

EXPLORING THE UTILITY OF THE FUTURE IN PENNSYLVANIA

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KLEINMAN CENTER STAKEHOLDER MEETINGS

In 2015, the Kleinman Center for Energy Policy's (Center) launched its Pennsylvania Future Utility Policy Series with the goals of **1**) providing education, **2**) engaging stakeholders, and **3**) enabling stakeholders and the public to better understand a wide range of perspectives about the utility of the future concept. The Center did not aim to reach stakeholder consensus, rather it focused on understanding how different stakeholders viewed current challenges with the existing utility business model, and what opportunities these stakeholders envisioned for the future.

The Center's Pennsylvania Future Utility stakeholder meeting series was hosted at the University, by invitation only, under the Chatham House Rule.¹ A stakeholder matrix was developed to determine potentially impacted stakeholders and to assist in identifying meeting speakers and attendees. Each meeting included an educational session in the morning– where national experts provided insights about specific facets of future utility trends and developments, tailored to the stakeholder audience–and an afternoon session of facilitated dialogue. The first meeting in the series was hosted on June 1st and included representation from various electric distribution companies (EDCs) operating in Pennsylvania. The second meeting, for regulators and consumer advocate stakeholders, was hosted on August 4th and included representation from Pennsylvania EDCs, members of regulatory agencies with oversight of the EDCs, non-legislative policymakers, and various Pennsylvania-based customer advocate offices. The third meeting, on August 5th, focused on vendor and advocate stakeholder perspectives and included participation from Pennsylvania EDCs, and a variety of advocacy (including environmental, low-income, large energy users, business and industry) and vendor (micro grid, energy efficiency, solar, system operator) organizations.

Prior to the August meetings, a series of policy digests were published on the Center's website, in order to disseminate basic background information about how utilities are currently regulated, trends on opportunities and challenges identified by utilities across the country, various philosophies of utility model change, and how different states are approaching the future utility prospect. These policy digests can be found at (http://www.kleinmanenergy.upenn.edu/policy-projects/exploring-utility-future-pennsylvania).

This proceedings report attempts to capture the various Pennsylvania perspectives identified at the stakeholder meetings. Perspectives are categorized in three sections, **1)** identifying challenges with the existing electric utility business model, **2)** exploring potential opportunities for the utility of the future, and **3)** describing potential pathways to develop a vision of the future.





CHALLENGES

In the facilitated sessions, stakeholders were asked a hypothetical question² intended to help participants identify and share their top concerns with the existing utility business model. Respective stakeholder groups then worked to augment, consolidate, and categorize input from individuals to create a more complete and clear catalogue of perspectives. Below are the various perspectives on challenges with the existing utility business model:

· Regulator Perspectives. Regulators and non-legislative policymakers raised questions about the extent to which utilities should be vehicles for furthering public policies. They pointed to the basic achievement of core utility competencies established through existing authorities and how to deal with seemingly endless new statutory directives. Regulators cited the balancing of reliability, affordability, and long-term investment (e.g. modernization, environmental compliance, infrastructure replacement) requirements as an ongoing challenge. Various aspects of rate design were raised, specifically how to identify the "right" rate design that balances how much is needed, who pays, how much they pay, and through which mechanism they pay. Regulators also expressed concerns about the ability for utilities to satisfy investor risk perception and maintain access to long-term financing in the debt market. The lack of education on both existing challenges and benefits was also identified as a barrier.

· Utility Perspectives.

In general, utilities expressed concerns with what was coined, "the cost of the new world," and balancing pressures to be "better and cleaner" while also "cheaper and simpler." Noted new world costs, for which recovery would be needed, were the costs of implementation and compliance with current and future regulations and various public policy mandates; the costs of expenditures to the distribution system (e.g. hardware); and the loss of distribution revenue resulting from energy efficiency measures, distributed energy resources, net metering, and other mandates. Technology challenges, such as managing two-way power flows and cybersecurity threats were an area of concern, as well as more challenges in maintaining the safety and reliability of the system. Change management was also cited as a challenge, both from an internal corporate perspective and from an external perception perspective. Internally, corporate cultures need time to adapt to the notion that distributed generation could fundamentally change the utility business model. Externally, there is a challenge in overcoming the public/policymaker perception of utilities as non-innovative market participants with a bias toward old technologies and structures that cannot deliver cleaner advanced technology solutions. An additional utility concern was the uncertainty of the role the utilities would play in operating and maintaining the grid or owning DER. Lastly, the utilities expressed concerns that some existing statutory and regulatory frameworks do not promote the achievement of public policy objectives or are inconsistent with fair allocation of costs.

