of the U.S. LNG equation will meaningful deteriorate in terms of its competitive positioning.

MR. CABRALES: Commissioner, Mr. Rice has his hand up. Okay.

MR. RICE: Yeah, just a couple comments on what price you know, upstream is looking for to add supply. Right now you know that price is probably north of $3.00 for companies to bring back rates in a significant way. I think there's a couple markers that support that.

One -- the reduction of rate declines you know, really started when it was below $2.75 and I think now -- (Internet distortion). I think you're going to see the operators be very patient and disciplined when making capital allocation decisions to add more rigs. So I think that that number is probably about $2.75 to $3.00 is I think

the pricing we need to see before we can put back to work just to sort of arrest the supply decline that is sort of on the horizon, just as a result of a lower activity account today.

The other price target that I'd like people to think about is you know, I think part of the things that drives us is you know, the timing of coal and replacing that with natural gas. You know, I think that as long as we can deliver natural gas for under $3.50 you know, it's going to be more economic to burn natural gas. So I mean that is sort of what we look at as a ceiling on but we're already seeing negative aspects of our environmental woes.

MR. GABRALES: Commissioner, there's no other hands up.

COMMISSIONER GLICK: Okay. Thank you. Thanks for that Mr. Rice, that was helpful. I just want to turn, finish up with LNG for a second and turn to Mr. Lewandowski. Obviously, your company and the other members of the Processed Gas Association, the Gas Consumer Association, are consumers of natural gas and certainly with the price of that gas is very critical to business profitability.

I'm curious if you have any concerns about domestic or I should say exports of domestic natural gas through LNG, whether if it continues to grow that would put upward price pressure on your businesses.

MR. LEWANDOWSKI: Yes. Certainly that's something we think about. We are proponents of free markets and competitive markets so by no means do we feel that there should be a ban on exports, but at the same time it's something that concerns as us too much natural gas leaving our shores and going elsewhere certainly would raise the price, which would make us less competitive in the world markets.

COMMISSIONER GLICK: Okay. thank you. Moving on to a different subject. I assume there are no other people raising their hand right now Omar.

MR. CABRALES: Actually, Dr. Brooks has put his hand up.

COMMISSIONER GLICK: Okay. Perfect timing.

DR. BROOKS: Thank you. I think since however, since you have asked several times and even in the document to try to differentiate short, medium and long-term trends. I think that there is one thing that we haven't really discussed today. I think it is important to all of these questions that we've been addressing here, including LNG and including the availability of natural gas for production of fertilizers and other industrial uses.

And that is that the incursion of renewables into the market over the past several years has obviously been a very successful venture that has bee promoted by

environmental interests as well as business interest. And I think we can expect that that is going to continue.

So when we look at from a long-term point of view, I don't think we can discount the possibility that the amount of demand for natural gas in some of the sectors that would be considered to be sort of safe, kind of sectors like residential for example, very well might change.

And you know, we found -- I lived in California for 40-some odd years and in that time population increased by God only knows how much, you know, 25 percent, something like that. And yet gas demand in California remained constant during that time basically. So it did not grow anywhere near as fast as the population.

And I think, you know, that's a tribute of course, to better efficiencies as Toby Rice has been talking about but in a different sector, in the construction sector, better appliances and other alternatives. So I think we have to be honest with ourselves as an industry here that technological advances that are right now either on the drawing boards, or in development are going to affect this industry in the long-term and it's going to change.

I believe it's going to change the relationship among the various sectors in the ways that people may or may not be taking into account in terms of longer term planning. So if you think about this, if you have more efficient use

of energy resources in the residential and commercial sectors, if you're using more advanced types of solar energy collective systems in buildings and various other kinds of things like that, then you reduce the amount of natural gas that is actually demanded for a given volume of people or a volume of TDP in these various sectors.

But actually, you are potentially increasing the amount of supply that you would have available for your industrial sector and also for your export sector at reasonable prices. It's a shift that could occur that could be of benefit to both of those sectors. And again, the United States competitive in the longer term as far as LNG is concerned and as far as collection of fertilizer that is of course, being used globally, not just in the United States.

MR. CABRALES: Commissioner, Mr. Gibson has his hand up.

MR. GIBSON: Thank you. I just wanted to say APGA changed our policy position a few years ago to support LNG export, whereas historically we had typically been opposed. And that was really as a result of the fracking revolution just because we started to see reasonable prices.

So as long as we continue to see reasonable prices for our consumers, we're going to want to continue to support LNG exports and we just want to make sure that we

appreciate the Commission keeping an eye on that, so great question, thank you very much.

MR. CABRALES: Commissioner, there are no more hands up.

COMMISSIONER GLICK: Thank you. Actually that's very helpful Mr. Gibson. And Dr. Brooks as well, I think the point you made is a good one, it's obviously hard to figure out everything that's going to happen. Certainly if there's pressure or reduced demand for domestic consumption of natural gas, at least in the you know residential, and maybe for also electric generation, that would certainly alleviate some of the price pressures and allow natural gas to be competitive, both for industrial consumers and fertilizer manufacturers, but also for LNG equipment.

I think that's one of the issues that we have at the Commission is how much when we look at the need of a project -- of a pipeline project that is, what does the future look like for natural gas demand. And that's something we don't do enough of at the Commission, but I think that's probably going to be something that's going to be more fresh on the Commission going to the future to look at how much demand there really is, at least for that natural gas consumption.

Just to move on because I have a couple more points or questions. One of them for Mr. O'Mahoney and I

found your testimony very interesting. This issue of considering historical use for determining priorities for access to the pipeline capacity for liquefied fuels is very interesting and I struggle with it on some of the proceedings that we have had here at the Commission.

Now Chairman Chatterjee pretty much asked the question I was going to ask you which is what do you think the Commission should do and you said provide more flexibility. But I just wanted to say I'm hoping to work with you all others in the airline industry, but also other interested parties, including obviously, the liquid pipes because I think this issue historically is -- there are some problems with it and your example raises one of the key problems.

And so it's something I want to mention that it's something worth looking at in the future.

MR. O'MAHONEY: Yeah, I really appreciate that Commissioner, and you know, I think the policies and procedures that have been used, you know, over the years makes sense, like I said in 99 percent of the situations.

You know they're really driven at you know, the equity of all shippers, which I think is you know, obviously appropriate, but in this unprecedented situation, you know, again I just ask for flexibility so I really appreciate the opportunity to work with you on that because it is a

challenge. And you know as I mentioned in one of my other comments, there's a lot of uncertainty around when it's going to recover and when we're going to need access.

So you know, working with you and working with the pipeline companies on just having that dialogue and having that flexibility, I think is extremely key, so I appreciate you bringing that up. Thank you.

COMMISSIONER GLICK: Thank you.

MR. CABRALES: Commissioner, Mr. Lewandowski has his hand up. Okay.

MR. LEWANDOWSKI: Yes Commissioner, to go back to your previous question, you know something that we think about in the PGC and elsewhere is if you were to get visibility to export unfettered natural gas really around the world and gas prices were to go from say $3.00 to $10.00, then are you put in the position to curtail or shutdown a multi-billion dollar export facility because you know, the U.S. is now uncompetitive with the rest of the world because of higher natural gas prices.

So you know that's one of the things that we think about when that question comes up.

COMMISSIONER GLICK: That's a good point Mr. Lewandowski and you know, I know that it's not FERC, but it's a part of energy that really has the primary authority to roll in terms of examining from a public interest

perspective, whether the actual export of gas is having -- what kind of impact it's having on domestic prices and companies like yours and so on.

I think and the Department of Energy has been looking at that. But it's like a capacity of new LNG project that has been approved recently and again, as we had this discussion this morning it's pretty obviously to me that a lot of excess is not going to get built.

But nonetheless, if it were to get built, it might have that particular impact of pressure of raising prices significantly higher and that's something that you know, again, that's for more the Department of Energy but it's worth FERC to consider as well.

MR. CABRALES: Commissioner, we have Dr. Brooks and Mr. Rice have their hands up.

COMMISSIONER GLICK: Okay.

MR. CABRALES: Dr. Brooks?

DR. BROOKS: Okay. I'll go ahead. You know I think this was and Mr. Lewandowski is concerned, you know, fortunately and unfortunately, both ways. The gas market is now becoming global so there are limits on how high North American Gas prices could go in a global market. There are many, many more competitors than there have been in the past.

So I don't think the scenario that you're talking

about is very likely. Under those circumstances typically LNG export projects or terminals would be operating at the minimum percentage that was required according to the contracting schemes.

But whatever those minimums might be, you would find that for example spot cargos would be essentially very uncompetitive in the global market. So you know that's actually one of the good points of sort of having a globally connected marketplace is that there are essentially restraints on the market in how high and how low prices are likely to go.

MR. CABRALES: Mr. Rice?

MR. RICE: Yeah, this is Toby. I would just like to alleviate any fears that natural gas prices would ever get to a level even close to $10.00. So I would like to remind the Commission that you guys have an industry that has taken -- that has grown supply from 60 bcf a day to over 90 bcf a day. We did that in less than a few years.

So what that means when gas prices go up, the amount of economic development prospects that we have, goes up as well. We've done in addition to that supply growth, there's been a massive amount of technology and explanation. So a lot of that uncertainty that comes in with normal oil and gas has been captured with data and we understand to a pretty decent degree what the economics are in this specific

corner of this county.

And that resource potential is huge, and it gets -- it's very small in a $2.50 gas price environment. EQT is probably one of the few operators that has economic supply at those level, but that pie grows almost exponentially from $2.50 to $3.00 or really from $3.00 to $4.00 and $5.00.

So I would not let the fear of commodity prices going up you know, north of you know $4.00 in a long-term basis to sway anybody from wanting to bring new markets to the United States.

MR. CABRALES: Mr. Feygin has his hand up.

MR. FEYGIN: Thank you. Just to follow along on a couple of comments that have been made. As Dr. Brooks said this is at the facilities in the U.S. are built with sink or pay contracts. I obviously don't know the specifics of the notch in your facilities, but as we have seen over the last few months, the facilities continue to operate at reduced rates and certainly the U.S. case will continue to collect the fees that underpinned our economics investment decision and more importantly the finance.

What happens in the commodity market is because of this kind of activity, there's a very rapid rebalancing. So for example, as our volumes came down, as demand in Europe came down for a couple of months, the global gas pricing first became relatively flat at about $2.00. And

then we actually found ourselves in the situation where U.S. prices were meaningfully higher than international prices, especially in Europe.

Europe was trading around a dollar in mid-June given the COVID dynamics which effectively peaked right around Easter weekend and has rebounded immediately from that point. But that point, whether if you had LNG cargos on the water or if you were a capacity holder at a facility like Trinidad Tobago at Atlantic LNG, it made no sense for you to move those volumes to Europe where U.S. was offering substantially higher prices.

Fortunately, we have still a lot of operational import infrastructure, a lot of it along the east coast has been continuously operational and we did in fact see both BP and Shell bring in cargos into Cove Point and Elba Island respectively during that period.

So it's a -- not the beauty of the global market that will respond very quickly to price signals will divert cargos of this flexible LNG supply what it would undermine in the highly -- I'm very happy with Mr. Rice's comments, was that it was underlying in this meaningfully higher sustained price environment with the additional infrastructure that would be built.

The global demand will not support as we discussed earlier that kind of price level, but the

operational facilities both export and import will allow for the very rapid response to a price signal. For example, just two winters ago we saw prices in the winter spike to the $5.00 plus range, and if we were in a similar environment and the rest of the world did not have the same kind of weather effects that we were having at that point in time, clearly you would see a substantial supply response of imports into the U.S.

So I'm very happy to hear the supply comments and the responsiveness of the system which we expect, but also the -- in the unlikely scenario that we do have meaningfully higher prices will avail ourselves of global gas via LNG imports as well.

MR. CABRALES: Commissioner, there are no more hands up at this time.

COMMISSIONER GLICK: Thank you Omar. I only have one other question. Mr. Rice, fully separate subject, but during your statement you mentioned that we should try to avoid propping up uncompetitive companies. I didn't quite get what you were trying to say, could you maybe elaborate on that?

MR. RICE: Yes. So you know, during bankruptcy, one of the things that companies look to do is they shed liabilities and a lot of producers, upstream operators have signed up for long-term FC contracts on FERC regulated

pipelines.

So the opportunity -- one of the things that could happen would be you know, a relief of those obligations and while I would love to see that, you know, we find ways to reduce the costs that we have to pay to transport our fuel, or the energy that we produce. I think in that situation if there was going to be any consideration on loosening some of those liabilities that companies may have, it should be applied to all operators, not just the ones that are going through a bankruptcy process.

So that's probably the biggest issue that I see related to that comment.

COMMISSIONER GLICK: Okay, thanks. I appreciate that. I understand. That's all I have Mr. Chairman.

CHAIRMAN CHATTERJEE: Commissioner McNamee?

COMMISSIONER MCNAMEE: All right. There we go. You can hear me.

MR. CABRALES: I can hear you just fine.

COMMISSIONER MCNAMEE: Thank you. I appreciate the comments so far and we've covered a lot of the issues and one of the things I'm interested in is and we touched on a little bit and that is how it seems to me there's a consistent theme about the client price comes to equilibrium even if it's, you know, obviously in the short period of

time you're not -- you're never in direct equilibrium, but usually over the mid and long-term you come to it.

And just with further observation it seems to me that before the shale revolution, you know, obviously the price of natural gas and oil -- those tended to follow suit and we were relying on you know, oil that was imported primarily, natural gas coming from the Gulf Coast. Now we have diversity in supply, and I think some have commented, you know, worldwide supply and now we have a lot more clarity on hub pricing.

So is it -- it seems to me that there's a couple of things going on, but I'd like some clarity on it. And that is there's been statements that there's really no danger of lack of supply, at least domestically. There's plenty of gas in the ground in the U.S. and Canada.

But the issue is at what price is it economic to get the gas out of the ground. Two -- what's been the demand for the gas to justify taking it out of the ground and then also the ultimate price is impacted by do you have the infrastructure to get that gas. And obviously, that's something that really the focus of FERC jurisdiction.

So I'd like to go throw that out for anybody who wants to comment about how should -- how does the general economics of natural gas working? And this goes for, you know, the airlines, or for the fertilizer developers, other

manufacturers, but also for the producers for the LNG export, for the midstream, you know, if I could just get a better understanding of how all this works and what you see as FERC's role in making sure that production can take place, demand can access that production with the price and how we can play a role.

MR. CABRALES: Mr. Rice has his hand up. Mr. Rice please.

MR. RICE: Real quick on the supply demand. I think having those two things balance I'd say now with shale, I think you're going to see those balances take place a lot faster on the supply side of things. You know, we've evolved from projects that are you know, take three -- optional projects that take three years to put together and projects now from a significant supply, shale projects we can put on in a matter of months.

So supply can respond to higher prices fast. On the contrary, if prices get too low, we can also see a pretty fast balancing on supply decline. What we're seeing right now -- and that's just the nature of shale you know, across the U.S., call -- I'm sure Dr. Brooks has a perfect percentage on this, but you know, shale is going to decline around, you know, 40 percent of our production with shale decline.

So any short-term low prices, operators will stop

drilling and prices will decline or supply will decline, prices will go up. That's what we're dealing with right now. As far as you know, what price is going to generate demand. I mean it's important to realize, you know, there's a big difference for operators in the option segment, you know.

This industry doesn't make a lot of sense at $2.50 gas price. You know, we don't need a $5.00 gas price to become economic. We're talking about, you know, 25 to 50 cents. So being in that $3.00 range would be good. And so you look at well what does $3.00 gas price do to customers?

You know I think you know for the general public, the American citizen, that's not going to be a significant increase in their gas bills, and to be honest with you, we'd still be able to continue to tell the story that we've lowered gas bills and utility bills for American citizens across the country.

What can the FERC do to help support that? One -- help facilitate, you know, pipeline projects so we can connect to markets and relieve some of the inefficiencies we mentioned with, you know, higher basis areas. And then the second thing is you know, help continue to facilitate exports through the form of LNG and also through exports in Mexico is another vehicle that we'd like to see to be opened up.

MR. CABRALES: Thank you Mr. Rice. Mr. Feygin?

MR. FEYGIN: Thank you Commissioner. You said in your opening remarks paid homage to George Mitchell and I think a lot of what we have been discussing here today goes back to that invention and scaling up of that invention by the Chesapeake and of course the Rice and EQT's of this world.

A very quick anecdote. I met Mr. Rice for the first time about a decade ago. At that point I was wearing a different hat and we were operating in the EP business in West Texas that was producing about 200 million cubic feet a day on a little over 4,000 wells. And at that point Mr. Rice told me that they're about to bring on one pad of I think 5 or 6 wells that was going to do the same thing.

At that point I knew our days as an E&P operator were numbers. What's also changed dramatically and that makes probably Dr. Brook's job a lot harder is the oil to gas paradigm that you mentioned.

15 years ago we could sort of count on that given the petrol chemical complex. They do require power plants to switch and keep those. That domestic system wells that were balanced. Now the equation is much more difficult as to your questions about how the supply demand balance will play out.

It is increasingly a global question and one that

makes the calculating world of economics a lot more difficult. We've unleased the constraint that was the North American marketplace as Mr. Rice mentioned. With that comes security, supply, increased reliability to the global gas market, reduced emissions that we've seen in places like China, like India and like Western Europe.

Much more meaningful reductions in emissions over the last two years given its additional consumption of gas and LNG even with everything that you have passed on the renewable front. In terms of economics and how that plays out, I'll give you one example on that front.

The UK implemented a carbon pricing mechanism with a score of 19,000 ton. And over the last implementation of that, has effectively displaced all of its coal. We've had now months of coal free power in the EPA for the first time since late 19th Century.

The economics of gas prices are absolutely set by the combination of that CO2 price floor and the water borne coal price. So you give me those two and I will tell you exactly what the U.K. is paying for gas and hence LNG on the water that's going into that system.

