



QER Public Stakeholder Meeting

Austin

Takeaway Summary

Panel 1

- Regulation stability leads to investment stability, clarity and longevity.
- DOE should invest in R&D on the transmission side.
- Competitive markets work well.
- There are opportunities to properly value the services that different types of generators and technologies can bring to the market. Operators in Texas are working to diversify resources in areas such as wind, solar and natural gas. Need to value reliability reserves and the ancillary services that support the grid.

Panel 2

- ERCOT is distinct, and one reason is because of our competitive retail electric market in most of the state. Consumers have a choice in the selection of their retail electric provider because in 2002 the state opened the markets to retail competition.
- Consumers at the end of the day pay for everything, and as we are developing new technologies, we have to make sure we are doing that efficiently and effectively.
- Keep Federal regulations as simple and practical as possible. Don't forget the customer or physics.
- Consumers use smart meters to reduce their electric bills. They have enabled residential consumers to use demand response programs, to use energy efficiency devices to control when and how they consume their electricity and choose from a greater offering of products and pricing.

Panel 3

- Energy efficiency requires engaged customers, engaged customers require customized data, and customized data will need advanced technologies to integrate the data. However advanced data gathering opens customers up to security vulnerability.
- Advancements in distributed energy resource control technology are needed.

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Opening Panel

Steve Alder, Mayor of Austin

- Austin has more than doubled the solar portfolio of the state of Texas.
- Austin's leadership on renewable energy has not resulted in the sacrifice of the city's economic well-being.

Lillian Salerno, USDA Deputy Under Secretary for Rural Development

- Each year urban households in the U.S. combined use more than three times the total energy than America's rural households do. Yet the Energy Information Administration estimates that rural families spend about \$400 per year more in energy bills compared to the typical urban household.
- Farmers provide information on how to protect the environment and make sure that we're ready for the climate change.

Dr. Ernest Moniz, Secretary of Energy

- Having highly analytically grounded recommendations provides a foundation for much better bipartisan, bilateral energy policy making.
- North American energy integration plays an important role of the QER.
- Just about all other infrastructures rely on the electricity infrastructure.
- Energy issues are regional in nature.
- Innovation needs to come in the form of technology, systems, policy, business model and regulatory innovation.
- We need to be more ambitious in meeting future low carbon requirements.

Panel Questions

Will the QER become an established ongoing process?

- The best way to institutionalize something is to show value. The first QER has already shown an impact on legislation. (Dr. Ernest Moniz)

Does the Department of Energy look at some sort of long-term plan for protecting our mature infrastructure?

- We are focused on physical and cyber security resilience issues (Steve Alder)
- Different parts of the country face different resilience issues and need to address them accordingly. (Dr. Ernest Moniz)

How does the U.S. Department of Energy work with states and localities to get regulatory innovation?

- We have an extremely active engagement with the state regulators and the state energy offices. (Melanie Kenderdine)
- The department has responsibility for setting efficiency standards for appliances and equipment, electric motors and heating and cooling systems, and microwave standby power and all kinds of things. And we have picked up the pace dramatically. (Dr. Ernest Moniz)

How are organizations such as DOE and DOD coordinating to protect the grid?

- There is some joint activity in terms of bringing micro grids and large-scale renewables to supply fixed assets, military bases and the like. (Dr. Ernest Moniz)

Panel 1: Bulk Power Generation and Transmission: How Can We Plan, Build, and Operate the Appropriate Amount for Future Needs?