 Consumer Advocate Perspectives.
Consumer advocates expressed concerns about ensuring rates are affordable, fair, and reasonable, and also avoiding cross subsidization. They noted the need to maintain services, both for overall reliability and to better serve traditionally underserved communities.
Lack of transparency and resources for consumers and their representatives—to understand and participate in complex processes that examine existing and future utility issues—is also a challenge. Consumer advocates identified challenges with infrastructure investment, specifically the need to ensure the safety and reliability of the system while balancing costs.

Advocate Perspectives.

Some advocates noted that under the existing system, investments in energy efficiency and distributed renewable generation present some challenges for both customers and utilities. A variety of cost issues were noted as challenges, including accurate accounting of all costs and benefits, applying costs to the rate classes that are benefiting, and affordability and fairness. Some advocates maintained that the current system does not properly account for health or environmental impacts (benefits or drawbacks) of certain actions. Other advocates maintained that utilities have difficulty ensuring the core mission of reliability can be met at the lowest cost. The need for more education of the customer base was cited as a current challenge.

• Vendor Perspectives.

Vendors noted the current utility business model has a variety of barriers that prevent or inhibit utility acceptance of distributed energy resources. These barriers include regulations, policy, corporate culture, legislation, and overcoming the status quo of internal utility operational norms. They noted utilities are typically reactive rather than proactive, too slow to change or evolve their operations, and may not be empowered to recognize the true value of DERs. However, vendors also noted this behavior is likely due to the highly regulated nature of the utilities and the inflexibility that is created by regulatory uncertainty.



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OPPORTUNITIES

After identifying and grouping challenges, stakeholders were asked a hypothetical question³ meant to help identify perspectives about potential opportunities for changes to the existing utility business model. Understanding these perspectives is an important step in eventually identifying potential solutions for the future.

· Regulator Perspectives. Regulators expressed interest in promoting economic growth for the system while also improving affordability and system performance. Regulators identified innovative rate design mechanisms (e.g. decoupling, Distribution System Investment Charge) as an opportunity to improve utility economics and enhance consumer empowerment. New products, services, and rate products for customers were seen as an opportunity; for example, integrating community energy into the distribution grid and developing programs that expand customer access to rapidly evolving technologies (e.g. batteries, behind the meter services). Increased system efficiency and optimization, for example through voltage optimization and integration of advanced technologies, creates an opportunity to address current challenges. Regulators also noted opportunities to promote customer empowerment and awareness of an evolving electricity grid.

• Utility Perspectives.

Utilities expressed interest in understanding and expanding their role in emerging distributed energy resource (e.g. renewables, storage, micro grid, premium power) markets, through regulated (e.g. utility scale solar and/ or provider of last resort programs) and unregulated ownership of DERs, and/or as a platform for third-party DER information and integration. They identified as an item of interest the exploration of new rate design options that could better capture, recover, and fairly allocate costs for availability and use of the distribution system, while also promoting innovation. The idea of maximizing synergies was explored, where value could be added through effective deployment of technologies-for example, through deployment of DERs or integration of new technologies to defer larger capital costs. Utilities expressed interest in the use of pilot programs and research and development opportunities as cost-effective, lowerrisk ways to promote innovation. Utilities saw opportunities to enhance reliability and resiliency through grid investments, which could enable new services such as improved restoration support for critical facilities. Utilities maintained there is an opportunity to provide more and better policy maker education on utility challenges and future opportunities.

Consumer Advocate Perspectives. Consumer advocates maintained there was significant opportunity for greater customer education. Education could range from how to interpret and simplify monthly electricity bills to how to better navigate retail competitive choice, engage in conservation, and understand smart meter capabilities. Expanding service options to better meet customer needs and desires was also identified as an opportunity. These included, but were not limited to, developing new revenue sources for utilities to help offset costs, realigning rates and prices to better match uses and benefits, and setting up new small business cooperatives to provide energy savings.

· Advocate Perspectives.