So it is a global system and we are blessed with the resource and what the FERC I think contributes to that and will continue to contribute to that is this partnership and the transparency and the excellent staff that works with

producers and consumers to make sure that the right infrastructure is built in a responsible way, but transparently and relatively efficiently. Thank you.

MR. CABRALES: Thank you Mr. Feygin. Dr. Brooks has his hand up.

DR. BROOKS: Thank you very much. What concerns me in the long-run as part of the health in the long-run of the natural gas industry globally, and of course that would include the LNG industry, is that it's not clear to me that this industry has addressed the issues as much as the world is very interested in to earn what is sometimes called the social license.

In particular, of course, we have a story to tell in this industry which is largely that we can improve the environment through the substitution of gas for coal in many applications, not just power generation, but other applications as well. And I think that's a true story.

However, it doesn't appear to be enough of a story to actually turn the tide of sentiment that we are seeing in various places around the world and in particular in young people that are in college or are just starting their careers, that this impact is the way to go, rather than the alternative which is to oppose not just coal, but to oppose gas as well because in the past, natural gas when burned creates carbon dioxide just like coal.

Maybe not the same quantity but it does produce it nonetheless. So one of the factors that have become, I think, much more of an issue recently and it's a strong promotional tool on behalf of environmental interests and others who are concerned about the future of the planet, in particular, very concerned about climate change potential, is methane emissions.

And when I first starting hearing this I actually was quite glad, strangely enough, perversely perhaps, but I thought that this was actually something that I would like to see the environmental push more and more and more because it appears to me that that is something that the industry can actually do something about.

Methane emissions are controllable to a much greater extent and more economically than carbon dioxide emissions. So I think anything that the Commission would do, and anything that the industry would do to rather than oppose concerns about methane emissions to actually address them, to find them. This is another thing that, you know, that we have seen is that there are perhaps a limited number of very bad actors as far as methane emissions are concerned.

Those actors mean companies -- could be pipelines, could be processing plants, could be various specific places. But these were engineering issues more

than they are the let's say dynamic issues or chemical issues. They're engineering issues and there are things that the industry can address.

So to the extent that FERC could also forward this and the industry could also forward the handling of that particular issue, I think the better off the industry itself will be and the more deserving of the social licensing the more sellable, the idea of gas as part of the solution rather than part of the problem will be.

There are other things that the industry can do and you know, from my visits to Europe I think Europe is attempting to deal with these things more than we have seen so far in the United States. And that is you know we do also have this potential that's becoming much more strongly discussed and actually real actions taking place regarding hydrogen.

So hydrogen can be produced from natural gas. They call this blue hydrogen and I think that any processes that involve production of let's say, making the production of hydrogen from natural gas and the associated capture of the carbon dioxide that is produced in those processes more efficient and more cost effective because it isn't particularly right now, but that would be also something that would be extremely good for the industry.

We know that you can in fact insert something

like 10 -- maybe even up to 20 percent hydrogen into a natural gas pipeline without having dire effects on the materials and the equipment that are involved in transporting. So it appears that there is some potential there, but also again, the industry can improve its image by participating in these kinds of programs and trying to move those technologies forward.

So I think a lot of this is up to the industry and it does need to recognize that it's not just a matter of operating in the usual way but more efficiently. But it does require, and it will require more and more every single year proving that it deserves the social license to actually operate in the way that we know it could.

MR. CABRALES: Thank you Dr. Brooks. Mr. O'Mahoney you have your hand up.

MR. O'MAHONEY: Yes, thank you. And thank you Commissioner for the question. I think it's really a good one. As a, you know, airline industry we consume a significant amount of refined products from oil. So you know, if there's any sort of positives that have happened over the last few months for us, you know, as consumers of those refined products, it's that oil prices have been relatively low.

Delta alone in normal times, consumed about 4 billion gallons of jet fuel annually, so a one cent per

gallon change is 40 million to our bottom line each year. What's very important to us above and beyond just the price of oil is also the stability of it. You know we've seen in decades past where there have been real shocks to the system, which is very challenging for our business model because we sell tickets in advance -- you know, up to a year in advance.

Our peak in our booking curve, as we call it, is about 60 to 90 days prior to departure. So if passengers are buying tickets, you know, with the presumption you know, in our models of what a price will be 60 to 90 days out, if there's a lot of volatility and instability in oil prices, and we come to that day of departure, fuel prices are significantly higher than we anticipate when we sold that ticket. It can obviously have economic consequences for us.

So the stability of oil prices is very key. And we're seeing more or less relative stability over the last, you know, 5 to 10 years as a result of increased shale production in the U.S. So that's been very helpful for our business, having that stability. So whatever the FERC can do to ensure that that, you know, continues within their you know, purview, and within what they're able to do is very helpful for our industry.

And then the second point that I wanted to make

is that you know, the access and the cost associated with transporting on pipelines is very key for our business. Being able to ensure that we've got that supply into our airports is very important to us, but then also what those pipeline tariffs, you know, look like. Again, a penny a gallon is worth for just Delta alone, 40 million a year.

So if we see a significant increase in tariffs, that obviously affects our business model in pretty dramatic ways. So again, I appreciate the question Commissioner, and hopefully my comments have helped you a bit.

MR. CABRALES: Thank you Mr. O'Mahoney. Mr. Gibson, please you have the mic.

MR. GIBSON: Thank you. The big concern here is we have really had lower natural gas prices over the last couple of years and echo what Mr. Rice said. I think our consumers at the $2.50 - $3.00 level was very reasonable for those customers, but to echo Mr. O'Mahoney, consistency is very important too.

So once they get used to those prices, a swing from $3.00 to $4.00 becomes very detrimental for those customers. So what I think FERC can do is just generally be supportive of pipeline modernization projects which help keep the pipelines modern and replace aged equipment so that we don't have short-term disruptions just because of aging equipment.

I would say that has to be done in a reasonable manner and we would also encourage the Commission as they treat those types of projects to continue to do Section 5 reviews, just to make sure that the pipelines are getting a reasonable rate of return but in general we're really supportive of those modernization projects.

MR. CABRALES: Thank you Mr. Gibson. Mr. Feygin, you had your hand up. Would you like to address the question again?

MR. FEYGIN: I'd just like to add a little bit probably to go back to Dr. Brooks mentioned on the social license to operate and you know, we are both the unconventional upstream space and especially the U.S. LNG space of relatively new industries.

We became -- we Cheniere, became an operating company in February of 2016. So just four years ago was our first train came online at the Sabine Pass, obviously joined by a number of others over the last couple of years. We are -- we just issued our ESG report, I think it's especially critical for the upstream, the midstream and the downstream industries domestically and especially since we are now on a world stage to spend a lot of time and effort focusing on the environmental impacts and earning that social license to operate.

We have heeded that space for a long time to --

especially to our friends in the European Union that are operating with at times, or at least are operating largely without our information and our involvement, and we need to do everything we can as an industry to improve our footprints, improve the educational process, improve the transparency that it would bring to the table and we mentioned we had an inaugural, meaningful step in that direction.

We actually just published that this week and obviously it's an annual commitment and we think that the opportunity is there to really change the dialogue when it comes to the environmental footprint of unconventionally developed hydro carbons in North America and the lifecycle analysis that goes along with that as we continue to compete on that global stage and displace higher emitting hydro carbons from the system.

So I just wanted to follow-up on that and say that we look forward to working with the FERC on those efforts, and creating that level playing field, that transparency and improving our standing in the global gas community.

MR. CABRALES: Thank you Mr. Feygin. Commissioner McNamee, we don't have any other hands raised at this point.

COMMISSIONER MCNAMEE: All right. Those answers

were very helpful into the insight to really give me a lot to think about. One thing, and on a more specific issue, the issue of storage, we've heard all the problems at least on the oil side about the low costs in Saudi Arabia and Russia flooding the market and then COVID hitting and everything, the flood of oil, and there were challenges with storage.

Of course natural gas also needs storage and my recollection is that if it's a relatively mild winter, I don't know if as much gas was used that was usually put in storage and of course when we're not having as much demand, there's probably a greater desire for storage for gas that's not being used.

I'd just like to get some perspectives even from a non-FERC jurisdictional perspective on oil, but primarily on natural gas what you're seeing on the issue of storage, short-term and long-term?

MR. CABRALES: Mr. Rice please proceed.

MR. RICE: Yeah. So storage is our biggest buffer to volatility. The mild winter we had is going to have us at sort of record high storage levels and so I mean what's going to happen, and we believe in the same is you know, we are on pace to fill storage, that's what is going to happen at the end of the summer.

And then you know as it relates to LNG, partly just the anecdotal cover, but storage in Europe is something

that can happen as well. I mean this is one of the things we talk about where you know, reacting to significant disruptions and supply or demand you know, storage is one of those things that during the price war where the market was getting glutted, it was a great buying opportunity to buy, to buy, to put more oil in storage, we just didn't have much capacity.

So when you think about some things that the FERC can do to provide more efficiency to the market, adding more storage is certainly going to help. If we have a robust export business, you know, natural gas is going to be produced in the United States, if that rises, I think the amount of storage that we have in the system relative should be relative to the amount of gas that we're producing ultimately to get some level of number of days buffer we have in the system.

So I mean I think that's another opportunity for the FERC to assist with this is to increase more and more storage, the ability that I think all of us would like to have more of.

MR. CABRALES: Thank you, thank you very much Mr. Rice. Mr. O'Mahoney you have the mic?

MR. O'MAHONEY: Yes. I want to echo what Mr. Rice said about storage being a buffer. You know for the airline industry it's key too, as a consumer. So we only

have physically 5 to 10 days of storage on hand at airports. So any sort of, you know, uptick in the uplifts of demand or reduction, really puts a lot of pressure on the airport storage simply because you don't have that much.

So again, back to access to pipelines is key to us, but the question around storage is storage upstream of the airports is also critical to just give you that buffer. And I think in this pandemic, given the fact that flight plans are very uncertain and will remain uncertain for the next couple years, access to storage gives you that comfort level that you're going to have that supply readily available that can be pulled back into the airport whenever needed.

So access to storage I think is critical for our industry, especially here given these pandemic times.

MR. CABRALES: Thank you Mr. O'Mahoney. Mr. Feygin, you have the floor.

MR. FEYGIN: Thank you. Just to add a little bit of color from a global standpoint Commissioner. We are today the most American gas market today is a little less than 25 percent of the global gas market, but our storage infrastructure is over 60 percent of global gas storage infrastructure.

Europe is rather meaningful and very transparent at a little under 3 bcf. The U.S. complex in the aggregate,

the data about the exact number, but it's between 4.3 and 4.4 bcf. China is in the process of being the number -- is the number three storage center globally, not at all transparent at a little over -- we think a little over 500 bcf today.

So plans to increase that as Mr. Rice said, the algorithm for, most markets is to keep the storage facilities in step with the size of the market and expand them accordingly as the market grows. But what we're going to find ourselves in again, given the availability of export infrastructure and the responsiveness of the U.S. system, is that that capacitor function that Mr. Mahoney is -- and Mr. Rice spoke to is in part going to fall on the U.S. market.

We have a very responsive system, especially the salt facilities along the U.S. Gulf Coast. We're also blessed with the fact that those facilities naturally continue to increase over time and while the residential commercial market -- the main swing, summer winter swing and demand domestically, is not a big driver of that additional capacity. All of these new industrial and of course LNG export facilities, do rely on high deliverability and high injection rate storage along the coast.

So the system is continuing to improve and become more reliable and more integrated and the U.S. storage system will be on the global stage this winter and

throughout as again as the global access to that storage infrastructure is readily available.

So we need to continue to work together to make sure that the system is properly sized, and that infrastructure is able to properly access storage facilities and of course, FERC will be absolutely key in insuring that that is done on a level playing field in a transparent and environmentally sound way. So those are my additional comments, thank you.

MR. CABRALES: Thank you Mr. Feygin. Dr. Brooks you have the floor.

DR. BROOKS: Thank you. Storage is a simple word, but it means many, many different things depending on what you're talking about. So as Mr. O'Mahoney said he was concerned about days-worth of storage. So he's thinking in terms of days. When we talk to natural gas generally, especially when we're talking about gas that is being stored away for the winter, we're talking months, that's the timeframe.

On the other hand, when we're talking electricity storage, people are often confused because now we're talking about seconds and maybe minutes, and possibly hours-worth of storage which is about all this available technologically for electricity. So I think that's important to understand.

I think what Mr. Feygin said also about the

different kinds of storage available in the industry for natural gas is quite important as well. What you have in the Northeast is very different when you're talking about depleted reservoir storage compared to what you have in the Gulf Coast with salt dome storage which offers much greater flexibility.

So we've been kind of surprised actually, at how little storage activity there has been building new facilities since the shale gas revolution started, but I think it's actually reasonable. There were some projects that were started that had been a few things built. But I think the industry has a whole does not see this as being a very economic investment.

And so it hasn't really happened. If you look up in the Northeast, one of the things that we saw was that in our models that if we used traditional storage injection withdrawal patterns in our models, we ended up with strangely enough price collapses in the middle of the wintertime, and why was that?

Well, because we had such increases -- such large increases in Marcellus gas production in particular, that essentially if you had the standard patterns of injection and withdrawals historically out of these storage facilities in the Northeast, essentially what would happen would be that you would be flooding the market with gas during the

wintertime.

So we saw actually fairly early on when we were running these scenarios that we had to change the way that our models were allowing gas storage to be used. Because that additional production capacity up in the Marcellus was enabling a lot of the gas demand -- winter demand, to be met by wells -- by production rather than by storage as had been done previously when there was very little connection to Marcellus in the Appalachian area.

Nowadays, of course these other issues that take place which are perhaps beyond the scope of this particular FERC Conference, but the issue of gas-powered generation. And in particular, the ability of the gas pipeline delivery system to meet hourly changing demands for a national -- for electricity availability through gas-powered generation is something that has been discussed at various times, but you know, one of the answers has been to develop some kind of storage mechanism near let's say a cluster of gas-fired power plants to be able to handle those loads that could come on at certain times of the day.

So you'd have a more daily or hourly type profile as opposed to daily type profile that the industry is more often historically been designed to handle. So storage is an issue, as to your question Commissioner McNamee, storage is a very big issue and it really is quite important. And

it depends on what commodity you're talking about how this could be potentially addressed.

But again, perhaps some of these issues would be more appropriately handled at a conference which dealt specifically with storage.

MR. CABRALES: Thank you Dr. Brooks. Commissioner McNamee, there are no more hands up.

COMMISSIONER MCNAMEE: Okay. Thank you. That's really interesting to hear just how the changes have taken place from when I even started working dealing with storage issues and representing natural gas companies, ac's and just in a short timeframe to see how that's changed.

This will be my last question but it's one that's going to be a little bit difficult to answer because it's talking about -- a little bit about what happened before the pandemic, what's happening now and what you see as the future, but it's about access to capital.

Obviously, a lot of the business here, whether you're a producer, a pipeline, or you know, an airline or a manufacturer, your access to capital is really important and I know I've read that there are pressures on industries that use natural gas or oil, having access to capital. And I just wanted to hear has that been a problem for anybody? Do you perceive that it's a future problem?

MR. CABRERA: Mr. Rice has his hand up. Go

ahead Mr. Rice.

MR. RICE: Yeah. So this is certainly one of the things, access to capital that I think is an issue. I think look at the number of bankruptcies that have been announced. These are people that cannot meet the notes that they signed up for, you know, for largely in the period of time that was used to fuel the growth in shale.

Yeah, so it is something real and this is part of my supporting statements that I made at the beginning. You know, we're going to see a pretty significant number of operators bankrupted because of capital debt. And you know, the point that I made before, what is going to get us out of this is going to be to bring the investors back to the space, energy.

It's going to be proving that we're generating real cash on cash returns and doing it responsibly, strengthening our social license to operate and really promoting our ESEC issues, you know, check the box and really hope that the aspect the influence on investors right now.

MR. CABRERA: Thank you Mr. Rice. Mr. Feygin?

MR. FEYGIN: Thank you Commissioner. We're in a world now where the availability of capital appears to be quite bifurcated. As Mr. Rice said, there are parts of the industry that have very challenging times, it is a

combination of ESG legacy returns, general biases that have been developed over the last few years and yet there are parts of the industry that fall under the infrastructure umbrella in a low interest rate environment have tremendous amounts of capital competing for those investments and some of the private transactions and the hundreds of billions of dollars which have been raised on the infrastructure side of our world, are looking for those de-risk projects that have the right footprint and check the right boxes in terms of ESG attractiveness, de-risk capacity type payments, et cetera.

So we're in a position now where the value chain of the industry needs to find ways to access those pools of capital because as we've discussed before, some of the pools of capital like the risk capital that was available for early stage development upstream ENP that was driven by the types of growth trajectories that were assumed you know, 3, 4, 5 years ago, maybe 10 years ago, no longer exist in the kind of scale that is needed to maintain the health of the industry.

So what we've seen is as always industry is finding those creative solutions and the upstream space is working to warp its business model and its economics at times into something that does check those ESG boxes, the infrastructure type investments and offer the types of

returns that are attractive.

At times record low interest rates for bonds while the underlying risks really haven't changed meaningfully from the types of sort of upstream risks that they had before. So we're in a difficult transition and the industry is going to have to find ways to respond to that, but there is capital available, you know. We are fortunate as Cheniere, to be in a position where we are, an established operator with these take or pay type contracts with investment grade counterparties and even at the depth of the financial stress that we experienced in March and April really didn't have much of initial access in capital.

At our Sabine Pass facility in that timeframe, we issued a bond that had the second lowest interest rate that we've ever issued. So it's a challenging and bifurcated world that the North American upstream and infrastructure space is going to have to continue to navigate.

MR. CABRERA: There are no other hands raised Commissioner.