Panelists

- Cheryl Mele, Senior Vice President and Chief Operating Officer, Electric Reliability Council of Texas (ERCOT)
- Cris Eugster, Group Executive Vice President and Chief Generation & Strategy Officer, CPS Energy
- Mark Schwirtz, President and Chief Executive Officer, Golden Spread Electric Cooperative
- Franklin Maduzia, Associate Commercial Director – Energy, The Dow Chemical Company
- Dr. Michael Webber, Deputy Director of the Energy Institute, Co-Director of the Clean Energy Incubator, Josey Centennial Fellow in Energy Resources, and Professor of Mechanical Engineering, The University of Texas at Austin

Unique Features of the Texas Power Sector

- ERCOT is largely disconnected from other grids and has no capacity in its market. It pays producers and looks node-by-node throughout the day to see who has the best offers to provide ERCOT with supply. ERCOT looks across the region to identify any constraints or reliability issues it needs to be aware of. The control center constantly evaluates the lowest prices while still maintaining reliability. (Cheryl Mele)
- Texas is unique in that it has large areas of flat land and large solar and wind resources. It's easier to build infrastructure when land is inexpensive and there are large amounts of wide-open areas with few obstructions. Texas also has large natural gas capacity and resources, making it easier when solar is not available. In contrast, the Great Plains states don't have natural gas back-up making intermittent resources such as solar more challenging. (Dr. Michael Webber)
- Increased electric power infrastructure development has been positive for Texas. We have an “if you build it they will come” philosophy. It also has resulted in growing demand for electricity in the areas of data centers, electric vehicles, and marijuana operations. (Dr. Michael Webber)

Diverse Resource Mix and Technology Innovation

- Texas is well-positioned for innovation and is continuing to move to clean energy technologies. The resource mix is diverse with utilities in the state diversifying away from coal to technologies such as solar and wind. (Cris Eugster)
- CPS Energy has moved from 80% coal to a larger portion of lower carbon technologies in a short time. It is the largest provider of solar in Texas. There is also a large emphasis on wind and demand response. (Cris Eugster)

Environmental Regulations

- Environmental regulations provide a level of uncertainty, and the impacts of those regulations need to be evaluated. (Cheryl Mele)

Valuation

- There are opportunities to properly value the services that different types of generators and technologies can bring to the market. Operators in Texas are working to diversify resources in areas such as wind, solar and natural gas. Need to value reliability reserves and the ancillary services that support the grid. (Cheryl Mele)

Customer Integration

- Demand response and distributed generation are areas of growth in the Texas market. Customers are price-sensitive and will play a large role in how the grid is managed going forward, while maintaining reliability. (Cheryl Mele)

Re-envisioning the Power Plant

- The “whole concept of the power plant is a thing of the past.” Plants have to be dynamic and engage with the market so that they can integrate with one another and provide a cleaner set of resources to customers. CPS Energy is investing significant capital in the delivery side of the business to marry demand response and energy efficiency with its legacy plants and renewables to create integrated platform. This brings up a series of challenges. For example, cycling a coal plant is not easy. It requires a different maintenance approach and different capital investment in those assets. The industry needs to figure out how to integrate and fund the legacy assets. (Cris Eugster)

Balancing Authorities

- It is a balancing act for the markets for the Southwest Power Pool to balance the demand for the energy and the resources available to serve it. Balancing authorities must ensure a reliable and efficient market and maintain power quality or answer ancillary items in the market. Technologies exist that can do that. For example, Golden Spread Electric Coop installed a simple cycle gas turbine that can start within seven minutes. In ten minutes it can be 70% of the full load and within 11 minutes at full load. (Mark Schwartz)

Characteristics of Efficient Markets

- Let the market provide the price signals. This benefits consumers and suppliers by providing correct incentives, market transparencies and ensuring suppliers receive cost recovery. Market prices should reflect the shortages; prices increase when shortages occur. (Mark Schwartz)

Industrial Customers: Prices / Power Quality

- Texas is home to many large industrial customers. For example, Dow Chemical in Texas is a very large user of power and supplier of power. Its demand is 1,300 MW and its generation capacity is 1,000 MW. It also has 7,000 employees in the state so energy costs in the industrial sector can impact jobs in that sector. (Franklin Maduzia)
- Industrial customers also need dependable power supply. There are challenges in integrating renewables into the transmission system. Renewables can put “noise” such as frequency deviation and resonance on the transmission system which impacts power quality. While these power quality issues may dim the lights in a home, they have the potential to trip a chemical plant. That plant could then be down for a month trying to restart. This impacts revenue and in turn can impact jobs. (Franklin Maduzia)