Advocates were interested in developing a true cost-benefit analysis of future utility business models before deciding whether to change policies. Encouraging more energy efficiency, renewables, and demand response was a priority—for example, by developing a structure for utilities to promote these resources, dispatching demand response based on utility system needs, reducing waste across the system, and educating customers about home energy use and conservation. Aspects of rate design were discussed, such as more closely aligning rates with cost of service, as well as decoupling (see text box below for more information). The opportunity to improve utility responsiveness to customer concerns and enhance customer service was also identified.

- Advocate Perspectives on Decoupling: The diverse group of advocate stakeholders maintained different viewpoints on decoupling, with some seeing opportunity and others seeing a challenge. This text box was added to describe some of the differences.
- **Definitions Matter:** In general, advocates agreed there are various forms and definitions of decoupling and that more specifics were needed to understand potential impacts.
- Benefits or Drawbacks? Some advocates believed there are no benefits and could be harmful effects from decoupling. Some believed there are benefits. Proponents saw decoupling as a powerful mechanism to remove utility disincentives for energy efficiency, with the potential to benefit utilities and certain customers. Other stakeholders maintained that decoupling could discourage energy efficiency, especially for large energy use customers, and remove a link between rates and cost of service.
- · Vendor Perspectives.

Vendors placed a lot of interest and emphasis on expanding the use of distributed energy resources. They maintained that greater use of DERs can lead to job growth, reduced environmental pollution, and can play a role in complying with environmental regulations (e.g. Clean Power Plan). Specific DER items of interest included enabling dispatchable behind-the-meter DERs to be monetized (e.g. through demand response). This would enable greater use of DERs during grid outages, and improve reliability while lowering costs due to more efficient and real-time communication with DER technologies. There was also interest in reducing utility barriers to DER in order to hasten deployment. Vendors also thought it was important to better align wholesale markets with retail activities.



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DEVELOPING A FUTURE VISION

The Kleinman Center reviewed various conceptual visions of the utility of the future and provided a brief overview of various state approaches to examining these concepts. The Center was interested in understanding stakeholder perspectives about what type of process and process characteristics would be beneficial for Pennsylvania in examining potential changes to utility business models. During the regulator and consumer advocate stakeholder meeting, it was determined that the likely process pathways to change would start with the legislature (i.e. passing a bill), governor's office (i.e. developing a policy initiative), Public Utility Commission (i.e. via a regulatory process), proposal from an external stakeholder process (e.g. similar to the Minnesota e21 process), or a hybrid pathway that uses a variety of these drivers (e.g. similar to the wholesale deregulation process in Pennsylvania).

Three key process questions were identified at the August 4th meeting, including:

- Where does the genesis of change (or future vision) come from, and is this a proactive or reactive process?
- Who should lead this change, and who will be the champion of the result?
- What is the process design and forum (e.g. who are the participants, what are the rules, and what is the forum for participation)?

In general, it was determined that the Pennsylvania PUC, legislature and governor's office would be the appropriate candidates to initiate the process and determine process design and forums, leaving only the genesis question open. Utility, vendor, and advocate stakeholders on August 5th were asked to identify characteristics of developing a future utility vision. Stakeholder responses included the following, with the most agreement coalescing around the first three points:

- 1. Establish a stakeholder process lead by an independent third party. (5 responses)
- Develop technical analysis upfront to inform the process. Be sure to examine and learn from other jurisdictions. (4 responses)
- 3. Engage in consumer and policymaker education early and often. (2 responses)
- Develop the process to be prepared for the future, but do not rush into changes.
- Put emphasis on costs and how to pay for realizing new vision.
- Develop working groups and stakeholder facilitation forums, led by Pennsylvania PUC or Governor's office.

ENDNOTES

- ¹ When a meeting, or part thereof, is held under the Chatham House Rule, participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed. See more at: chathamhouse.org/ about/chatham-house-rule#sthash.og6gTXhm.dpuf
- ² Hypothetical "Challenges" question: Imagine your boss gives you the task of coming up with a future electric utility strategy for Pennsylvania. First, think about all of the challenges and concerns you have with the existing business model, especially in your role as a [member of your stakeholder group-e.g. regulator, utility, vendor]. Please identify your top challenges.
- ³ Hypothetical "Opportunity" question: Imagine the next step in developing a future utility strategy is identifying opportunities to potentially improve the system. Think about where you see value in the marketplace and for your organization's mission. Please share your top opportunities.



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