COMMISSIONER MCNAMEE: All right. Well thank you all. This has been incredibly informative to me and it's a lot to think about and a lot of I think, all this is Commissioners and staff need to think about, so I appreciate all of you all's time and because I know your time is important and it really helps us so thank you.

MR. CABRERA: Thank you Commissioner McNamee. Mr. Chairman, the floor is yours.

CHAIRMAN CHATTERJEE: Yes sir, I don't have any further questions. So with the remaining time I think we should turn to staff for any questions.

MR. CABRERA: Thank you Mr. Chairman. I will now pass it on to Aileen Roder and Kimberly Horner who are with staff, they will convey some questions from their staff. Go ahead Kimberly and Aileen.

MS. HORNER : Good morning everyone. I have a question for FERC staff. It's a consumer question it goes out to Mr. Lewandowski and Mr. O'Mahoney. The question is from a consumer perspective, what lessons should energy industry and regulators take away from this COVID-19 experience?

MR. O'MAHONEY: Perhaps I can start. This is Matt O'Mahoney. So I think it's just -- its flexibility. And I keep coming back to that word. We've talked about it a number of times.

You know the policies and regulations that were in place were very appropriate and worked out, but this unprecedented nature of COVID-19 I think makes us need to just take a step back and under the lens of flexibility, you know, take a look and make sure that some of the things that have been in place are still

practical and reasonable to allow businesses and industries, especially the airline industry, to recover from this unprecedented challenge that we face right now.

MR. CABRERA: Thank you Mr. O'Mahoney. Mr. Lewandowski, do you have something to add?

MR. LEWANDOWSKI: Yeah actually you know, I think you all have done a great job as I said earlier and you know, if I could pick one thing that's been difficult is you know, the use of technology isn't smooth and that's no fault --

MR. CABRERA: Your audio.

MR. LEWANDOWSKI: Can you hear me?

MR. CABRERA: Yes. I'm not hearing you.

CHAIRMAN CHATTERJEE: I can hear you.

MR. LEWANDOWSKI: Okay, so what I was saying was I think you all have done a great job and in the difficult part, the frustrating part, not just with you, has been the technology and that's probably at least my complaint. But one thing that we also have had a little bit of difficulty with is some of these Section 4 and Section 5 rate cases, you know, just not being able to sit in the same room and put an agreement together or collaborate with each other to get an agreement.

And these rate cases seem to drag on and on, but again it's no fault of FERC. I think it's just due to the

circumstances that we find ourselves in today. But overall, I think you've done an excellent job.

MS. HOMER: Okay. If there are no more answers to that question, I will pass on to Aileen Roder.

MR. RODER: Good morning everybody. Thank you so much. We really appreciate the discussion today and we hope Commissioner McNamee will not mind, we're going to sort of ramp off of one of his questions from yesterday on Panel 2. I thought it was a really great way to end the panel asking panelists for obviously it's been a very, very difficult time during the COVID emergency, but what positive takeaways can you share with us and as we finish up this panel for the day, thank you. Please go ahead Mr. Gibson.

MR. GIBSON: Well one positive takeaway and I'd be remiss if I didn't mention it, is just the incredible dedication and work that our employees on the front line have done. We appreciate everyone considering the utilities sector is difficult and essential employees.

But they're on the front lines day in and day out, going into people's homes, interacting with the public whether it's a customer service agent or a field service technician, having to reline someone's home or somebody in construction to make sure the lights are still on and the gas is flowing.

So as one positive note is just how I've seen

everybody in the industry step up to support our communities.

MS. RODER: Thank you Mr. Gibson. Mr. Feygin, would you like to go ahead please.

MR. FEYGIN: Yeah, I'd just like to echo those comments. If somebody said to me you know at the beginning of this year that the majority of the workforce will work remotely, obviously key personnel at the facilities will modify the way they do business. We at Chenier responded in early March with deploying various teams at the executive management level, at the business support level and made modifications to keep our employees healthy and safe and keep the facilities up and running with reduced staff.

And continued to interact with the world, including the FERC on various issues and projects. You know one of the things that's obviously changed, it's no longer socially unacceptable to hear barking in the background while we're on a call or have, you know, the kids come into the room, but we collectively have kept the gas flowing, kept the permitting process moving, kept the construction efforts going and really the level that everybody has responded across the system to me has been astounding.

So I thank the FERC for its continued dedication. We always have a number of issues in front of you guys and the engagement and partnerships which strange during these

challenging times and new communication methods. I counted no fewer than a dozen ways that I communicate these days, including the Webex and Zooms of today, but it is amazing how much we collectively have been able to do and keep people safe and keep the facilities operating.

So lots of lessons learned and lots of positives on the resiliency of the system, thank you.

MS. RODER: Thank you very much Mr. Feygin. Let me call on Mr. Bryson please, go ahead.

MR. BRYSON: Yes, thank you. I won't belabor the points because they're very consistent, but obviously with a company like ours with over 10,000 employees operating thousands and thousands of miles of crude natural gas pipeline, serving communities, critical refineries, et cetera, if somebody had told me six months ago we would have been doing this all remotely, and seamlessly, I wouldn't have believe them.

For the employees across our system, our contractors to rise to the occasion, our ability to work with regulators, proceed with rate cases, proceed with construction projects and continue to deliver the energy we need to deliver has been outstanding.

And it's a testament to the people that are working in our industry, our employees and everybody involved, so that's my comment. Thank you.

MS. RODER: Thank you Mr. Bryson. Mr. O'Mahoney please?

MR. O'MAHONEY: Yeah, I would like to echo what some of the other panelists have said about employees. For us in particular, our front line employees, the pilots and flight attendants, our gate and ramp agents have done a phenomenal job helping our customers feel safe as they, you know, make their way through the airport and onto our airplanes.

The other thing I would like to say is just the collaboration, you know, specifically with the government. Really appreciative, and a huge lifeline that was able to be given to the airline industry the 25 billion through the Cares Grant was incredible. And so all the collaborative, you know, beyond that with various levels of government has been phenomenal and it's been great to see the response. And I really appreciate this Conference and the opportunity potentially to work closer together and continue that spirit of collaboration. So thank you so much for the time this morning.

MS. RODER: Thank you Mr. O'Mahoney. Dr. Brooks please go ahead.

DR. BROOKS: Thank you. Well I hate to you know continue echoing, but I think it's really I do agree with the sentiments that have been expressed. It is rather

amazing. I consider it a testimony to you know, it's not just the American spirit, I think it's actually global in response to the situation where so much work has actually gotten done on a basis that nobody ever thought was possible.

The people that I deal with, you know, you might think of us as I don't know, thought lifters or something. You know, we are very fortunate in many ways in that in our case we were operating remotely 2 or 3 years ago, so you know, we're used to this. But we have found the ability to talk with our customers, to talk with others who might be interested in our product to talk with government officials, actually throughout the United States, but actually around the world has been pretty amazing.

So I again, second all the comments that have been made so far that it's really pretty astonishing what has been done. And I wanted to thank those of you who are involved in the industry itself for the work that you people have done in keeping the wheels rolling, you know, during this time, as well as FERC and what you've been doing as well, so thank you all very much.

MS. RODER: Thank you Dr. Brooks. And Mr. Rice please, go ahead. I believe your mic is muted Mr. Rice.

MR. RICE: All right, sorry about that. Yeah I think in this pandemic I think it's an opportunity for us to

reflect and look at you know, really what are we dependent on? What's most important to us in these really tough times?

You know, certainly Americans enjoy abundant cheap energy, but I think that you know, we think about the energy we should be focused on. You know we've been able to get by without the oil, without the driving and transportation. We've been able to do that just fine.

Our company has worked from home. Every other CEO I've talked to has not really had the issues or the challenges presented from working from home. And for us, that's well in our carbon footprint. We're eliminating 20,000 miles driven -- not being driven, through our daily commute there.

So but I think what is important is you know, natural gas has been extremely resilient. You know it's actually maintained demand fairly well for this period of time and so this means, you know, that American citizens relying on the infrastructure in the markets that we created deliver this energy in this form I think is just showing -- COVID is showing how critical that is.

So and the FERC sort of focused on what's going to have the biggest impact on the public, it's helping us to continue to create markets for our products, connect markets, and then hopefully offer markets with storage and

other issues like that. So that was sort of my high-level perspective on this issue.

MS. RODER: Thank you very much Mr. Rice. Handing it back to Omar.

MR. CABRERA: Thank you Aileen and Kimberly. Mr. Chairman, we are done with staff questions and we are ready to close if that is okay with you.

CHAIRMAN CHATTERJEE: Yes. Again, thank you to the panelists and my colleagues and FERC staff. It was an excellent discussion and I look forward to resuming the conversation with Panel 4.

MR. CABRERA: Thank you Mr. Chairman. And thank you to all of our panelists again for your participation. We will now have an hour and 30 minute lunch break. We will begin Panel 4 at 1:30 p.m. and we ask our current panelists again, thank you very much to all of our panelists. Please sign out of Webex to the extent that you would like to continue viewing the Technical Conference, please do so through livestreaming on the Commission event calendar. Thanks again to everyone involved in this panel.

(Lunch break.)

Panel 4: Access to Capital - Credit, Liquidity and Return on Equity

MR. CABRALES: Welcome back everyone to the fourth and final panel of this Technical Conference. This

panel is entitled, "Access to Capital - Credit, Liquidity and Return on Equity." Each panelist will have four minutes to give an initial opening statement. After the statements we will begin the question and answer session.

We may call for a 15 minute break partway through this panel, but as the Chairman mentioned, we may forego that if it looks like we are moving along very well. A few things with opening remarks. Please I need to remind all participants to refrain from any discussion of pending proceedings.

If anyone engages in these kinds of discussions, a FERC staff member will interrupt the proceedings and ask the speaker to avoid that topic. I will call each panelist in turn to give his or her opening statement. Could I ask everyone that is not speaking to please mute their microphone. Very well, thank you.

Well first we have Roger Collanton, he is the Vice President and General Counsel, California Independent system operator, on behalf of the ISO/RTO Council. Please go ahead Mr. Collanton.

MR. COLLANTON: Good afternoon, or I guess good morning for those of us that are on the west coast. Chairman Chatterjee, Commissioners Danly, Glick, McNamee, staff and fellow panelists, I'm Roger Collanton, Vice President, General Counsel and Chief Compliance Officer for

the California ISO and I want to thank you first for hosting this important Technical Conference and for allowing me the opportunity to participate in this panel discussing access to capital, credit, liquidity and return on equity issues.

First let me start with a brief overview of the California ISO's response to the COVID-19 crisis and pandemic. From the start of the news of the COVID-19 crisis as things started to develop earlier in the year, the California ISO took steps and all possible steps to first and foremost protect our people and all the while maintain grid reliability and well-functioning markets.

I'm proud to have overseen that effort and to still be overseeing that effort. The full credit goes to our business continuity team and our staff. Our business continuity team had previously created and now, unfortunately, implemented the plans for business continuity including pandemic, and our staff has continued their dedication, resiliency and vigilance during these uncertain times and have really done a spectacular job -- very, very proud of the people here.

As events unfolded, we took all steps and followed all recommendations by the CDC and federal and state medical experts to keep our employees safe at work. We segregated critical control room personnel to ensure that in the case of an outbreak we minimized any impact on the

control room operation. And we're pleased to report that there has been no such impact.

We have maintained normal operations. When stay at home orders started being issued, we successfully transitioned all employees who could work from home to do so. And frankly, the company has never skipped a beat.

We continue to monitor the situation for our employees and for our markets, monitoring federal and state guidance and will do, and continue to do everything in our power to keep our employees safe and maintain our critical operation.

With regard to today's panel, I'd like to make three main points for the ISO and RTO markets. The question for us is whether there are any additional credit risks in these markets arising from the COVID-19 Pandemic. And to that issue first, let me say that the practices and procedures that are in place and have been in place, some for some time and others based on recent developments, are working as intended to assess the credit risk and they're working during the COVID-19 Pandemic.

We review various factors to assess our credit risk and to ensure either that our market participants are qualified for unsecured credit, or that adequate collateral exists relative to market systems positions. This includes our tariff rules for creditworthiness and in addition

continue our monitoring to try to make sure that we avoid any surprises in the markets and so that we stay on top of things as they develop, again trying to protect our market from undue exposure to the fall risk.

Second, we have not seen increased credit risk among our market participants from the COVID-19 Pandemic, nor have we observed heightened risk profiles in connection with specific types of market participants, IOUs, ESPs, et cetera.

Third, we are not relaxing -- even though we have not seen an increased credit risk. We need to be in these times even more vigilant because we understand that the long-term economic impacts of the COVID-19 Pandemic are likely not yet realized and we are keenly aware of that.

We're paying attention to liquidity, which we think is probably the most immediate concern and we understand the fact that COVID-19 has disrupted financial markets -- could affect the liquidity sources for our market participants and make it more difficult for them to cover their positions in the electricity markets.

But again to date, we have not seen that impact come to fruition in the ISO and RTO markets. So what are we doing? We're increasing our monitoring. All the ISOs and RTOs are doing so, and again as I noted, to avoid surprises. And we are staying ever rigidly on that.

But generally as an industry, I think we need to emphasize the importance of maintaining our credit protections. The Commission has recently provided increased discretion to certain ISOs and RTOs to provide for more stringent credit requirements. And we believe that the flexibility for each ISO and RTO to assess the risks in their regions and markets is important.

And overall, we need to continue to assess and improve our monitoring detecting practices, and adapt if necessary, to advanced credit risk issues as they come, however they come.

So again, thank you for the opportunity and I look forward to the remainder of the panel.

MR. CABRALES: Thank you Mr. Collanton. Next we have Kimberly Dang, President of Kinder Morgan. Please proceed Miss Dang.

MS. DANG: Okay, thank you. My name is Kimberly Dang. I'm President of Kinder Morgan. We own and operate approximately 70,000 miles of natural gas pipelines, about 12,000 miles of liquids pipelines and one operational LNG facility.

Pipelines remain the safest and most environmentally friendly, and most efficient means of delivering many natural gas resources and petroleum -- and refined petroleum products. Thank you for inviting me to

participate on this panel.

Since March of this year, most Kinder Morgan employees have been working remotely. The primary exceptions are those physically operating our assets, and those in the field maintaining that infrastructure. For those employees, we are adhering to guidance from the CDC, including temperature screening, deep cleanings for facilities, social distancing and masks.

As we continue to deliver critical services our priorities have remained clear. One -- keep our family, coworkers and communities safe and two -- continue operating our assets to deliver the energy that our country needs. Here is what we are seeing in our FERC-regulated businesses.

For natural gas industrial demand and exports to Mexico and LNG have decreased, but demand from local distribution companies and power generators have remained steady and seasonal.

One of our primary challenges in the current environment is working with our distressed shippers to ensure our pipelines are sufficiently secure so we can continue to attract capital. Under the FERC's credit policies, which place an arbitrary three month cap on credit support, for all but new expansion capacity, we cannot sufficiently secure our multi-year credit risk.

Rather than being limited to a one size fits all

three month cap, pipelines and customers should be able to freely negotiate credit requirements based on a particular shipper's unique credit worthiness in the market.

Natural gas pipelines continue to experience significant challenges constructing needed infrastructure due to issues and requirements that pre-existed, but are exacerbated by the current economic recession. For example, there are organizations across the country willing to use any and all venues to disrupt, delay and stop projects regardless of those projects' significant benefits.

As you know, linear infrastructure is uniquely vulnerable to these attacks without a strong lead agency like FERC. Clear rules, efficient reviews, and reasonable schedules with predictable finality are all contemplated by the Natural Gas Act and are more crucial now than ever.

I commend the FERC on its efforts recently to act more quickly on requests for rehearing. However, the pipeline industry was caught off guard by the recent Instant Rule, and projects were thrown into limbo. Now that the DC Court has confirmed that the FERC cannot issue non-substantive tolling orders, Kinder Morgan encourages the Commission to withdraw the Instant Rule or at very least modify it, through a formal notice and comment process.

Uncertainty and delay increase project development costs significantly and can make needed projects

untenable. By switching to refined products, overall volumes on our refined product pipelines went down in April approximately 40 percent. Since then, volumes have stabilized for gasoline and diesel, but jet fuel remains very weak.

We expect continued improvement as the economy recovers, but there are many impacts of this current pandemic that remain uncertain. If new outbreaks and economic contractions continue, there could be permanent changes in the way we work -- more telecommuting, less air travel, so we could have permanent volume metric decreases.

Here, as with our natural gas pipelines, we also face opposition, challenges and uncertainties that pre-existed COVID but that are exacerbated by the current situation. For example, the Commission recently began its five year review of the annual index for liquids pipelines. At a time when demand for petroleum products is being significantly impacted, it is especially important for the Commission to ensure that the improved inflation adjustment for the next five years reflects the actual inflation being experienced.

We encourage the Commission to differentiate between policy changes that do not reflect the inflationary cost changes and the actual inflation faced by the liquids pipeline industry.

For both the gas and liquids pipelines, the growing risks and uncertainties dictate the investors require higher returns. We are in a competitive industry. We do not operate in a franchise territory. We're not guaranteed recover of our cost of capital. We happily compete and thrive in this environment, but our greatest risk remains regulatory.

Investors simply will not continue to invest in a pipeline portfolio where FERC cuts our rates on performing assets while we cannot recover our costs of service on underperforming assets.

Several weeks ago, the Commission issued a policy statement on return on equity for oil and gas pipelines. We believe the Commission correctly stressed flexibility, but the Commission should go further by one -- accepting more representative and rational proxy groups for natural gas pipelines. Two -- supporting returns that enable pipelines to raise capital. Three -- ensuring that return decisions properly consider the impacts of COVID-19, including the increased credit risk, and four -- by developing a return component for heavily depreciated pipelines.

We want to continue to partner with FERC, our customers and other stakeholders. Thank you and I look forward to your questions in this discussion.