Improve Transmission Planning

- Transmission is almost as expensive as energy in Texas and the cost is being passed directly onto consumers. Better transmission planning is needed. (Franklin Maduzia)

Remove Barriers to Industrial-owed Generation

- Behind-the-fence generation is basically industrial sector customers building generation plants, used first for steam and then power. Industrial companies need help on removing some of the barriers to build their own generation. (Franklin Maduzia)

Regulatory Stability

- Provide stability in regulated markets. Every time discussion begins regarding regulatory changes, the planning and building process slows or stops. (Franklin Maduzia)

Energy-Water Nexus

- The power sector needs large amounts of water for cooling. About 75% of the power sector uses the steam cycle which uses water to cool the power plants. The water can be too hot, too cold, or it can be scarce. It needs to be the right temperature and the right quantity. If there is a drought, there may not be enough water for cooling. If the water is too hot, environmental laws may come into play. If it is too cold, it could trip power plants offline. Fundamental science / R&D can improve water usage in cooling systems and power plants. Also, think about the grid as a vehicle for moving water around. We can re-dispatch power to serve more areas in the state. Texas has plenty of water in the Eastern part of the State. We can think about that for siting and using it as an aid. (Dr. Michael Webber)

Q&A

Question on a future without coal generation

- Does it make sense to mine coal in Wyoming and transport it by rail to Texas when the state has an abundance of natural gas and shale, solar, and wind? We see studies that indicate there's plenty of shale and prices will stay low, and not volatile, at least another decade which makes it really hard to justify coal in Texas. Legacy assets have a role in terms of firming up some of the intermittent power that's happening in Texas. (Cris Eugster)
- Coal has benefits that other energy resources do not. For example it can be stored without the risk of being lost, such as the large gas leak in California. If coal can be "clean and lean" without the water emissions and other liabilities, it offers some value. (Dr. Michael Webber)

Question on regional seams issues

- We've solved the seams issues for now with respect to the two markets that we operate. The two RTOs got together and came up with rules. For our members and the people that do the markets, the rules are how they get treated in an emergency. (Mark Schwirtz)

Question on challenges that might be present in maintaining security as more technology comes online

- As a chemical plant we have cyber security audits from multiple agencies such as DHS. These agencies won't allow us to share the information with the other. So we have to prepare multiple types of reports just to satisfy all the agencies. The more the power sector is integrated, the greater the problem. The best firewall is a physical firewall. As a chemical plant we try to put as many physical firewalls between as possible. (Schwirtz)
- Having awareness in terms of managing risk is important as we start to integrate devices on the grid. Having good perimeter boundaries and being up-to-date (i.e. in critical infrastructure protection), and going beyond what is needed to make sure we maintain cybersecurity of our systems. (Cheryl Mele)
- It's a difficult conversation to have in public about how to manage the need to protect the public from the risks and assure people that things are going to work while also not over bragging and inviting more attention that you want from bad actors. It's a conversation. (Dr. Michael Webber)

- One of the challenges is the integration with the various services, whether it be with the FBI, DHS or others. Having those relationships and having them be seamless is very important. (Cris Eugster)

Question on innovation needs or what's happening in the bulk power generation transmission sector in terms of innovation. It's helpful for the DOE to understand this given their role in R&D?

- The government role in R&D is very important. It provides the U.S. with a competitive advantage and a pipeline of people, talent and devices. The utility industry is risk averse and R&D is particularly difficult for regulated industries if regulators don't allow it, so technology investments from the government become even more important. (panelist)
- DOE can really be of help by investing in R&D on the transmission side. We can't practice on the grid – develop a new technology, stick it on the grid and see what happens. A large R&D investment is needed. The market will figure out the right technologies on the generation side. (Franklin Maduzia)

Question on the current state of the regulatory environment. Where you do see current challenges? Where would you like to see changes?