MR. CABRERA: Thank you very much Miss Dang. Our

next panelist is Mauricio Gutierrez, President and Chief Executive Officer NRG. Please go ahead Mr. Gutierrez.

MR. GUTIERREZ: Thank you. Mr. Chairman, Commissioners, my name is Mauricio Gutierrez, CEO of NRG. I appreciate the opportunity to address this Technical Conference. From the beginning of the COVID-19 Pandemic, NRG has taken aggressive steps to keep our employees safe and healthy while providing continuous service to our customers.

We successfully moved 95 percent of our in-office workforce to remote status and I am glad to share that we were able to maintain full operational capabilities throughout the crisis. Over the last few years, we have been focused on improving the balance sheet and financial position of our company.

We sold non-core businesses and reduced our total debt by 70 percent to best position the company to perform through all market cycles. When the COVID-19 Pandemic struck, we relied on our strengthened financial position to ensure we had sufficient liquidity to continue serving our customers and operating our power plants without interruption.

Our diversified sources of liquidity allow us to avoid short-term market disruptions and higher financing costs. NRG is a competitive producer and retailer of power.

As such, we are subject to losses and increased costs that results from COVID-19.

We are not allowed by state or federal regulation to record regulatory assets on our books to offset COVID-19 losses. We have no ability to defer losses on the assumption that regulation will subsequently reimburse us. That is fair. As a company that serves the wider economy, we expect to feel its ups and its downs. The firms on transactions you regulate are commercially sophisticated.

There is a universal financial instrument available to them to hedge risk. Ad hoc intervention by the Commission risks amplifying the moral hazards already present in the industry, like out of market payments to specific market participants, but jeopardizes the integrity and well-functioning of competitive markets.

In the many places the Commission regulates, it has used competitive marks to fulfill its mandate to set just and reasonable rates. We operate extensively in those markets. Our revenues depend on our ability to compete against our peers and to earn the business of our customers with compelling and innovating products and services.

We do not ask the Commission to establish a return on our investment. We expect the market to set an appropriate return, and provide the necessary pricing as to make investments in the most efficient manner.

What is important to us is the efficient regulation of those markets. This means the timely resolution of contested proceedings, consistent regulation across markets and the Commission's rejection of special pleadings that seek favorable treatment for particular market participants.

The Commission could do nothing more important at this time than pursing its caseload in an efficient manner, and to ensure that market operators will implement the Commission's orders, do so in an expeditious fashion.

I want to thank the Commission in its efforts so far on these points. The Commission does set prices directly for transmission and I hope it is cognizant of two things before it considers adjustments to ratemaking policy in response to COVID-19 Pandemic and the economic downturn.

First, investors in the power sector have a choice of where to invest their capital. If the Commission is too generous to project regulated returns and therefore lower risk, it will diminish the willingness of the investors to invest in our business, which relies solely on the competitive market to set prices.

Second, the Commission's competition policy has driven down energy prices and returns for those of us in the competitive power-generation business. Market clearing prices for energy continues to fall while transmission rates

continue to rise at a concerning pace. Now may be an appropriate time to apply the principles of competition to transmission projects so we can ensure consumers receive a fair deal.

Thank you for your time today and this afternoon, my three takeaways from you are straight forward. COVID-19 should not be used as an excuse to adopt unrelated regulatory policies. Competition is working in the electric power sector. Lowering costs while protecting consumers from COVID-19 related risk and regulatory uncertainty remains a major threat to competitive parts of the sector.

The Commission's efficient work on the dockets can help resolve those concerns. It should also insist that its orders are carried out in a timely manner by the market operators responsible for executing them. Thank you Mr. Chairman and Commission.

MR. CABRERA: Thank you Mr. Gutierrez. Up next is Charles Jones, Chief Executive Officer and Member of Board of Directors FirstEnergy Corp. Please proceed Mr. Jones.

MR. JONES: Chairman Chatterjee and Commissioners, thank you for hosting this important Conference to discuss COVID-19's impact on the energy industry. I want to recognize up front that the topics you have asked us to address today necessarily raise a number of

important policy issues being considered in a variety of FERC proceedings.

To the extent the Commission thinks my remarks today address issues and specific cases, please let us know and I will be glad to submit my remarks and relevant portions of today's transcript into the dockets of the relevant cases.

2020 has been quite a year so far. No one could have foreseen what has happened to our country. The U.S. economy was shuttered in less than three weeks. That was unimaginable. Our country was then upended by horrifying images of racial discrimination and violence.

I wanted to associate myself and FirstEnergy with Chairman Chatterjee's comments at the start of FERC's last open meeting. We condemn these acts. They have no place in our society and never will in our company. We stand with our employees, customers and communities in strengthening our commitment to diversity, inclusion and social responsibility. We must strive to make our country a better place now and for future generations.

As we've continued to provide the energy our customers and communities need during this health emergency, my first priority has been to keep our employees, our families and our customers safe. We're going to continue to put health and safety first, and do what's necessary to keep

the lights on for our customers throughout this ongoing crisis. That includes investing and maintaining our vast transmission system. As we all know, the transmission system is the backbone of the nation's electric grid, ensuring that infrastructure remains up to date and in top condition is critical to keeping safe, reliable power flowing to customers around the clock.

Over the past few decades, however, there's been a lack of investment in the bulk electric system. As a result, we are facing an urgent need to replace widespread aging infrastructure in order to avoid putting reliability at risk.

In PJM, two-thirds of the transmission assets in the region are more than 40 years old and approximately half of those assets are over 50 years old. At First Energy, about one-third of our transmission line miles have already exceeded their 60-year useful life.

The age and condition of the transmission system in the PJM region poses a significant risk to reliability. That's why a central component of our "Energizing the Future Program," is focused on modernizing and strengthening the system by replacing aging transmission lines and equipment to enhance reliability for our customers.

These infrastructure investments are particularly critical now as our industry faces a rapidly changing energy

mix, marked by smaller, distributed generating sources. As centralized, baseload sources like coal and nuclear generation retire and are replaced by more renewables, it's crucial that the transmission system is prepared to handle intermittent generating sources and more fluctuation in output.

I have a serious concern that without access to capital, these transmission projects cannot be undertaken. Financial markets have long been concerned about the uncertainty created by the lack of a long-term and durable ROE policy. The complications brought about by COVID-19 only compound this situation.

It's critically important for FERC to remove that uncertainty and give investors confidence that utilities will have an opportunity to earn reasonable returns on their transmission investments. While I won't go into specifics, there is more work to be done to establish ROEs that are sufficient enough to attract necessary and sustainable investments in the bulk electric system -- investments that not only benefit customers by improving local reliability, resiliency and security, but can also help fuel the economic recover from the COVID-19.

If there was ever a time when we needed immediate FERC action to stimulate investment, it's now. In addition, transmission owners' ability to manage their own assets and

plan much-needed transmission projects is equally important. Transmission owners are best positioned to understand the condition of their assets and determine the need for maintenance, replacement and improvement.

Asset management is a living, breathing, every-changing process and transmission owners who operate their systems every day and carry the legacy knowledge required to make decisions that impact the performance of the electric grid. It's essential that we continue to depend on their expertise and asset management and cost-effective transmission planning.

The transmission system continues to provide reliable service for customers in the COVID-19 Pandemic. Now, more than ever, our focus should be on continued provision of safe, reliable transmission service.

To enable that, we need to concentrate on regulatory treatments and policies that can help ensure access to capital, sufficient cash flow and adequate ROE and ROI for utilities. And we've got to ensure that transmission owners continue to manage their own assets and plan projects essential to providing reliable service to customers. Thank you.

MR. CABRALES: Thank you, 30 more seconds, perfect. Thank you Mr. Jones. Next is Phil Moeller, Executive Vice President, Business Operations Group and

Regulatory Affairs of Edison Electric Institute. Please go ahead Commissioner Moeller.

COMMISSIONER MOELLER: Well thank you Omar. And Chairman Chatterjee, Commissioners Glick, McNamee and Danly, thank you and the staff for holding this Conference and thank you for inviting EIs to testify in front of you. I look forward to this discussion today. In my time I'm going to cover four areas pretty briefly.

First of all, appreciation to the Commission for all you've done I the crisis. I'll talk a little bit about the shutoff moratorium and the process that we're going through on that nationwide. A little bit about CFO survey that we conducted related to bad debts and uncollectibles and then very generally talk about issues, hopefully we don't get into any sensitive areas.

So we want to thank the entire Commission for the way you've responded to this crisis. From the very beginning, pointing here before the contact, the flexibilities in some of the requirements that you talked about yesterday, the letter that you sent to the Federal Reserve, along with President Presley of NEHRU, the short-term commercial paper issue.

Encouraging us to just file if we have questions, very good. And then even the detail of the accounting order from a few weeks ago, the AFUDC that the accounting staff

worked on, all very helpful. So thank you for your responsiveness to our industry. I think you know that EEI is the Association of Energy Companies in the United States serving all 50 states, plus D.C., 220 million Americans.

So there's a lot at stake here. Moving to the shutoff moratorium, in March all of our member companies voluntarily agreed to a moratorium on shutoffs. And a big focus of this has been on working with customers, making sure that they can develop payment plans, having all kinds of other options that are state Commission can improve so that we can help people through this.

Now some of the states have started to lift those moratoriums, but again, it's in the context of allowing our existing customers to deal with existing programs that will help them through it that's kind of the key and it is really on a state by state basis. So we're very concerned, and I think you should be aware of the fact that there's some language out of Congress that would deal -- would potentially mandate a moratorium nationwide, and that has your colleagues at NARUC and your friends at NACIKA very concerned as are we because that would take a lot of flexibility out of the ability of our companies to deal with our customers.

Are we going to see it goes through on a monthly basis of bad debts and uncollectibles, and we're still

getting the numbers in from June, but preliminarily I think it's fair to say that there's been a meaningful and increasing amount of delinquent customer accounts, less so on a residential level, more so on industrial and commercial.

But it does represent a bit of a threat going forward -- a risk essentially. So moving to the ROE issues, there's a lot of talk -- we'll talk about it on this panel, and I know you want me to stay very general about it, but it's the policies that have been put in place before the pandemic that allows for the infrastructure to be there to serve people during the pandemic.

So again, stability, making sure that those returns can continue to attract capital is the key, because even though the long-term rates are very low right now, our implied cost of equity has increased. So the market perception of risk in our industry has increased significantly by the ingredients that I've talked about.

Again, thank you for having me. Thank you for inviting me. Thanks for this Conference. I look forward to the Q and A session.

MR. CABRERA: Thank you Commissioner Moeller. Up next is Antonio P. Smyth, Senior Vice President, Transmission Ventures Strategy and Policy American Electric Power. Please proceed Mr. Smyth.

MR. SMYTH: Thank you Omar. Chairman Chatterjee, Commissioners Glick, McNamee, Danly and FERC staff, thank you for the opportunity to participate in this important dialogue. My name is Antonio Smyth, and I'm Senior Vice President of Transmission Strategy and Policy at American Electric Power.

AEP is one of the largest electric utilities in the United States, serving more than 5.5 million customers across an 11 state footprint. AET also owns the nation's largest high-voltage electric transmission system, a more than 40,000 mile network that serves a large portion of the electricity demand in the Eastern Interconnection in ERCOT.

The electric transmission grid in North America is considered the largest machine in the world. Our modern society depends on a reliable grid as an essential resource supporting the nation's health, welfare and security. The power grid is at the heart of our systems for communications, finance, transportation, healthcare, food and water supply.

Recent experiences demonstrated the foundational importance of having a power grid in the power sector that is robust and capable of seamlessly serving customers in the face of unexpected stresses like the COVID-19 pandemic.

The economic downturn caused by COVID-19 and the resulting impacts on our load and our customers' ability to

pay their bills, are the most acute pandemic-related financial risk factors AEP faces. Moreover, market volatility has returned in a significant manner.

Although we do not currently face liquidity issues at this time, at the beginning of the crisis, AEP and other utilities had to act outside of normal business course to ensure adequate liquidity. As a reaction to the lack of liquidity in the commercial paper markets, AEP and a number of other utilities quickly entered into term loans to reduce reliance on commercial paper to meet short-term funding needs.

In March, AEP and other utilities had to cancel announced long-term debt issuances and re-enter the market at a later point in time. We are currently managing around slowdowns in key supply chains. Thus far, we have managed to mitigate significant grid project delays or financial stain due to delays of getting transmission projects into service and eligible for cost recovery.

However, given load reductions and economic uncertainty, AEP has made revisions to certain operations and maintenance programs and capital investment plans as precautionary measures.

Our 2020 revised load estimates are down 3.4 percent. Moreover, more of our retail customers have had and will continue to have difficulty paying utility bills.

State regulators have typically authorized deferral of bad debt costs through regulatory asset mechanisms. Thus, we expect that most of the increased bad debt costs will be recovered on a deferred basis, but the timing of recovery is not yet known.

With respect to FERC-jurisdictional rates, AEP has transmission formal rates in place that are annually trued-up for changes in actual costs and loads. However, the volatility in the financial markets, the challenges posed by shifting demand and uncertainty relating to the pace and shape of future economic recovery remain a significant threat to the sector.

Investment and transition infrastructure benefits customers by ensuring reliable electric service in very important ways by lowering energy market prices by enabling the next most cost-effective megawatt to be dispatched into the markets. This infrastructure investment also supports jobs, tax revenues and the economy as the nation works to recover from the economic downturn caused by the pandemic.

The Commission and staff have done a remarkable job during the pandemic by properly focusing on how its policies can most effectively support the financial health and continue infrastructure investment capabilities of the electric sector. The Commission's ratemaking policy and in particular, its return on equity policies, play a critical

role in supporting stable cash flows and credit ratings of utilities, which in turn enable robust grid infrastructure investment.

Thus, the most important action the commission can take is to ensure that returns on equity are stable over the long-term and are adequate to raise capital and maintain credit quality so utilities can continue to invest in vital grid infrastructure.

Additionally, the Commission should continue to work to develop an incentive rate policy that supports the needed levels of transmission investment in an uncertain future. In conclusion, sound Commission ratemaking policies are particularly important at this time as the electric sector continues to work hard to provide critical services to the nation. Thank you for organizing this Conference, and for inviting me to participate. I'll look forward to any questions that you might have, thank you.

MR. CABRERA: Thank you Mr. Smyth. Our next panelist is Christine Tezak, Managing Director Clearview Energy Partners. Please go ahead Miss Tezak.

MS. TEZAK: Good afternoon. I'm Christine Tezak, Managing Director of Clearview Energy Partners. We thank the Commission for its invitation to participate in today's Technical Conference.

Clearview is an independent research firm based

in Washington, D.C. We assist financial investors and corporate strategists by identifying how legislation, regulation and politics impact investment in the energy sector. We are analysts, not lobbyists, not consultants, and we do not represent corporate or partisan interest in any fashion.

Let's focus our comments on two areas. First return on equity policies and outlook we are observing for LNG export projects. Regulatory consistency and continuity are critical through this unprecedented period of economic uncertainty. We share the view that regulatory policy stability helps energy infrastructure investors, as well as the credit rating agencies and the equity analysts advising them to look through market volatility and focus on the fundamentals of the underlying businesses.

We provided examples of our REO analyses in the written version of our comments, but don't translate very well in oral delivery. But our analyses indicate that the Commission's REO models have and are likely to continue to indicate lower required returns for electric utilities compared to pipeline companies.

We would also suggest that this difference is an appropriate reflection of the relative risks and the underlying stress for the businesses, and the nature of the customers they serve. Investor's appetites are not uniform

and investment changes -- investment does change with market conditions. Investor's risk tolerances also vary.

A flight to quality as the market responds to economic stress is like lower relative returns for the most stable businesses. Indeed, the applied ROE is indicated by the models for electric utilities remained essentially stable over the last six months of this year even though the equity market took quite a relative divide.

In our view, if the Commission policy is to rely on market-based information, then regulatory stability is strengthened when that information is used. This includes recognition of structured lower interest rates since the 2007-2009 financial crisis, consideration of changes to the spread between the return of higher and lower risk companies.

To put it more simply, we would argue that there is no right or wrong ROE level in absolute terms that the Commission should be trying to back into. Beyond the COVID-19 crisis, secular shifts challenged the prospects for natural gas and liquid pipeline infrastructure. Many states are lowering the carbon emissions of their electric generation portfolios and in some cases, full carbonization by a date certain.

This calls into question longer-term demand growth rates for natural gas and by extension, natural gas

pipeline infrastructure. Municipalities are enacting bans on new natural gas for customer homes and businesses in favor of electrification supplies by non-GHG emitting resources.

Similarly, the growing interest in electrification of transportation to lower greenhouse gas emissions in the economy generally challenge the long-term growth prospects of the products carried by liquid pipelines. In contrast to these trends, these are not negative for the electric transmission sector, which we expect will continue to be vetted and authorized by regulators to replace aging infrastructure to accommodate new, lower carbon generation resources and potential incremental demand in transportation electrification.

On the LNG side, we also see a challenging environment. Through June 30, we've tallied 12.2 bcf per day of capacity in the United States and 8.3 bcf per day of international process that has delayed financial investment -- final investment decisions.

At present, the U.S. present sponsors that have deferred their planned FID have pushed them out 12 months, but some international sponsors have adopted more open-ended delays, which we think underscores the significant uncertainty for a market that is underpinned by multi-year, multi-billion dollar investments.

Reuters has reported cancellation of LNG cargos in excess of 1 per day, that's 40 to 45 cargos, for both July and August. As indicated, the pipeline facilities, the credit worthiness and the financial health of the shippers and the demand outlooks to the end use market shapes the rich horizons for individual terminal operators and will likely have the underlying contract structures for their down price protection in the take or pay construct.

As was addressed in the last panel, the medium and long-term outlooks for this sector is particularly uncertain. On behalf of Clearview, I thank you for this opportunity and I look forward to your questions.