- The ERCOT market is in a period of calm. It just went through a capacity discussion that resulted in two years of uncertainty. Some of the uncertainties going forward are upcoming legislation and demand response. (Franklin Maduzia)
- There is a large benefit to stability, clarity, and longevity. Four-year policy decisions that aren't changed in 18 months would be very helpful. (Dr. Michael Webber)
- Regulatory certainty is obviously very important. How the markets evolve to adapt to different resources that are coming online. (panelist)

Question on how the markets are operating, and do you agree that things are working here and to what extent do you think things are different and why is it that it's working

- We're in two markets: ERCOT and the Power Pool. There are protocols on how to operate those markets, and we believe in that process. The primary concern is transparency and pricing so that markets can be more efficient. (Cris Eugster)
- The ERCOT market is very efficient in terms of transparency on pricing. It's easy to connect a new generation asset whether it's a solar farm or wind farm or natural gas plant. (Franklin Maduzia)
- The market is efficient. There were some bumps in the transition from the prior form in the '90s which is not unusual when something new comes along that wasn't planned. Natural gas price spikes used to be insulated from a lot of the consumers and they weren't this time. So it's good now, but it was never flawless. (Dr. Michael Webber)

Question on blurring the lines between transmission and distribution and is that posing any challenges

- There is large demand for distributed generation resources, rooftop solar, and community solar. We need to think carefully in how we integrate those resources within our distribution system, what kind of technologies we need to deploy there, and the whole concept of the Smart Grid and inverters so that they can interface with the grid and maintain grid reliability. (Cris Eugster)

- We have a fundamental mismatch between what we prices and actual costs. We need a better system that reaches farther to the capacity. If you look at \$2 trillion of assets, \$1.2 trillion is on power plant assets, and we are using them less than a half of the amount of time. Over a trillion dollars of money is used less than half the time. (Dr. Michael Webber)

Panel 2: Electricity Distribution and End-Use: How Do We Manage Challenges and Opportunities?

Panelists

- Mark Carpenter, Senior Vice President, Transmission & Distribution Operations, Oncor
- John Hewa, Chief Executive Officer, Pedernales Electric Cooperative
- Phil Williams, General Manager, Denton Municipal Electric
- Jennifer Smith, Executive Director, Congregation Beth Israel
- Tonya Baer, Public Counsel, Texas Office of Public Utility Counsel
- Michelle Foss, Chief Energy Economist, University of Texas at Austin

Grid Operations in a Changing Environment

- Oncor has laid the foundational system to meet evolving customer needs. This includes distribution automation and an advanced metering system for asset management, outage management, and customer communication. (Mark Carpenter)
- We are trying to integrate all of their systems, to include customer information system and SCADA system. Customers are interfacing with utilities online and through social media. (Phil Williams)

Technology and Innovation

- Standards can be an anchor to progress; we need to ensure they are not a barrier to innovation. (Mark Carpenter)
- Our lines are longer and service territories are more exposed, so technologies play a huge role in helping us compete. We are guiding membership on their energy consumption and production. We are working in the area of renewable distributed generation. In the area of renewables, we have moved beyond education and are directly interfacing with customers that are choosing to adopt the technologies. We are excited about energy storage, but the price is still about twice what it needs to be. (John Hewa)
- I would ask DOE to consider more applied demonstrations for technologies to work pragmatically in the business out in the field, and an investment in advanced interoperability to help the grid grow and to expand technologies with more certainty and control. (John Hewa)

Energy Efficiency

- Beth Israel was the first recipient of the Property Assessed Clean Energy (PACE) project financing, allowing them to purchase equipment and improve energy efficiency. PACE financing allowed them to take financing out for equipment for life of investment, and energy savings paid for new equipment. (Jennifer Smith)
- Consumers use smart meters to reduce their electric bills. They have enabled residential consumers to use demand response programs, to use energy efficiency devices to control when and how they consume their electricity and choose from a greater offering of products and pricing. (Tonya Baer)