MR. CABRERA: Thank you Miss Tezak. Our next panelist is Steve Young, Executive Vice President and Chief Financial Officer of Duke Energy. Please go ahead Mr. Young.

MR. YOUNG: Thank you. Good afternoon Mr. Chairman, Commissioners, FERC staff and my fellow panelists. I appreciate the opportunity to participate in the discussion today. The background on Duke Energy, we are one of the largest regulated providers of energy utility service, serving roughly 25 million electric and natural gas customers in the Midwest, and Southeast United States.

The provision of these essential services to our customers is accomplish through investing approximately 10

billion dollars of capital each year. 2020 has presented challenges for many industries across the globe and the energy and the utility industries are not immune. Duke Energy, along with many utilities, must account for the capital-intensive nature of our business and we continue to make significant investments to modernize the energy grid, generate cleaner energy and expand natural gas infrastructure -- all of which position the company to serve customers with reliable, affordable and increasingly clean energy now and well into the future.

As a consequence of the essential services we provide and the capital intensity of these services -- the rates we are permitted to charge for those services are overseen by this Commission and by state Public Utility Commissions. We have a five year capital investment plan of 56 billion dollars, virtually all of which is in our electric and gas utilities.

To fund these significant capital investments, it is essential that we are able to attract debt and equity capital in the same financial markets utilized by our peers and by other non-regulated businesses to provide effective service to the public. If access to the capital markets is unduly impaired, our ability to provide customers the safe and reliable energy at a reasonable cost is jeopardized.

In early 2020, particularly beginning in March of

this year, the debt and equity markets experienced significant volatility creating concerns about access to reasonably priced capital across the industry. In fact, access to markets was severely restricted and if access could be obtained, the cost was quite high on a relative basis.

To illustrate the magnitude of this year's volatility in the 48-day period between February and April 2020, there were 24 days when the equity market moved more than 3 percent. In the prior three years, there were only six such days with market moves of 3 percent or greater. In addition, short and long-term borrowing rates nearly doubled in a two-week period in March.

The Treasury Department supported credit markets and the impacts of federal stimulus legislation funding were critical to stabilize the situation. You cannot become complacent. And given the COVID-19 virus is not yet under control, we continue to see high unemployment rates, the economy could face additional problems. The oncoming hurricane season only exacerbates the situation for utilities, particularly those electric utilities that serve Southeastern franchises.

Duke Energy, like many utilities I suspect is cash flow negative and projects to be so throughout our five-year planning horizon. This is not a new phenomenon

and is due to the significant capital investment requirements. As I stated earlier, Duke Energy's capital plan of over 10 billion per year is needed to maintain, modernize and expand our infrastructure to meet the customer demands and growth.

We must make investments in new transmission infrastructure as customer base grows. We must make investments to bolster the transmission grid with strong equipment to better withstand extreme weather events. We must invest in technologies that facilitate the ability to de-carbonize our generation fleet. In order to meet these demands, we must have confidence in the ability to access capital markets.

Correspondingly lenders, meaning bond holders and shareholders must have confidence that utilities will be able to recover these financing costs in rates. We recognize the challenge our customers and employees face in times like these, and have responded by suspending disconnections, waiving late fees, granting employee stipends and contributing to community shareable organizations.

These are the right things to do, but they also increase funding pressures. Customer accounts in arrears have increased 68 percent when comparing May of 2019 to May of 2020, and that's directly tied to the COVID pandemic.

Duke Energy, and many of our peer utilities are tightening our belts to help ease the financial stress, but regulatory support is critical to continue to provide adequate service. Specifically, we're looking for our regulators to provide adequate and timely recovery of costs.

This means setting returns that are appropriate given the increased risk in the marketplace. And recovery periods that are not overly expanded. This will instill confidence in investors who are critical to funding the projects required to provide reliable service.

As a result of the COVID-19 Pandemic, our customers have effectively become -- our customers homes have effectively become their offices, their restaurants, their schools, so we recognize the importance of providing reliable service while we all adjust to this current environment.

At the same time we must maintain our financial strength, access to capital, credit ratings and liquidity position to attract investors and keep rates affordable. I look forward to the continued dialogue around this Conference today and the many perspectives that will be shared as part of the panel discussion. Thank you.

MR. CABRERA: Thank you Mr. Young and thank you to all the panelists. Now we will begin the question and answer session. If a panelist would like to answer a

question, please use the Webex raise your hand function. Following with the raise your hand function, please turn on your microphone and indicate that you would like to respond. I will call panelists that raise your virtual hand or otherwise indicate that they would like to answer in turn.

Once I do so, please turn on your microphone and respond to the question. Turn off your microphone and lower your virtual hand when you have completed your answer. I will now turn it over to Chairman Chatterjee for questions. Mr. Chairman.

CHAIRMAN CHATTERJEE: Thank you and thank you to all the panelists for a great discussion. For my first question I'll start with Miss Dang. I appreciate you being here today. What is the most important takeaway for my colleagues and I that you would have us remember regarding access to capital and infrastructure development during COVID-19?

MS. DANG: Yeah. On access to capital, I think that the main point is credit. And so you know, the credit policy of the FERC by only allowing three months, I think is -- makes it difficult for us to manage during significant periods of stress like COVID-19. And so I think that we need a policy where we can negotiate with shippers, given their unique circumstances, their unique credit profile and market conditions in order to achieve the right credit and

support to protect our businesses during uncertain time.

CHAIRMAN CHATTERJEE: Thank you for that. Opening it up to others. What are the risk factors from the COVID-19 emergency that in your view are the most acute with respect to potential credit rating downgrades and other credit deterioration? Any anyone feel free to jump in on that.

MR. CABARALES: Miss Tezak, you have the floor.

MS. TEZAK: Thank you. I think one of the things that we've observed most recently is the importance of state regulatory policies that Commissioner Moeller mentioned earlier and when those are clear, when the state regulators in a constructed posture, then that keeps the distribution utilities healthy, both for electricity and natural gas. And that has constructed a spillover effect that you know, contribute to both natural gas pipeline environment as well as the electric transmission environment and the overall health of utility holding companies.

And so you know, what we've seen is that so far the ratings agencies if you're comfortable with how that interaction between the state regulators and utilities and the regulators is going, and as that continues to move forward, that seems to set a nice sort of background environment for a continued constructive posture on a regulated group as a whole.

MR. CABRALES: Thank you Ms. Tezak. Mr. Smyth, I saw you hand your hand up for a second. Would you like to address the question?

MR. SMYTH: Yes Omar. Thank you and Mr. Chairman, thank you for your question. As I mentioned in my opening, you know the factors that present the most acute financial risks to our business today are you know, reduce load and our customer's ability to pay their bills now and really in the foreseeable future.

And you know various panelists be it yesterday or today, have touched upon key supply chains and the to date there have been minimal impacts on our basic supplies of material and labor that's used in the construction of our transmission projects. We've seen so many times extended, but we have quickly adjusted our inventory levels, you know, to account for this and we have not experienced major supply concerns thus far.

However, one thing I did want to point out too, which is the related risk factor in the construction process that we're really navigating now is our ability to secure permits, obtain access to land owners, rights of way, court systems, court office and really other required resources that are outside of the supply chain itself.

So you know, there can be a meaningful effect when the required local aspects of project development are

held up. So again, it's more than just the supply chain that we have to manage in order to get projects completed and eligible for cost recovery, and we're working closely with, you know, states and counties and local agencies to work through it.

And you know, we're also thinking through, you know, the paths by which demand receives issues on a going forward basis. We shouldn't be seeing any additional closures or delays, you know, caused by continuance of disruptions here. So, I mean it goes beyond you know, supply chain and really goes all the way to the local level.

So we're managing that, we're watching that very closely.

MR. CABRALES: Thank you very much Mr. Smyth. Mr. Young, you had your hand up?

MR. YOUNG: Yes. Just quickly. I would add also from a financial standpoint the top risk, or top line revenues are going to decline as a result of this. We've seen that. We estimate between you know, 3 and 5 percent this year and it's hard to predict where it will go from there. Bad debts are going to go up. So both of those are going to hit the cash flows and cause issues in terms of credit metrics at that bow, which is so critical to rating agency assessment of utilities.

So I think timely support by regulators of

unusual costs, fair ROEs, not just looking at fed benchmarks which are trying to offset added risk we're seeing a true assessment of market risk and those types of things are very critical. Thank you.

MR. CABRERA: Thank you Mr. Young. Mr. Gutierrez, you have the mic.

MR. GUTIERREZ: Thank you Mr. Chairman. The major risks that I am observing, I put them in three big buckets, and I think they've been addressed, but I'd like to provide you just some optic on what we're seeing.

The first one is you know, lower customer demand and customer payments on bad debt. What we originally expected at the beginning of the pandemic, we have seen much better numbers than that, both on bad debt and customer demand has already increased and we saw in many placed, pre-COVID-19 levels.

The second one is the access to capital, why there was some uncertainty at the outset of the pandemic that said intervention was very, very effective and really stabilized the capital markets and I can tell you today that access to capital is pretty wide open. And then finally, just the risk of possible regulatory intervention and lack of regulatory certainty.

So, you know, as you can see all these three have been mentioned but you know, some of them were very temporal

and I will say that they have more than recovered to pre-COVID-19 levels.

MR. CABRERA: Thank you Mr. Gutierrez. Mr. Jones, please proceed.

MR. JONES: So most of what I was going to say has been covered. I think the moratorium on shutoffs and the increase of uncollectible expenses has already been said as a risk to cash flow to our business. And while the fed has taken action -- that action to press inter-straights has an unintended consequence.

Those of us at our business still have divine benefit pension plans and an unintended consequence is that we are going to have to make larger contributions sooner than were otherwise contemplated because of the affect of the discount rate on how those pension plan calculations are made.

I know this isn't necessarily an issue that the FERC can help us with, but it's an issue I think the FERC needs to be aware of because it continues -- it will continue to put pressure on our credit efforts because those mandatory pension contributions also influence our rating issues look at the credit for our industry.

MR. CABRERA: Thank you Mr. Young. Commissioner Moeller, you have the floor.

COMMISSIONER MOELLER: Thanks Omar. I will

reiterate what's already been said that the main instruction. I would note those in terms of the risk categories that we are entering the cooling season, it was a hot summer. And in most areas of the country it's summer peaking and so to the extent that this is a risk in collectibles, that would be a factor that's facing us.

MR. CABRERA: Mr. Chairman, we don't have any other hands up at this time.

CHAIRMAN CHATTERJEE: Right. Thank you all for that response. The second question, I'm going to start with Ms. Tezak, but I want other panelists to weigh in as well. How has COVID affected the counterparty mix at pipeline space from natural gas and oil shippers, in that RTO and ISO space from power market participants?

And what are those counterparty risks? And what new measures, if any, are needed to potentially address those risks?

MS. TEZAK: Well Chairman Chatterjee, thank you for the question. But I think you actually have some folks on the panel here that are better positioned to answer that. Ms. Dang is dealing with the deterioration in her shipper's financial health and how that's challenging them.

And think that the increase request to the Commission to weight in on bankruptcy proceedings that are arising from the financial crisis is an indicator of how

important those credit issues are. And I believe that Mr. Collanton is the right person to ask about what the ROTs are doing.

MR. CABRALES: You're okay to weigh in?

MS. DANG: Sure. I can weigh in. Let me just turn on my video for you. You know the counterparty credit that we're dealing with -- I mean I think we covered it, but I'll go back to it you know, again. So we've got deteriorating credit from existing shippers and so we're working with those existing shippers to try to secure credit that they're required to post.

That can be difficult at time. We've also got a number of shippers that have gone bankrupt, and you know, when you have 10-year contracts and you have a shipper that goes bankrupt, and you're earning a regulated rate of return, that is painful. And I think you know, one of the things that I would say about COVID-19 is -- and this is true for a lot of different industries, but you know, it has introduced risk into our business that, you know, people did not see before.

And so for example, in our refined products pipeline, that demand was always very, very stable. And because of that, there was a certain level of return that people expected to earn. Well if we can have, you know, a 40 percent reduction in demand, and you know, and then that

reduction on some of those products expand potentially for years, you know, the risk profile is going to increase on those assets. And so they're going to -- people are going to need high rates of return.

You know, so it's really demand obstruction that we're seeing on the product side. On the natural gas side, that's where the credit concerns really come in and being able to secure the appropriate credit support because you know, we don't -- in our pipes the way it's set up, we are operating in very competitive environments.

And you know, and we're getting tapped out on our returns in good markets and then in other markets where we have pipes where we can't earn our cost of service, you know, we just don't earn it. And we have a portfolio of assets. What's supposed to happen is you're supposed to be able to earn you know, your good projects make up for some of your bad projects.

And what happens with in our environment with the regulated return is you know, when we have the good stuff, it gets chopped off in a rate case, but on the back stop, you know, we can't recover that. And then you introduce COVID-19 on top of that and introduce more risk it just makes it, you know, a difficult business to be in in the long-term, unless we make some changes here to credit and to expected -- and to regulated rates over time.

MR. CABRERA: Thank you Miss Dang. We have Mr. Collanton had his hand up.

MR. COLLANTON: Well yeah, thank you. With regard to the risk that we've seen as I said, because it is not an observed increase credit risk currently among our market participants from the COVID-19 Pandemic, whether they're investor-owned utilities, ESP units on these financial marketers, and this is consistent with the information I have received from other ISOs and RTOs and ISO RTO council.

So to date, this has not come to fruition, but we are maintaining vigilance and monitoring and to assess the credit risk, we're relying on the information from financial credit reporting agencies, the financial energy press as well as information that's provided to us directly from markets and spreads.

And examples of that that could reflect increased credit risk would include negative reports from credit rating agencies, increases in expected default frequencies, and a decline and hence will that work or the net assets, and difficulty of our markets responding to collateral demands and market maintenance.

So we're keeping an eye -- a close eye on that. With respect to expected default treatments, when we subscribe to services in an attempt to predict that and

again, you know, looking at current events that impact the economy and specific companies, you make -- they calculate the expected default frequencies and we make decisions based on that and other data regarding unsecured credit and collateral.

And this allows us to be more proactive in our credit analysis. With regard to what the Commission could do. I think that one thing that is important is for the Commission to conduct outreach to the state regulatory commissions that oversee the financial health of the load serving entities, because that's where we see private big insurance would come from is whether the issues of non-payment or reduced loads that impact the cash flow and revenues for the loads that we have.

MR. CABRERA: Thank you Mr. Collanton. Mr. Gutierrez I see that you have your hand up. Would you like to address this question?

MR. GUTIERREZ: No. Sorry I left it up, thank you.

MR. CABRERA: Okay, thank you. Mr. Young, you also have your hand up. Would you like to address this question?

MR. YOUNG: I'm sorry. I did the same thing. I left my hand up, I apologize.

MR. CABRERA: Thank you. Mr. Chairman, we don't

have any other hands up at this point.

CHAIRMAN CHATTERJEE: Great. Thank you all for touching on questions around credit issues. I want to now pivot to liquidity and access to capital. Again, I open this up to any panelist that wants to weigh in. Are utilities experiencing cash flow issues because infrastructure projects are delayed due to the COVID-19 emergency and they can't recover costs until the project goes into service?

And if that is the case, are there actions the Commission should take such issues such as the allowance for construction work in progress in wait space? We all are going to hear my full question, sorry my thing beeped.

MR. CABRERA: Mr. Young, please proceed.

MR. YOUNG: Yes, thank you. Let me try to get this video on here. Yes. In terms of access to capital, this is a very good question. Most of our infrastructure projects at this time we've been able to find ways to proceed at a reasonable pace. But if this situation extends for a longer period and the second wave becomes more of a problem for the workforce, or the supply chain, then we may find ourselves with a needed piece of infrastructure that has to be delayed.

One piece of infrastructure that we did have to delay because of COVID was inputting some computer equipment

at some of our transmission and fossil plants. We're getting that back on track, but you could see further delays of that nature.

So I do think the Commission would be wise to think about various aspects of allowing even a suspended project to continue AFUDC. I know there's rules around there, but in these circumstances, I think that would be a valuable tool to utilize, thank you.

MR. CABRERA: Thank you Mr. Young. Mr. Smyth you have the mic.

MR. SMYTH: Yes. Thank you Omar and thank you Mr. Chairman for your question. You know on the AEP end thus far we've been able to manage through supply chain and other issues like I've mentioned. And we do not see a need for broad adoption of construction work in process in rate base. That said, I do agree with Steve's point in so far as working throughout this over trial. And we continue to work with key suppliers and the applicable federal, state and local agencies that are key to delivering projects like I mentioned as well.

You know really as a critical infrastructure provider. We need to have a very high degree of situational awareness related to what our suppliers are doing to maintain service to us. We earlier in the pandemic, we asked 240 of our major suppliers to provide us the

highlights of their business continuity plans and to provide us with a single point of contact, so our procurement team can coordinate activities with them during the crisis and get out ahead of any oil supply chain issues.

That process has served us very well. We've had good cooperation with our suppliers. We've been able to get ahead of issues and shifts and adjust when suppliers have not been able to meet their commitments in a timely manner. So I think we're finding other ways to adjust. You know, it's on our end, a very, very large exercise that we go through to do this, like many of the other panelists here are working through as well.

But thus far we don't see a need for equipment rate base at this point.

MR. CABRERA: Thank you Mr. Smyth. We have Mr. Jones next.

MR. JONES: Thank you Omar. And I just want to echo the situation for FirstEnergy is very similar to what you heard from Duke and AEP. We have about 1,000 projects in pipeline to execute on this year. We're doing fine with keeping those on track. The supply chain has been pretty durable.

Much of the major equipment that's required for these types of projects we purchase a year in advance, so we already had available. But as Steve said, if there's a

second round of this virus that's worse than the first round, and those supply chains get disrupted, then we need to look at what are we going to do for projects that are in the pipeline started but can't be finished as a result of the pandemic.