Security

- We need to make incremental changes and improve resiliency to back up our facilities. (Mark Carpenter)

Workforce

- Developing an appropriately trained workforce makes us partner differently with schools, recruit differently, and train differently. (Mark Carpenter)

Regulation

- ERCOT has good legislative regulatory market groups. Everything is working pretty well. (Mark Carpenter)
- ERCOT is distinct, and one reason is because of our competitive retail electric market in most of the state. Consumers have a choice in the selection of their retail electric provider because in 2002 the state opened the markets to retail competition. Today, Texas has one of the most competitive electric markets in the nation. (Tonya Baer)

Rates

- While the low prices have been good for consumers, we are moving beyond traditional rates. We have new rates, including expectation for time of use rates this fall. These rates will help align our membership with the realities of the market and help us promote distributed energy resources and other services that are producing on peak energy. (John Hewa)
- We are rich with data, but I need software and products and people to pull information to tell me what my future rate structure needs to be for solar, EV, and how to influence customers to charge off-peak. (Phil Williams)

Q&A

Question on how you connect with customers and raise their awareness. Are there challenges that you have experienced?

- When we went to a fully deregulated market, it was strongly encouraged that the wires company not have a relationship with the customer. After about two years, we realized that we needed to have a good relationship with them. We have done quite a bit of research and have had a significant effort trying to figure out what customers want and getting the types of communication they prefer. (Mark Carpenter)
- Engagement is in our DNA. Any excess revenues go back to the consumer-owner. We have on-bill finance to reduce solar costs. We can map real-time cost back to the consumer at the transmission and at the distribution level, and we can encourage our membership to reinvest into new resources on the grid. (John Hewa)
- Our business model and our budget are very open to the public. Commercial/industrial customers are a large part of our business. We absolutely stay in touch with those to see how we can enhance economic development. (Phil Williams)

Question: What motivated you to take steps on energy efficiency?

- An HVAC company brought it to our attention. The only logical way for us to afford a half million dollar project was through PACE. The project made the congregation understand that they could do all the upgrades at once. Also, having savings pay for the upfront costs were what allowed them to make those decisions. (Jennifer Smith)

Question on what you are doing to educate the workforce and where you think the need is

- In 1999, the barrier to entry was a two-year technical degree. PNC technicians were a four-year degree. Now we are in the process on the distribution side of bringing people in through various two-year technical programs or through linemen certification programs. We are partnering with various junior colleges. People can come on full-time and can get all the full benefits, insurance, and go to school. And there is no obligation from them or us on full-time employment when they finish. When you look at the demographics of all the utilities, there is going to be plenty of work for a long time. (Mark Carpenter)
- We are adding energy auditors, inspectors, cybersecurity managers, and others. We are seeing a tremendous specialization occurring on top of what we do, which is maintaining 21,000 miles of line. The name of the game is changing. (John Hewa)
- We have fewer employees per customer, but we have higher paid employees that are more technically advanced. We do compensation surveys to make sure we are keeping up with compensation on those different levels so as to retain those employees. (Phil Williams)

Question on consumers and their motivations and interests

- Reliability first, and rates is after that. (Phil Williams)
- In Texas and in rural America in general, our members have the rooftops, the ranches, the wherewithal and the self-sufficiency to go big with distributed resources, which we are excited about. As a co-op, we will continue to find a way to strike the balance with reliable, traditional services, strong delivery systems, and helping make their technologies work in rural America. (John Hewa)
- We make an effort to hear all customers, not just the squeaky wheel customers. It is hard to categorize them all. We try to put them in fine enough segments so we can address them. (Mark Carpenter)
- The motivation for our congregation was the interfaith environmental network, and a bigger incentive was cost and trying to lower energy costs. (Jennifer Smith)