So right now things are fine. I think you plan for the future when you can. So I think we need to be thinking about what are the things that could go wrong down the road.

MR. CABRALES: Thank you Mr. Jones. Miss Dang you are up next.

MS. DANG: Okay, thanks. Just I want to talk about year two issues, access to capital and projects from a pipeline perspective. From you know, on access to capital, and you've heard a lot on this panel you know, debt access was limited prior to the fed coming in back in March, but I think since that time has been pretty readily available and readily available at reasonable rates.

Equity capital is obviously very expensive, you know, and you know, our stock is down over 30 percent. And you know, I think that's similar for the entire pipeline industry. So equity capital has gotten very expensive. From the projects, you know, there's some things that has come out -- it's not necessarily COVID related, but there have been a number of -- you know, or two specifically

recent court rulings on Keystone and on Daffle and here is a lot of uncertainty into the industry and the ability to get projects done.

And we saw, you know, the ACP cancellation. And so I think the projects are more difficult to get done in this environment. It's you know, that's going to drive -- that's going to drive our returns up. That's going to, you know, raise the need of risk share and potentially it results in needed projects not getting built, which I think, you know, from my perspective what the FERC can do there is for its part of the equation when it comes to new construction that we need as much certainty as possible with respect to deadlines.

And that goes to my comments earlier, you know, on the instant rule. We need certainty on the timeframe in which those rehearing requests will get processed and therefore we can get started on construction. Because it is -- we cannot have contractors sitting out there on the right of way that costs hundreds of millions of dollars if we mobilize and de-mobilize or have to pay stand-by charges.

So you know, anything that the FERC can do to give certainty to the process and the timeframe in which that process can get accomplished, is helpful given everything else that's going on.

MR. CABRERA: Thank you Ms. Dang. Mr. Chairman,

we don't have any other hands up at this point.

CHAIRMAN CHATTERJEE: Great. Thank you all for addressing those questions and in that move to ROE and issue questions. We'll start with Mr. Moeller. How has the COVID-19 emergency affected financial market conditions in the return needed by regulated entities?

And should the Commission consider changes to its ROE policy in light of any such affects? And if so, how?

COMMISSIONER MOELLER: Well thank you Mr. Chairman. Yes. As we've talked about the most distinct areas of concern are demand destruction, how long it will go on. I think most of the panelists have raised that as an issue. And of course the bad debts and uncollectibles as has been noted. They're out there, particularly with commercial and industrial.

We don't know how long the economy will take to recover and so to the extent that commercial and industrial demand is paid lower for an extended period of time, that presents again as added risk. And as even Ms. Dang said, and I tried to reiterate it earlier, the cost of equity is higher.

So despite the fact that we have very little restraints right now, that is a risk that the market has put into the price capital. So to the extent that FERC obviously, has a very big role in ROEs for our sector on the

transmission side. You've got the notice of inquiry. We have submitted extensive comments in that generic proceeding and would hope that the Commission could come up with a policy that allows for the stability and the predictability at rates that can continue to attract the capital that's necessary to build the infrastructure.

And again it's been alluded by several of our panelists, it's getting more and more difficult to build major energy infrastructure projects, whether it's pipelines, or in our case, electric transmission and that in itself is something that is worthy of focus given the quick transition to a cleaner and greater grid.

And I'll just finally note that there is also a lot of talk about competition and transmission and I think what's worth remembering is that all transmission projects with all the secluded development and certainly by our members, goes through a vigorous process whether it's the engineer contract, the construction contract, labor, those are all competitive processes in themselves before a project is actually greenlighted and gone ahead.

So thank you for the chance to answer the question Mr. Chairman.

CHAIRMAN CHATTERJEE: Thank you Phil for that. Opening this up to the broader panel. Are there rate design changes the Commission should consider under which a public

utility or pipeline could provide short-term rate relief to its customers to include a mechanism that would keep the public utility or pipeline financially whole over the long-term? Should the Commission consider accounting guidance to reflect jurisdictional entities actions in response to liquidity concerns under financial market uncertainty? Anyone and everyone feel free to weigh in on that.

MS. DANG: Can you repeat the second part of that question?

CHAIRMAN CHATTERJEE: Should the Commission consider accounting guidance to reflect jurisdictional entities actions in response to liquidity concerns and financial market uncertainty?

MR. CABRERA: Mr. Gutierrez has his hand up. Mr. Gutierrez please proceed.

MR. GUITIERREZ: Chairman Chatterjee, I mean let me just I had my hand up on the previous question, but I wanted to provide you a different prospective on the ROE. Obviously I represent a competitive power company. We don't have a guarantee of return on equity. Our return on equity is based on competitive power markets.

One thing that we have observed is, you know, given the intervention of the fed and the very almost near all-time low rates that we're experiencing, one thing to

consider is the spread between that return on equity and the treasury rates. I think it's important that you know, as I said on my opening remarks, if the spread is too large, you know, we compete for capital. We depend on competitive power prices, so if that spread, if that premium is too large, then it would create a you know, a different incentive for investors that could potentially have an impact on competitive power companies.

CHAIRMAN CHATTERJEE: Thank you. Would anyone like to weigh in on the rate design question?

MR. YOUNG: Yes. This is Steve Young here. A couple of comments. On rate design issues, I think the Commission could utilize some of the standard regulatory tools that have been in place in the past and that is the use of deferral accounts with preset times for recovery periods.

This gives comfort to investors if these incremental costs are ultimately recoverable with return. And I think that is very useful in the markets. What people are concerned about is just abandoning in a tough situation like this, and how do you provide these regulated services and continue to move forward if you don't have some regulatory certainty.

The one thing I would say in regards to the ROE in talking about the previous dialogue, the gap between an

ROE and a fed fund rate, as I mentioned earlier, I get a little concerned with that because I think the -- although the fed fund rate is low, it's low because there's a risk environment here that they're trying to offset.

The actual credit spreads are pretty expansive and although the fed has stepped in and backstopped CP and corporate bonds, that's great. But I don't know that that's going to last forever. I don't know where the economy is going to go with this second wave. So I wouldn't be jumping through mathematical theory on ROEs. I would take a broader look at the picture of the risk profile taken by an entity that has such a capital obligation to serve as a utility. So thank you for that opportunity.

MR. CABRALES: Thank you Mr. Young. Miss Tezak has her hand up. Go ahead Miss Tezak.

MS. TEZAK: Yeah, I'd like to definitely agree with Mr. Young's remarks that it's not just about the fed's fund rate. It really is about where the spreads are for various types of corporate credit and if whether or not utilities are falling behind on other similarly rated credit quality companies.

And so, you know, it's a bit of you know, I think one of the big challenges for the Commission is just to be cognizant of the matter of degree is basically a separation still within sort of expectations and not so much worry

about up and downs.

You know, we have seen you know, we saw our ROE model dip, you know, as the equity markets went through tremendous distress, but the -- you know, it has come back along with the market. So I think that being vigilant is helpful and provides a good, you know, a good starting point.

I think rushing to adopt wholesome new rate designs could actually be problematic if it has something historical and then it inhibits the ability of the Commission to respond when market conditions change. If you're going to rely on market based fundamentals to feed your ROE model, then you know, you don't want to hang too many administrative restrictions on them because then they won't move as you need them to to respond to capital market conditions.

So I think the point is well taken that it's not the fed fund rate that's controlling here, it's the corporate rates and those spreads and that is certainly what we were referring to when we look at our you know, when we look at our models and when we look at the overall situation for you know, the electric transmission and pipeline group.

MR. CABRERA: Thank you Miss Tezak. Mr. Jones, you have the floor.

MR. JONES: Thank you Omar. I just want to add

that as I said in my opening remarks, no specifics on rate design, but I think a federal rate policy that is durable and provides certainty for investors is needed. I think over the next decade, you know, my time in this industry is going to be coming to an end.

But we're going to be talking about infrastructure in this country. It's going to be a prime topic regardless of what happens in November. Bridges, highways, sewer water systems, and the transmission and distribution networks of this country need investment.

And the transmission and distribution networks in this country are all regulated still. That's the world we live in. There is a universe of investors who look for those types of investments, but every single investor meeting I have now I get a question about what is going to happen with the FERC, and what is going to happen with long-term ROEs. And it's an issue that we have to at least make a decision one way or another on and provide the information that investors need in order to be able to decide where they want to continue to invest in that infrastructure.

And I said in my comments how old this system is and it needs modernization. It needs resiliency. You know the competitive generation market has re-engineered how the transmission system is used by eliminating large based load

power stations for the most part and replacing them with distributed generation.

That has required the transmission planners and the RTOs to step up and ensure reliability. But they only bring the grid back to the minimum reliability. We need to add resiliency back into it too. So whatever we can do to provide a certainty into the future for what investments in our transmission system are going to look like, I think that should be the number one priority.

MR. CABRALES: Thank you Mr. Jones. If I could remind all the speakers to please put their virtual hands down once they finish answering the question that makes things run smoothly for all of us. Mr. Chairman, there is no other hands up at this point.

CHAIRMAN CHATTERJEE: Great. Moving on my next question is for Mr. Young and potentially Mr. Gutierrez if you'd like to weigh in. Are there retail risks in rate freezes combined with falling load imposing significant risks on utilities? And what impact does this have on operations or planned impacts?

MR. YOUNG: Well I think there are risks associated with some of those types of structures. I think there are risks with also the lack of what I'd call modernized regulatory constructs that the traditional just file base rate cases due to the timeframes involved in

processing through those rate cases.

That absorption of the lag is very difficult and that's very similar to having a rate freeze, when you've got falling load and changing circumstances. So I think that the modern types of investments made on the electric side are as mentioned earlier, we've got smaller generation investments. We've got a lot more grid. Grid used to be lesser than generation investment, but our 5 year and 10 year plans, grid is the dominant investment portfolio.

And grid is a series of small projects, smaller projects that are going into service and begin depreciating and incurring property taxes and so forth, very quickly. So modernized regulatory mechanisms, the coupling forward test years and those kinds of things are needed. I think standard rate freezes and traditional based planning can cause some problems here. Thank you.

MR. GUTIERREZ: Yes Chairman, so I think we already alluded to some of the risks that we've had, particularly lower load and payments. But you know, we don't have the ability to pass through the cost because we're a competitive entity. We actually voluntarily took a lot of steps to help out where our customer gave us a pile of debt.

You know we instituted deferred payments, we suspended disconnects and supported our communities. You

know one thing that I'm very proud of is you know we work very closely with our public utility commission of Texas to create a mechanism to share the cost, but not to make us fall.

I think in a time when, you know, consumers are feeling the pinch of this economic downturn, it is inappropriate, you know, to make companies whole for you know, for these things. So I think this is one way how competition protects consumers during these economic downturns.

CHAIRMAN CHATTERJEE: Thank you both for weighing in. For my next question I'm going to move back to Miss Tezak. We had an extensive discussion this morning about gas and LNG issues, and I was curious in your view, how COVID-19 is affecting the ability of the international customers of U.S. LNG terminals to continue honoring their agreements. And how this could affect the ability of U.S. LNG companies to continue moving forward with their operations or ability to execute infrastructure projects.

Is it possible that any loss of or changes to agreements as a result of a shift in the market from long-term contracts to more liquid short-term contracts, and are these challenges short, mid or long-term? Now it's a lot to unpack there so my apologies.

MS. TEZAK: That's all right. I think it was

very well covered this morning and for those who weren't able to tune in for that, what we're seeing of course is a significant drop in demand for LNG globally by about -- our current estimates show it's down about 1.1 bcf per day.

And that's a lot. And that's a change in demand just from what EIA has been projecting from their January short-term energy outlook to their July short-term energy outlook. So that's pretty material. One of the things that I think is constructive though for U.S. terminal operators, those who hold, who are fortunate enough to already hold long-term take or pay arrangements, their terms are not usually disclosed publicly, but those structures help them preserve their cash flows.

So that if companies are experiencing low demand and can't make use of the opportunity to procure you know, U.S. gas that is now trading at very attractive levels from the customer perspective, then those terminals are in better shape than they would be if they were solely volumetrically dependent.

So I think that certain existing LNG terminals have a better structural position at the moment. Now you asked a very important question about what does this mean for new terminal developers. And I think that this is being reflected in those delays to final investment decisions. That ideal construct of take or pay, is very elusive right

now. And that is not something that the Commission really can do anything about, it's a commercial reality.

And it's being reflected in the market itself when contracts that when you have developers who have received their certificate from the Commission, and they've received their daily authorization and are still not jumping off right where they can go FIG.

So I think that in that respect, you know, we are seeing that really come home to roost and the customers shifting away from their willingness to commit to the U.S. market and long-term natural gas is not what it was in you know, 2012 and 2014.

CHAIRMAN CHATTERJEE: Thank you. My next question is for Mr. Collanton. I recognize that there continue to be open dockets related to RTO and ISO credit filings that we have to stay away from. However, to the extent that you can without going into the specific proceedings, can you give us some key points that RTOs and ISOs are thinking about regarding credit and other access to capital issues during the COVID-19 and going forward? Roger, were you able to hear my question?

MR. COLLANTON: I did hear your question. I'm sorry, I was actually having some technical difficulties in getting myself unmuted. So you know on this I think at this point Commissioner, I probably need to defer and maybe reach

out to my colleagues and the other ISOs and RTOs. I think it is really probably more of a PJM issue.

You know I think one of the issues we've looked at and needed some more detection and abilities in that area, but I'd like to be able to give you a more complete answer and I apologize I don't have one at this point.

CHAIRMAN CHATTERJEE: Not a problem. The next question is for Mr. Gutierrez. You have a diverse portfolio with regional diversity. What aspects of your portfolio has been most impacted by COVID-19?

MR. GUTIERREZ: Chairman, so we have both -- we participate on competitive generation outside of the value chain of the power sector and then the regional side. So let me start with the regional because I think that will be actually more for impact and I mean this actually has been already alluded a couple of times.

The first one is the risk of non-payment of bad debt and as I said, in the outset we were -- we thought that it was going to be worse than it actually has been, and I think that's very positive. As you know as a competitive retailer, we actually bad debt -- we internalize that. You know we don't pass through that cost -- we try to estimate it.

And its been, I mean we are -- we're very comfortable managing that, you know, as we have seen that

trend actually get better. The second one is the lower demand and it was -- the lower demand was very regional and very specific depending on the customer segment. You know we saw the most significant around New York City, New York area, very significant in Texas.

That demand has started to come back very quickly, and I think we all can appreciate that since we're all working from home, actually the national demand has been very healthy compared to the small business in CNI. Small business have been the most impacted by it.

But in both cases, you know, we're seeing very positive signs that are coming back to our normal levels. On the supply side, you know, we maintain complete operational ability during this time. Power plants have, you know, run reliably. Some of the projects that we have they got some delays in construction, but you know, nothing that I would consider very concerning.

So I would say that that's the main -- that has been the main impact. We never had any liquidity issues, you know. We prepare for it, you know, we got into this pandemic in a very strong financial position but has turned out well. We had recent access to our liquidity. We actually shored up our liquidity in the early days without any additional costs.

Since then, what I have seen is you know, the

prevention has been very effective, covers a lot that's opened up and actually access to capital today is you know, some of the bankers are folding up long ago. It's basically wide open. I mean the yield market is completely wide open for access to capital. So you know, I feel very comfortable where, you know, where we sit today and very optimistic that things are turning around this quick.

CHAIRMAN CHATTERJEE: Thank you. These are all such critical issues and I want to allow plenty of time for my colleagues to weigh in. So I would ask one final question. Mr. Moeller, you mentioned in your opening statement that you're not aware of significant delays in infrastructure projects as a result of the COVID-19 emergency.

But you note that if issues persist going forward, some utilities may reduce their operations and maintenance, defer planned capital expenditure, or in some cases, cancel when Cap X or change the dividend policies which could negatively impact the costs of and access to capital. Please expand on what type of issues could cause these changes to in particular, infrastructure development.

COMMISSIONER MOELLER: Well thank you Mr. Chairman. I think it's generally speaking what we've already been talking about. How long is this going to go on. How long before we see as Mr. Gutierrez said, small

business, commercial demand staying lower than what was expected, same with industrial demand.

So there's just a lot of uncertainty going forward where we get through this and whatever wave we're in right now, when does the economy come back? When do things get back? Almost closer to what we're used to as normal. So it's a little early to project as you mentioned in the statement, or to some of the possibilities. We're not there yet, but this is an unprecedented situation and we have to be flexible in what if it continues for a long time how to respond.

CHAIRMAN CHATTERJEE: Thank you and thank all of you for your remarks and contributions and with that, I'd like to turn it over to Commissioner Glick.

COMMISSIONER GLICK: Thank you Mr. Chairman. And thanks to the panel for staying today. I wanted to start with a question for Mr. Gutierrez. I noticed in your written statement you also had a chart or two, something about the benefits of competition and generation sector and how significant the benefits have been for consumers.

And you mentioned the costs have gone up pretty significantly in New England at least, with regard to transmission. Are you suggesting -- do you think that if we had more competition in the transmission sector, that we'd see those kind of cost studies that we've seen in the

generation sector?

MR. GUTIERREZ: Yes hi Commissioner, and thank you for your question. And I think our policies led by the Commission has some, you know, incredible results on the competitive side of the industry.

I mean we're seeing energy prices significantly reduced not just in New England, but just across the you know, across the country. One of the consequences, you know, we are not seeing is transmission. Transmission has increased significantly over the past 10 years not just in New England, but this is a trend that we're seeing you know, in many other markets.

As a matter of fact in some places that if you look at the customer bills, you know, PME charges are now you know, higher than the initial cost. And I think that's a you know, that's the predicament of COVID working on the generation side. Now when I referred to in my opening is you know, we absolutely have an opportunity to modernize the grid, but we cannot just thing that transmission solutions are the beginning and end of everything.

And you know, I think we're starting to see a break from evidence of initial bias, because traditional solutions for everything that is you know, a means operating on modernizing the grid. I think we need to have a framework that evaluates solutions across the entire value

chain of the power sector, not just on the transmission and the traditions which we certainly need to make investments to make it more resilient and to integrate into needs and resources.

But also the supply side, you know, perhaps you know, in no power generation, you know, building so much distributed generation, battery storage, importantly technology is now allowing us to control demand like never before. And onsite management is real, and it now counts.

So we need to look at all three. Everything that we have at our disposal to see what is the most effective way so we can, you know, modernize the grid and at the same time do it by creating value for our consumers, our customers.

I mean that should be the guiding principal. Not whether we may call one company or the other one, but I think the most important thing is how we create a solution that really casts, you know, customers at the center, you know, customer's, you know, needs and values at the center of this decision making.

COMMISSIONER GLICK: Thanks Mr. Gutierrez. That's a very helpful answer. I wanted to turn now to the topic that's been discussed a lot.

MR. CABRALES: Commissioner Glick, Mr. Moeller has his hand up.

COMMISSIONER GLICK: Oh, I apologize. I apologize, go ahead Commissioner Moeller.

COMMISSIONER MOELLER: Thank you Commissioner Glick. I think you know where I'm going on this. I think transmission, I don't mean to be tone deaf to the people who are concerned about costs, but I still think it's a bargain. It's still a relatively small part of the customer's end bill, but the lack of transmission adjustment leads to higher congestion costs on the commodity's side.

I remember probably 10-12 years ago, once PJM put a major line through this area, near D.C., the commodity cost -- largely because of a lack of congestion price of cost related to congestion went way down. And so with the incentives policy that you're considering in the docket, transmission again provides so much optionality and even the reliability benefits of it really are priced, but they're there.

So you know where I've stood on this and I continue to stand. I appreciate you hearing me.

MR. CABRALES: Commissioner Glick, Mr. Jones and Mr. Smyth both have their hands up.

COMMISSIONER GLICK: Okay, thank you.

MR. CABRALES: Go ahead Mr. Jones.

MR. JONES: Okay. Thank you and I just want to piggyback on what Phil just said. And anybody who's paid

attention to my time as CEO knows I've not been a fan of competitive generating markets, mainly because I don't think they're really competitive.

And they don't account for all of the costs. And a real-life example that we went through at FirstEnergy is the closure of plants that were built by Cleveland Electric eliminating companies that served load in the City of Cleveland because they weren't competing fairly in the market.

It resulted in 1.3 billion dollars of transmission projects, 34 discreet transmission projects that the RTO ordered us to perform while those units were continued as reliability must run units. At 1.2 billion dollars that's being paid for by customers, there were costs that were necessary to rewire the bulk electric system so that it would operate minimum reliability requirements without these generators, and none of those costs get factored into the economics of the markets. So I've never been convinced that the market is working correctly.

Most of the major competitive generating companies out there have been through one or two rounds of bankruptcies already, so that's not necessarily the best thing for the investors who invested in those plants or loan money to them, including FirstEnergy Solutions which is no longer part of our company.

So I no longer have any interest in competitive generation. We're a fully regulated company. But I've been in this industry for 42 years and my first job was with instream submission planning and the ROTs are what's making this grid work, not the competitive markets, and we can't forget that, and we have to continue to invest.

It's aging and we all want a greener future as we try to integrate renewables more into this bulk electric system, it's going to be the RTOs that figure out how to do that too.

MR. CABRERA: Thank you Mr. Jones. Mr. Smyth?

MR. SMYTH: Yes, thank you Omar and Commissioner Glick. Just building upon what the last two panelists have combed out. You know on the AEP end we've supported competition in the transmission space when and where it makes sense. We have found that competition on cost alone doesn't really work. And we found far more value in so far as competition through the sponsorship model.

And really from a cost competition perspective, if you think about it from a revenue requirement standpoint, you have capital costs which are a big part of that revenue requirement, where there is a limited universe of labor and material providers that are out there that we all use.

So you know, and as Commissioner Moeller had previously pointed out, you know, we are typically bidding

those types of things out internally whether it's a "competitive project" or not. So that's on the capital cost end. On the cost of capital end, you know, large burns with efficient balance sheets having similar borrowing costs, really when it comes down to it.

And then you've got things like ONM which are smaller where large firms have, you know, very efficient you know, cost structures around ONM and taxes really are what they are. So you know, again we have actually found in the last 10 or so years that competition in the transmission space, when it comes to cost, really doesn't work, and nobody really has you know, a magic bullet or you know a secret code, or sauce by which they can apply to make it you know, to make them much more cost effective.

MR. CABRERA: Thank you Mr. Smyth. Commissioner Glick, we don't have any other hands up at this point.

COMMISSIONER GLICK: Thank you. This kind of relates to my next question. It's certainly a different subject. But there's been a lot of discussion today about regulatory certainty and it's certainly something that I talk about quite a bit and I wanted to ask all the panelists here, but maybe to start with Commissioner Moeller, because you Commissioner, you've had, obviously, experience in the FERC Commission substantial expense there, you've worked in the private sector, you know work for a trade association

that represents all the investor utilities in the country.

And I think it's something that kinds of gets lost on people sometimes is the desire for corporations and other stakeholders to have a little more certain regulatory environment so I kind of know how the guide path of where the regulatory environment is going to be over the next several years and the next several decades in some cases.

And sometimes we end up going from one end to the other and keep on changing our orders, and I don't want to talk about any specific orders, but I wanted you to comment, and others as well, to comment on what -- how important regulatory certainty is and what happens when regulators keep on changing their policies.

COMMISSIONER MOELLER: Well thank you Commissioner Glick. I note that again these -- especially when we talk about transmission investments, these are investments that will probably be useful for at least 40 years and as you know, part of the challenge is cost allocation because flows change over those decades in terms of who's paying what for that infrastructure.

And they will change. So there's some science involved but there's also a lot of art involved in terms of dealing with cost allocations and setting the ROE. But because of the long-term nature of these investments, and our industry is the most capital intensive industry in

America, that certainty is extremely important and we appreciate the extent to which the Commission is working to provide that regulatory certainty in order to again, essentially deliver value, save electricity that's valuable to our customers. Thanks for the question.

MR. CABRERA: Thank you Commissioner Moeller. Miss Tezak is at the mic.

MS. TEZAK: Thank you. I think when one speaks of consistency and certainty, you have to think about what that actually means. It's not a request for intransigent or lack of flexibility, but it's -- I think a consistency in how decisions are evaluated, how records are made, how the Commission processes through its decision making, and the absence of surprises.

Several folks have mentioned throughout the course of this panel and some of the others, you know, being surprised by something that regulators do. Those are things that tend to unsettle investors and that drives up the cost of capital. So regulatory certainty and a certain consistency in the Commission's actions, in its processes, is something that helps keep the cost of capital reasonable for the market participants so that it is accurately reflected and passed on to customers.

And I think that those are -- that's some of the message that I think I would share with you from our client

base is that the -- when things are surprising, when they change frequently, when the direction is set and then six months later it's changed again, those are the things that are more difficult to do, to accommodate.

And those add risk to the sector that's usually in risk reduction, structure to it in terms of how costs are regulated for many participants, and so when you make those things more variable and more unpredictable, then that raises the cost of capital. So you know, that's what we see from our perspective. It's not an intransigence, but it's sort of a dependability in how the Commission works, how it processes through its obligations, thanks.

MR. CABRERA: Thank you Miss Tezak. Mr. Young, you have your hand up. Would you like to address the question?

MR. YOUNG: Yes, thank you. I want to echo completely Miss Tezak's comments. It is the consistency and reliability of how a Commission will process information and coming up with the result that's really valuable. It's valuable in capital allocation, in financial planning. It's very valuable in financial raising of funds. You can talk to investors about the profile going forward with the investments being made, and that's very important, particularly for a regulated utility.

Ultimately, what we're doing is trying to earn a

regulated return. We typically pay out, you know, 65 to 75 percent of the earnings in the form of a dividend to our shareholders who are looking for that steady supplement to their income that's so vital.

And so consistent regulatory treatments I think are really important across the board, thank you.

MR. CABRERA: Commissioner Glick, we don't have any other hands up at this point.

COMMISSIONER GLICK: Okay. Thank you. Miss Tezak, I wanted to ask a question about ROE, and I want to be very careful here for obvious reasons when we have several pending cases. So more generically, but in your testimony, you had several charts and on page 6 of the testimony, you had -- in assessing the mid-point, it had numbers on reasonable estimates.

When you make line estimates were a lot higher, were significantly higher and noticeably higher as you say in June than they were in previous months. And I was wondering if you had a sense of what was driving those increases.

MS. TEZAK: Yeah, when we looked at those for -- this is for the electric. I think what you're seeing there is the impact that the width of the range has on the core values. And those have been -- those have been more influx over the last couple of months. And in fact, if you look at

the capital asset typing models and the DCF results for June, you can see that they're materially better than they were in May.

The premium model is pretty stable because it's backwards looking and it has a lot of data points in it, so it doesn't change very quickly. But the capital asset pricing model really turned around as the market recovered in March and in -- you know, from being very, very low in April and coming back in May and June.

And we've seen you know, I would say a better -- we're seeing it come back for the discounted cash flow model as well, coming back towards where it was in the beginning of the year. So what I think you're seeing here, is you're seeing that the capital asset pricing model which is less -- it has inputs that are less utility specific, if you will, because they look at the whole market. That's the component that's reflecting more of the broader market changes as opposed to a sector specific DCF which focuses just on a particular sector.

So I think that is what is explaining that if you look at the table below the charts, that's where the real shift has been made, the top end of that group came up.

COMMISSIONER GLICK: Okay. Thank you. So basically, where the argument says that also risk level is reducing, is going down, that's why the numbers for that

particular CIPM model, that's why that's gone up.

MS. TEZAK: Yeah, we've seen improvement in those results and you know, that's helping it -- it's the rich premium levels that were changing in that model and when you apply those to the proxy group components for the electric groups, and what that does it sort of -- it evened it out.

So it's not that risk so much came down, but that the broader market indicators were returning to more normal levels.

COMMISSIONER GLICK: Okay, thanks, I appreciate that. In fact, Omar, is there anyone else who's raised their hand?

MR. CABRERA: No, not at this point.

COMMISSIONER GLICK: Okay thanks. Maybe Miss Tezak if we could stick with you a second on a totally different subject on LNG and as outlined you have a Chairman Chatterjee I don't know something he asked you a similar question I was going to ask you.

But you mentioned that -- you basically said it's not like it was in 2012 and 2014 in terms of it being able to have for these LNG facilities to be able to get their bias to take or pay contracts. I'm curious if you think it's going to eventually be like that, things are eventually going to come down and that LNG project developers in the U.S. are going to have the ability to have the same sort of

volumes and the type of contract that were designed back in 2012-2014.

MS. TYZEK: Well that's very good for folks to say because you know we're seeing a lot of -- there's a lot of projects out there now. Back in 2012 and 2014 there weren't that many market participants and so you're seeing, you know, since then we've seen the entry of facilities in Australia, the development of facilities in Siberia that were mentioned in the earlier panel.

And so what you're seeing is you know, more supply enter the market. And so that tends to lessen the incentives from a buyer's perspective to commit long-term to a particular project. If they don't think that committing to that project is going to say them money in the long-term, because usually when you commit up front to the project, you're going to pay more than you know, than the prevailing spot price because you're acquiring the certainty to lock in that capability.

And so you have to believe that on the long-term prices are going to change. And I think that when we look at the EIA data and see that we're down 4 percent year over year in terms of demand and you look at the you know, the cargos that are being cancelled, you know, right now through the summer, it's definitely a weak-looking market.

And you know, the forecast that we follow are all

over the map. Maybe before the COVID episode, you know, maybe you know, 2024 was going to be the tipping point where you know, buyers would start to really start signing up for new capacity again in a robust fashion and be willing to commit to incremental projects.

And now all those forecasts have been, you know, substantively set aside while we wait and see where the market recuperates. I think that it's very difficult to say that really nice secure take or pay opportunity will be available in the same way that it was before. Now does that mean that nobody signs up for it?

No. But as one of the panelists mentioned on the earlier panel, one of the big wild cards was you know, Chinese demand. And right now we don't have a foreign policy where you know, we're in a trade ware with China and those questions are very difficult to expect.

So when you look at a very capital intensive, heavily cyclical business, you're going to see ebbs and flows. The problem is it's really hard to forecast how long those ways last. And if things change if you know, we get a way of managing this virus and if you know, we get to the point where we have a different commercial relationship with China, then arguably the turnaround of that sort of demand sector towards back towards our market could be hugely material. Does that help?

COMMISSIONER GLICK: Yes, thank you very much.

MR. CABRERA: We don't have any other hands up at this point Commissioner.

COMMISSIONER GLICK: Okay. Great, I just have one more question for Mr. Young. In your comments you mentioned the desire for or one of the potential causes for liquidity involves regulators providing excessive tourist recovery -- not being able to recover your costs and your rate of return quickly enough.

I was wondering if you had any examples at least as to the FERC side where existing policy has overly extended these recovery periods.

MR. YOUNG: I really don't have any examples on the FERC side. It was a general thought about how the Tax Act in 2018 resulted in a desire by some regulators, primarily state regulators, to really accelerate the excess deferred tax reductions to customers where regulatory assets, other types of costs were being spread out over longer periods of time.

So it was a little bit of a reference to that. But that can affect cash flows. But I don't have anything specifically on the FERC side. I hope that helps.

MR. CABRERA: We don't have any other hands up Commissioner.

COMMISSIONER CLICK: Well thank you very much.

Mr. Chairman, that's all my questions.

COMMISSIONER MCNAMEE: This is Bernie, and I appreciate the time that all of you have provided so far so I only have a few questions. The first question is we talked a little bit about how you know, I was actually happy to hear that on the electric side that investment in projects really hasn't been hampered during this period probably because many projects were in the pipeline or that components had been bought ahead of time.

But what I am worried about is and would like to hear both from the gas and from the electric side, but first the thing I will be asking you is you know, is there a worry that if the pandemic continues that we won't be investing in pipeline infrastructure?

And of course, that's going to be influenced by a lot of court decisions as well. But is there going to be a delay in infrastructure investment that then will hurt us as we come out of the pandemic and hurt us from being able to capture economic development?

MS. DANG: Okay. Let me start and talk about our existing projects and generally we have been able to continue to build our existing projects. We've had to implement social distancing. The supply lines have been reasonable. They have not been impacted enough to cause delays on these projects.

We did have one project that we did have to delay because it was in a hot spot at the time, and concerned about being able to get it accomplished. But for the most part, we've been able to continue with construction.

Coming in and prior to the pandemic and the collapse in commodity prices, at Kinder Morgan we kind of said we thought we could spend 2 to 3 billion dollars per year to invest in energy infrastructure. And you know, while we don't have a new number today, I think you know, that is going to be, you know, it's going to be -- and what we've told investors is we expect it will be less than that 2 to 3 billion going forward as a result of the lower commodity prices primarily.

And so we just won't require as much energy infrastructure. I think, you know, what that gets to a little bit from my perspective is some of the FERC policies can become even more important because we've got a number of pipelines in our portfolio where we've got contracts rolling off where we can't recontract to that capacity.

And so what that means is our cash flow will -- while previously what was happening was we were getting enough growth for investing the 2 to 3 billion dollars per year, to cover that. And so you know, that's become a much bigger focus, the role of our pipelines where we can't collect because essentially the pipeline is not as needed.

That's becoming more of a focus for our investors. So I do -- I think that to the extent that commodity prices are going to take off, yes we would be behind the curve because there would be more demand. I do think that as a result of lower commodity prices, we'll be spending less capital, but I also think you get in the context of that you need to think about getting back to rates of return, and allowing us to earn -- not take away our good, make us keep our bad assets. We need to be able to keep some of our winnings.

COMMISSIONER MCNAMEE: Anybody else?

MR. CABRERA: Commissioner, Mr. Smyth has his hand up.

MR. SMYTH: Yes. And thank you Commissioner for that good question. You know on the AEP end we have shipped at 500 million dollars of planned capital investment out of 2020 already and we've also made revisions to operations and maintenance programs as a precautionary measure to maintain our credit metrics.

So we've already taken proactive steps from a financial perspective to manage through this situation and other parts of our business. So again, we're not shifting any out of our transmission investment here. But in other parts of our business, we have shifted capital dollars out in 2020.

Those areas of the business don't have formula based rates like we do in FERC space. So this really highlights and underscores you know, the importance of you know, the Commission continuing to adopt a sound you know, ROE policies and mechanisms, you know, that are put in place that allow us to continue to invest.

Because we will find ourselves in a situation where you know, if we don't invest today, we will certainly suffer the consequences tomorrow to your point.

MR. CABRERA: Thank you Mr. Smyth. Miss Tezak, you have your hand up, Miss Tezak?

MS. TEZAK: Yeah, I think it's important to note that the energy sector is not going to be immune from the movements of the broader economy and you know, this unprecedented global COVID is something that is not leaving anyone untouched.

And I think where the Commission is going to need to exercise its discretion is to discern where there's really developing problems and where some of these deferrals and some of the longer lead times are moving forward with planned projects may be wise and appropriate and good for both the companies and the customers.

I mean there's -- it's great to be able to have the long live infrastructure that you would like at your disposal, you know, webbing in your hand when you need it,

but these aren't cyclical markets and they do have a certain cyclicality to them and I think that the connection needs to recognize that it would be really asking itself to accomplish a superhuman feat to try and predict ahead of time all cyclicality in various cyclical markets.

So a little bit of ying and yang I think is to be expected and I do think that investors expect to see that as well. So as long as the stock doesn't get over-extended, as Commissioner Moeller mentioned, like in terms of right now, I think that there's good faith on Wall Street that state regulators are going to work with their utilities and work out the recovery of you know, bad debt, over some reasonable period of time.