Question on who pays for new technologies

- As a regulated utility, ultimately the customers pay the cost. Our owners pay for everything we invest in in one way or another. It is incumbent on utilities in Texas and across the nation to provide multiple rate options, and in our case we are moving toward voluntary time-of-use rates that map back to the sensitivities of the actual power markets. (Mark Carpenter)
- Consumers at the end of the day pay for everything, and as we are developing new technologies, we have to make sure we are doing that efficiently and effectively. (Tonya Baer)

Question on the challenges of implementing resilience and reliability

- The best protection is redundancy and relying on substation services from different locations. Also, cybersecurity is important to enhance our systems. (Phil Williams)
- One recommendation I had for DOE was advanced interoperability. We can still count the number of grids and storage systems across the country. Nationally, we need to see an investment in interoperability. (John Hewa)
- On the high-end I agree with John that we need interoperability. Regarding resilience and reliability, we have got a full portfolio of the things we are trying to protect against. Threats are evolving, but we are getting better. It goes back to cost. (Mark Carpenter)

Question about the regulatory environment

- Right now there is a trend to do rates based on cost to serve, but there are times when that is not the only element of rate design that should be taken into account. (Tonya Baer)

- We are seeing some investment delays due to regulatory uncertainty. We have some over-driving regulations, for instance the Clean Power Plan (CPP). We need energy storage as a bridge for what the CPP really contemplates. Otherwise, we will simply see another 40-year investment in natural gas. That may not be optimized with what we can see from a national energy policy standpoint. (John Hewa)
- The stakeholder process works well. Leadership at the regulatory, legislative, and stakeholder level is needed for all markets to work and use the tools available. (Mark Carpenter)

Concluding Comments

- Keep Federal regulations as simple and practical as possible. Don't forget the customer or physics. (Mark Carpenter)
- We need more investment in applied technology, applied grid and business demonstrations, storage being the first of those. We also need advanced interoperability since it advances technology and reduces cost and deployment risk. We should have investments in utility-specific cyber defense systems. (John Hewa)
- Battery storage technology is where solar was years ago. (Phil Williams)
- We are officially a case study and you can find more information on the Texas PACE authority website. It has changed the synagogue's life in allowing us to be more EE and afford to do so. (Jennifer Smith)
- I think it is important to remember that all consumers are different, but they all want reliable, cost-effective power. (Tonya Baer)

Panel 3: New Technologies and Actors in the Grid Edge Space

Panelists

- Brewster McCracken, President and Chief Executive Officer, Pecan Street Inc.
- Deborah Kimberly, Vice President, Customer Energy Solutions, Austin Energy
- Doug Lewin, Vice President, Regulatory Affairs and Market Development, CLEAResult
- Jim Steffes, Executive Vice President, Corporate Affairs, Direct Energy
- Matthew Lynch, Co-Founder and Chief Product Officer, Bractlet

R&D

- A moonshot effort is needed in R&D to reach a meaningful level of sustainability and affordability in a short period of time. (Deborah Kimberly)

Innovation

- Policy, regulatory and business model innovation is needed. The current model in place now was built to ensure mass electrification. The electric and gas utility industry is in the midst of a major transformation. States, advocates, utilities, and service providers are struggling to find regulatory and business models to accommodate this change. (Doug Lewin)

Customer data utilization

- The convergence of services and technologies are enabling a more flexible grid. However, for the vast majority of people, the most basic energy information is often difficult to access and even more difficult to analyze. (Doug Lewin)
- More and more people realize that solutions technology and business models are incumbent upon having access to the data. Data which is being created today but not fully utilized. (Jim Steffes)

Inhibitors of energy efficiency adoption

- Energy efficiency is seen as a one-time large capital investment, which makes it difficult to sell to a lot of building owners today.
- Requirements for large scale adoption (Matthew Lynch):
 - Installers having financing flexibility for customers to leverage
 - Customers having trust that energy savings goals will be realized
 - Custom solutions through leveraging many data points of a customer's system