And the fact that it hasn't been settled yet with a question mark and not really a question mark of whether they're able to do it at all.

MR. CABRERA: Thank you Miss Tezak. Mr. Young you have your hand up, please proceed.

MR. YOUNG: I'm sorry, I do not have my hand up. I apologize.

MR. CABRERA: Okay. Commissioner, we don't have anyone else with their hand up at this point.

COMMISSIONER MCNAMEE: All right. One thing that I'm hearing and it sounds somewhat separate, but I see a certain common theme, that is Miss Dang, you've made the

point in your written testimony in here about how the challenge of you know, if you have a good pipeline, you can earn your return, but you're capped at that and then if there's a pipeline that's not performing as well, you don't get to make that up.

So it seems that there might be an issue in how we're regulating. On the flip side, there's been some commentary about how the investment in transmission that there may be overinvestment or at least there's been an assertion to that of overinvestment in transmission, not accounting for the investment that's needed in transmission that's hurting certain generation or are we siting generation in the proper places because it's being offset by transmission.

I know those are separate issues, but in my mind there's a certain commonality about are we looking at the whole picture when we make decisions, or are we being too narrow in how we look at things? So that might be caused by the Natural Gas Act, the Interstate Commerce Act and the Federal Power Act.

But just from a policy perspective, I'd like to kind of open the floor and let everybody comment if they think that there needs to be some broader thinking about how -- if we're going to regulate energy and if there's going to be BERC as the center of evaluating energy, should there be

a -- or are you thinking about how we look at the sectors, whether it's oil, gas, or electric in how we look at the whole bundle of sticks and how they achieve the best results for customers.

MR. CABRERA: If you would like to answer that question, Mr. Jones, please proceed.

MR. JONES: Well I want to tackle the topic of overinvestment, underinvestment and how we do it the right way for customers. First of all, I don't know how we could even think that we're overinvesting in a transmission system when 50 percent of it is 50 years or older in this country.

But at FirstEnergy I can tell you some actual results of the investments we've made. We have done investing in our transmission system now. We're in year 7, but the first four years of that were predominantly in our at sea transmission system, which is ROIO and power. During all of those investments we reduced the number of transmission equipment failure outages by more thank 50 percent.

And a transmission failure outage on that part of our system can impact up to 70,000 customers with one outage, so I think we're doing this in a smart way. I know that you know, my counterparts in the industry are following kind of the same principles, investing in the projects that really need to get done quickly and that are delivering

solid reliability results for our customers.

MR. CABRERA: Thank you Mr. Jones. Mr. Smyth, you have the mic.

MR. SMYTH: Yes and thank you for the question. You know, I'll address overinvestment and planning. You know, again to build upon what Mr. Jones said, you know, our system is very aged. I think just on the AEP system, we've got about 6,000 line miles of transmission that's over 70 years old.

You know again, we evaluate our system not only on age, but we look at condition, performance and risk. You know, that goes into you know, figuring out how we go about doing system replacements and upgrades. But you know, the system serves customers too, so it's not just the supply side, it's also the load side as well that we've got to be cognizant of.

So it's not merely where you're putting that generation, it's where you have load. And so a lot of thinking goes into the RTO planning process. I know the RTO planning process doesn't necessarily transcend oil, gas and electric, however, it does account for the broad electric space.

And what I mean by that is, you know, they're looking at the transmission system, you're looking at energy efficiency. You're looking at new generation, be it you

know, fossil or renewable or what have you, and the location of the generation are within that queue.

So you know, again, that planning process at the RTO level is very robust. It goes through many and many gates of analysis and stakeholder processes and really does, I think a nice job of taking a broad view. Now to your point Commissioner, we do not account for necessarily directly account for things like oil and other aspects in that RTO planning process, but it is a pretty wide swath.

MR. CABRERA: Thank you Mr. Smyth. Commissioner Moeller, you have the floor.

COMMISSIONER MOELLER: Thank you Omar and Commissioner McNamee. Thank you for the question. When it comes to transmission I always like to think of some real world examples to highlight the risk. And when I as on the Commission we were going through Susquehanna, you know the lack of that project upgrade was costing hundreds of millions of dollars to customers in New Jersey and Pennsylvania for years, and it still took a long time to get the permits to go through one mile of park land.

And I think people have benefitting from that project and probably are unaware that they have. I think about out West, Pacific Gateway, I think Pat Wright and PacifiCorp put about 12 years of his life into that project which is finally coming around.

And I think back to the MVP projects that MISO promoted, they were very controversial at the time, but they almost immediately subscribed -- fully subscribed throughout the footprint and I give them as an example. I think given the vast renewable resources in the MISO footprint, whether it's wind in the North or the Central or solar in the South, and it's kind of like a new traunch of those projects need to be developed, and there needs to be kind of I'd say space in gubenatorial support because that's what made the first round of MVP projects possible.

So to the extent that the Commission can enhance those discussions with states who have an interest in building out the infrastructure and having that infrastructure then develop the benefits of renewable energy, I believe the Commission can play a very important role in that.

Because when governors are onboard, their state commissions and their state siting authorities are often a lot more tuned in to the need to address what are authority issues, whether it's siting more cap cost allocation.

And my last point on siting is this -- many states have a one-step siting authority. But several do not. Again, New Jersey, you have to go township by township to get approval. So again, it adds to the risk profile that I think needs to be reflected in ROEs, thank you for the

chance to answer.

MR. CABRERA: Thank you Commissioner Moeller. Mr. Gutierrez, you have your hand up, please proceed.

MR. GUTIERREZ: Thank you Commissioner McNamee. I agree with you, but I think we have an opportunity to look at these in a more comprehensive way. I think it's clear that in a digital economy electricity is going to have a bigger market share of the total energy consumption of the country and we do need to modernize the grid.

You know one area where I see perhaps not you know, complete appreciation, and to be fair its changing rapidly, is the demand side of the equation. You know, just a few years ago we couldn't imagine to have a private network of residential customers doing demand side management with smart thermostats.

I mean the connective performing becoming a reality. And it is significant. You can shift megawatts around and the problem of having two peaks in one day is changing significantly due to these smart devices.

So I think there is an opportunity to create a framework where we look at all possible solutions. I mean there is not a one size fits all, whether it is on the supply side, transmission, or the demand side. But we need to create a framework that allows us to evaluate every single one of them to be able to you know, address the

specific issues that we are trying to solve, whether it's local reliability or whether it is you know, bringing additional generation or for transmitting networks from one side to the other one.

There has to be a process where we can actually evaluate them on a same store basis, so we can actually choose the most effective way of investing capital for the benefit of consumers. So I think your point of rethinking and reimagining it is a good one and it will be a welcome one in the power industry.

MR. CABRALES: Thank you very much Mr. Gutierrez. Miss Dang, you have the floor.

MS. DANG: Okay thanks. Just one comment on you know, regulatory policy from a pipeline perspective. I think you know, there needs to be a recognition on behalf of the FERC about the level of competition and market competitiveness that there is in the pipeline industry.

And sometimes I don't think that gets taken into account as you know, regulatory policy gets exercised. You know, generally our customers have one or two others, you know, choices when they're selecting a pipeline supplier. And so you know, the industry has evolved to become a very competitive one and I just think that needs to be taken into account as we proceed forward.

MR. CABRERA: Thank you Miss Dang. Commissioner

McNamee, we don't have any other hands up at this point.

COMMISSIONER MCNAMEE: All right. Well I thank each of you for your time today. And this has been very informative and one of the things I enjoyed so much about this job is getting to listen to people who are actually in the industry and really you're the ones who make the energy economy work and it's good for me to actually hear from you all the challenges you have and the opportunities. So thank you for your time.

MR. CABRERA: Thank you Commissioner McNamee. Mr. Chairman, it looks like we have time for maybe one question from the staff.

CHAIRMAN CHATTERJEE: Yes, sir.

MR. CABRERA: We have Zeny Magus who is going to relay a question from the staff, Zeny?

MR. MAGUS: Hey everybody. My name is Zeny Magus. I'm not going to be on video because I have my normal just a t-shirt on. And I wanted to ask one wrap-up question. We've covered a lot of issues in this panel. And I've been trying to take a lot of notes.

It's really run the gamut. So what we'd like to ask the panelists is -- is there one particular thing you'd like to leave with and emphasize for the Commission on the issues we've been discussing and/or I'd like to know what do you see in the future with regard to access to capital. So

either one of those questions, what's the one concern or issue you'd like to identify before leaving, and what do you see in the future with regard to access to capital. And I'll open it up to everybody and Omar, if you would go ahead and call on people, that would be great.

MR. CABRERA: Thank you Zeny. We have Mr. Gutierrez has his hand up. Go ahead Mr. Gutierrez.

MR. GUTIERREZ: Thank you. I think as a final thought you know I would summarize my comments today is that you know, when we're living in unprecedented time with COVID-19 and the power industry have done a phenomenal job in maintaining the reliability in keeping the lights on.

You know we need to make sure that I don't believe -- we have the tools to manage through right now. And I think we have demonstrated that over the past couple of months. The biggest risk when I speak with investors, is regulatory risk. And it's regulatory intervention.

So changing the rules of the game is the biggest threat and the biggest obstacle for you know, accessing capital markets in an efficient way and you know, attracting investors so we can continue investing in the power grid that is so necessary at this point. So I would wrap it up with that.

MR. CABRERA: Thank you Mr. Gutierrez. Miss Tezak, you have your hand up. Please proceed.

MS. TEZAK: I think this has been a very instructive or set of sessions and I thank the Commission for having it. You know, my takeaway is that you know, we certainly are seeing an impact of the COVID-19 pandemic on the energy sectors and it is tangible. But I also think that it's important to recognize that changes in capital costs happen and that that does not mean that capital markets are necessarily closed.

When producers are in bankruptcy, they have found capital markets closed. We don't have that as a routine problem for FERC jurisdictional entities in terms of bankruptcy because the capital markets aren't closed to them. But they could be changing, and they could have impacts that the Commission needs to keep an eye on and be informed of in terms of where credit spreads are moving, how the corporate bonds are behaving relative to the federal funds rate.

Is the overall ROE consistent with enterprises of similar risk, not necessarily the market broadly? And I think the vigilance is appreciated and it's something that encourages investors that you're watching it and that you're keeping your eyes open for responding to it if necessary and to be the consistent regulator that I think Wall Street has generally hoped you intend to be. So thank you for having this Conference.

MR. CABRERA: Thank you Miss Tezak. Miss Dang, you have your hand up. Would you like to address the question?

MS. DANG: Sure. I think my hand was up from the prior, but I would be happy to address the question. So what I would leave the FERC with, the Commissioners with, is that you know this has gotten more difficult over time. You know the environmentalists are trying to stop pipes at every turn. You've got long-term demand uncertainty problem.

The stop of -- you know, no fossil fuels agreement, and electric vehicles et cetera. We've seen some uncertainty on the regulatory side in the past with 501C's, the Instant Rule, other scenarios. And you add on top of that the uncertainty that's caused by COVID, with the demand impacts that we've seen on the products, credit and the fact that we see more on the natural gas side because of the nature of the take or pay contracts.

And so I think the you know, the ROE policy needs to recognize that this adds more risk from it today than it has in the past. And that there is a lot of competition. And therefore, you know, the regulatory oversight needs to recognize that as well.

MR. CABRERA: Thank you Miss Dang. Mr. Smyth, please proceed.

MR. SMYTH: Yes. Thank you Omar. And you know,

again thank you to the Commission and fellow panelists for a great Conference here. You know what I would leave the Commission with you know, just a reminder that you know, the electric transmission system is vital to reliable service and efficient energy market pricing and you know, it really goes back to based on ROE and incentive policy and getting that right.

And you know, we believe that the Commission should continue its work to adopt sound ROE policy that you know, is styled with a long-term view like we've talked about and you know, results in ROE's that are not biased by volatile market conditions. So that's very important to us.

On the incentives front, you know, well crafted transmission incentive policies are also very important tools for the Commission so that you know to deploy, to ensure that the grid works for customers both today and really into the future.

We do like the Commission's proposed shift to focus on benefits to customers as opposed to risks and challenges to developers like had been done in the past. You know, we feel like a new direction there really can help a lot of incentives with a desired customer benefit outcome. So you know again, thank you again for your time today. I enjoyed participating in this.

MR. CABRALES: Thank you Mr. Smyth. Mr.

Collanton?

MR. COLLANTON: Yes if I can get the technology going here. Well thank you for to the Commission and for all the panelists. It kind of disappeared -- there we go. Let me try that again, I apologize. Thank you again for the invite and for the opportunity to participate.

It's really been an interesting Conference and very informative. I think what I'd like to leave the Commission with is just the you know, notion that as ISO and RTO, we tend to have shorter timelines in our settlement statements. And about one month of transaction time, so that's why our you know, credit timelines tend to be shorter. And I think the Commission recognizes that and it has supported that in its policies.

So I would urge the Commission to leave the Commission with the notion of to keeping supporting the ISOs and the RTOs and advancing our credit policies in light of our circumstances, and to foster the markets with financially healthy market assistance and adequate protections for the markets against default.

We continue to grow in that area whether it's COVID-19, which I think has at this point, displayed that our credit policies are working well, with whatever else hits us in the future, we have to continue to be vigilant.

MR. CABRALES: Thank you Mr. Collanton. Mr.

Young, you have the mic.

MR. YOUNG: Yes, thank you. I don't want to pile on here but I do want to state that what I would want to leave the Commission with is for them to continue the very fair and balanced view of the risk associated with building, constructing, owning, operating long-term infrastructure and the inherent risks that are associated with that.

We're going to go through crisis -- a financial crisis and now a pandemic crisis, and having a healthy respect for that risk as they set our leave and recovery policies, is very valuable. That allows us to effectively raise capital and gives investors confidence. I think the Commission has done a great job with this over the years and I would urge them to please continue, thank you.

MR. CABRALES: Thank you Mr. Young. And thank you all for the answers. Mr. Chairman we are done with staff questions and we are ready for the closing statement.

CHAIRMAN CHATTERJEE: Great. Well thank you all very much. I want to start by offering my heartfelt thanks to all of the panelists who joined us over the last two days. Our work will benefit greatly from the discussions we've had.

When I first announced this Conference, we heard from many stakeholders about these issues that are so important to the industries that the Commission regulates

and to the country as a whole. We want to keep the dialogue going, so we will be providing an opportunity for the public to submit post-Technical Conference comments.

We will be putting out a notice requesting comments soon. I also want to thank the public for joining us for our first virtual Commission led Technical Conference. I know I personally learned a lot and I hope everyone else did as well.

Finally, and most importantly, I'm so grateful to Commission staff for the tremendous work they put into making this Technical Conference a success. These are unprecedented times for everyone in the energy sector, and the staff at FERC have worked above and beyond to ensure that we complete our mission of critical work.

I would especially like to thank the team that put this Technical Conference together and ensured that it ran so smoothly. Aileen Roder, Adam Bednarczyk, and Thomas Kingston from the Office of Energy Policy and Innovation. David O'Connor from the Office of Electric Reliability, Aileen Lewis, the Office of Energy Infrastructure Security, Zeny Magus and Adam Pollack from the Office of Energy Market Regulation.

Ann Marie Hirshberger from the Office of General Counsel, Omar Cabrales from the Office of Energy Projects, Kimberly Horner from the Office of Enforcement, Emily

Pritchard and Sarah McKinley from the Office of External Affairs and Paul Signas, Bassom Moller, Tori Miller, Karen Williams and Phisol Minot from the Office of the Executive Director in IT. Thank you all so much for what you all did to make the past two days a success. With that I will turn it over to my colleagues for any closing remarks they may have, thank you all.

COMMISSIONER GLICK: Thank you Mr. Chairman. I don't really have a closing statement, but I wanted to reiterate what you just said. First of all I want to thank all the panelists who participated over the last two days. Very helpful and very informative discussion.

But more importantly, I wanted to thank all the staff. You mentioned them all by name, so I won't repeat them all, but it takes a lot of effort to put together these Conferences and how many people were working on it and they all did an amazing job, especially given the difficulties of everyone working from home, so thank you very much to the staff and thank you Mr. Chairman.

COMMISSIONER MCNAMEE: Likewise I want to thank you know, each of the panelists as I've said earlier. It was incredibly informative and it's good for me to hear the different perspectives, and it gives me a lot to think about.

And over the past two days we've heard a lot of

different information, a lot of different perspectives and we are going to thinking and digesting it and hopefully it will make all of our decisions better.

I also want to thank the staff and both the Chairman and Commissioner Glick have done. They've been fantastic, not only in this process, but throughout the pandemic they've really been exemplary in terms of their willingness to work hard, produce fantastic work and to help keep the Commission going and helping us as Commissioners keep the work. So I'm very grateful.

Most of all I'm grateful though to the panelists and your business who are keeping the energy infrastructure going in this country. The suffering that the American people are having through the economic crisis that goes with the pandemic, with the physical crisis that goes with the pandemic, would be far worse if it wasn't for your companies keeping the lights on, keeping the gas flowing, keeping the oil flowing, keeping the jet fuel flowing.

And we're very grateful for the work that you all do in leading those companies and for your employees. So thank you.

CHAIRMAN CHATTERJEE: Omar, I think that completes the remarks and completes the Technical Conference.

MR. CABRALES: Thank you Mr. Chairman. Thank you

all for being here today. Stay safe.

(Whereupon the Technical Conference adjourned at 4:04 p.m.)

CERTIFICATE OF OFFICIAL REPORTER

This is to certify that the attached proceeding before the FEDERAL ENERGY REGULATORY COMMISSION in the Matter of:

Name of Proceeding:

Impacts of COVID-19 on the Energy Industry

Docket No.: AD20-17-000

Place: Washington, DC

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were held as herein appears, and that this is the original transcript thereof for the file of the Federal Energy Regulatory Commission, and is a full correct transcription of the proceedings.

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