Q&A

Question on customer engagement

- Two things that drive customer satisfaction and therefore engagement (Deborah Kimberly):
 1. Ease of bill pay (choosing the pay date of each month)
 2. Outage restoration and communication of restoration progress via all media channels
- Product offerings aligned with consumer's want for choices and control will drive engagement, however the industry is still in its infancy for customer facing technologies. (Jim Steffes)
- Customer engagement increases for building owner/operators when a mechanical system in the building breaks. However, in the interim there are already things people can be doing in their buildings now to save electricity, but they need to be engaged on an ongoing basis to make educated decisions. (Matthew Lynch)
- The key is to provide a suite of different solutions. Some customers will want to be very involved with daily updates and are constantly looking for what they can do day in and day out to reduce their carbon footprint and save money, while others won't be as interested. (Doug Lewin)

Question on utility adoption of energy efficiency programs

- Utilities should recognize new ways of electricity use such as electric vehicles and develop programs to leverage this growth. (Deborah Kimberly)

Question on grid edge innovation

- Investment should be put into creating energy simulation models for buildings. (Matthew Lynch)
- Advancements in technologies such as middle wear and batteries to control voltage variability in renewable generation are needed. (Deborah Kimberly)
- Advancements in the control of distributed energy resources such as customer solar are needed to determine: when the house pulls energy from the solar panels, and when it pulls energy from the battery or the grid? (Brewster McCracken)
- The ability to integrate data points and provide real time price signals can help even out the nationwide 46% capacity factor and increase the economic efficiency of the whole system. It will also spark further innovation in distributed energy resources. (Doug Lewin)

Question on data security

- The challenge is to balance customer facing technologies while still protecting the customer's data. (Deborah Kimberly)
- The more data obtained the more useful it is, however the more personal that data becomes.
- Customers want customization of energy efficiency solutions to their buildings; however this comes at a price of vulnerability. (Matthew Lynch)

Concluding Comments

- DOE has a strong role to play in R&D, convening best practices, and to advocate for the ‘clean power plan’. (Doug Lewin)
- Policy, regulatory and business model innovation are important (Doug Lewin)

Public Comments

Lindsay Hughes, Executive Director of the Texas Competitive Power Advocates

- ERCOT operates in a deregulated competitive wholesale market, relying on high prices to incentivize resource development in the market. Absent scarce iterating events, investors will not receive appropriate signals to support continued operation and encourage new projects. The combination of persistent, low natural gas prices and the regulatory distortions introduced into our market by the production tax credit and the investment tax credit for solar have resulted in artificially low wholesale prices in Texas. The resulting impact leads to pricing outcomes that do not value the reliability of conventional generation. The continued success of our electric market will depend on attracting and maintaining diverse fuel mix by incentivizing operation development through adequate market structures

Aden Smith, Vice President of Transmission Strategy of the Southwestern Power Administration

- Climate change impacts and an increasing number of requests of reallocation of the water storage from the reservoirs yield a significant level of uncertainty. It is imperative that as water storage reallocations are contemplated, the increasing level of volatility from climate change is considered and that Southwestern and its customers are fairly compensated for impacts to this valuable Federal hydropower resource.
- Southwestern’s customers, many of them from rural communities, are experiencing the devaluing of Federal power and energy as reflected in the credit they receive for capacity and energy within these market resource adequacy constructs. It is imperative as new policies are created to ensure resource adequacy and that existing reliable and environmentally sound resources are not devalued as a consequence.

Mike Nassy of the Texas Coalition

- DOE should continue to insist upon good inner coordination, by and with the EPA. Assets are frequently stranded as a result of changing environmental regulations.

Matt Weldon

- Markets should be aligned to real world needs.
 - One example of this is increasing retail exposure to time of use pricing.
 - A second example of this is carbon pricing.

David Gerald, Technologist

- Money should be invested into preparing infrastructure for black swan events.
- Regulation can be for the enlightened self-interest of the large industry players.