**The Changing Electricity System: NY REV Discussion and Implications**Stanford Graduate School of Business  
  
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On October 26, 2016, the Sustainable Energy Initiative at Stanford Graduate School of Business hosted another of its Energy Dialogues, this one titled “The Changing Electricity System: NY REV Discussion and Implications.” About 15 individuals, including faculty, students, and representatives of utilities, regulators, investors, and energy technology companies, attended this facilitated roundtable gathering. The Energy Dialogue welcomed Rudy Stegemoeller, Special Assistant for Energy Policy, New York Public Service Commission (retired), and lead author on NY REV, as a key discussant. In advance of the event, Mr. Stegemoeller prepared a document on NY REV that was circulated beforehand to all attendees to set the context for meeting. The goals of the day were to examine the opportunities and challenges facing utility reform specifically in the state of New York, and then discuss implications for similar actions occurring worldwide.

Launched by New York Governor Andrew M. Cuomo in 2014, Reforming the Energy Vision (NY REV) aims to restructure the utility market into a system in which the existing municipal and investor-owned utilities (IOUs) host and coordinate a wide range of third-party distributed energy resources (DERs) on the grid. Currently in New York, while commodity provision by IOUs is deregulated, utilities continue an exclusive monopoly to own transmission and distribution grids. Moreover, utilities have an exclusive monopoly on the planning and operation of their respective distribution systems, which is of material consequence to the economic viability of DERs.[[1]](#footnote-1) In contrast, NY policymakers envision restructuring the grid to provide a platform for both utilities and third-party solution providers to offer services. The platform will handle both supply of electricity and management of loads. This new architecture aspires to unlock competition and innovation, and ultimately benefit the environment, the grid, and customer energy bills. However, NY REV will require immense changes to how utilities currently conduct business and how the physical grid is operated.

The following summary highlights some of the main ideas discussed. This conference adhered to the Chatham House Rule, so this summary does not attribute any statement to any individual or organization.

**ALIGNING INCENTIVES AND ROLES**  
All agreed that the traditional utility business model must be updated to support the changing grid and enhanced roles by new stakeholders (e.g., DER providers, engaged consumers, etc.). However, the notion that utility business model reform is a slow-moving process that will require years to accomplish was emphasized repeatedly. Some participants asserted that one reason why the process is so time-consuming is that in many instances, the incumbent utilities are slow to cooperate. Participants discussed, as an example, the matter of interconnection of third-party vendor products (e.g., rooftop PVs, charging stations, etc.) to the utilities’ existing systems. A vendor wanting to connect its products to a utility requires information, such as technical and engineering data, from the utility in order to request interconnection as well as know the best locations for its products. Yet, some noted, most utilities currently have little incentive to supply such information, since interconnection with DERs has the potential to significantly alter expected revenue and utilities are most comfortable planning operation of systems under their sole control.

At the same time, others added that since utilities bear the obligation of ensuring reliability irrespective of circumstance, they are necessarily conservative. “If something goes wrong, [the utilities] get blamed,” one participant said, adding that it is not a third-party vendor but rather the utility that ends up “in front of the TV cameras” to explain a blackout. Additionally, if a utility cites “safety” as a concern or a reason not to proceed with a proposal, regulators are reluctant to overrule the utility’s position, given the technical expertise held by the utility. Participants agreed that regulators “have to fix the incentives and get [utilities] aligned” but did not conclude with specific recommendations for doing so.

Further discussion led to a participant inquiring if regulators can force a utility to provide data to third parties or otherwise cooperate to facilitate interconnection. Responses noted that there might be major differences in regulatory treatment depending upon the nature of the data. For example, customer usage and other load data has significant privacy protections under many state laws, whereas utility distribution planning information is generally not subject to such legal constraints, yet may be not be readily accessible in amenable formats even to the utility itself. It has been only a relatively recent phenomenon where utilities – even those with the capability in the first place to acquire high-fidelity data from the customer – have attempted to make sense of such information. Solution providers are keen to have access to types of customer data, as this could significantly enhance the value proposition of their products. As one participant noted, “The customer must have a need for the data and then it can be monetized.” While non-utility solution providers are eager to access “utility data,” there remain gaps concerning what is amenable for sharing, with whom, in what format, and at what price/cost (if any). The workshop participants also discussed the need to “clean up” large data sets for use by multiple stakeholders; it remains an open question that this responsibility should fall to the utility.

**SETTING PRIORITIES**  
Several individuals questioned whether NY REV stakeholders, including third-party vendors, utilities, environmentalists, consumers, and regulators, have identified and, perhaps more importantly, prioritized the goals of the reform effort especially where there are tradeoffs among the goals. The most frequently cited NY REV goals include carbon reduction, increased innovation, increased robustness especially in a natural disaster, energy efficiency, distributed generation, demand response, and reduced energy bills for the customer. Some participants asked if regulators and other stakeholders have sufficiently considered how distributed generation can “benefit the consumer and not just move wealth from pocket to another.” People “have different impressions of what’s the purpose of NY REV” but ultimately any reform must benefit the customer, said one participant. Participants generally agreed that a key lesson from NY REV is the establishment of clear priorities at the outset of any regulatory reform process. Further, tradeoffs among priorities across stakeholders must be identified as early as possible, coupled with a mechanism to solicit proposals to address such tradeoffs. Finally, evaluation of proposals must be judged against success in achieving priorities identified as having the greatest importance.

**LACK OF EXPERTISE**  
Some cited the lack of expertise at regulatory bodies as a persistent problem. While the public utilities commissions of New York and California have large staffs, most PUC staffs are very limited in both resources and time. As such, these more lean staffs primarily possess tactical, accounting expertise rather than the deep strategic skills needed for grid architecture reform and/or knowledge of the significant capacities of DERs provided by various stakeholders.

One participant cited a lack a technical know-how in evaluating interconnection proposals from utilities, yet this view was not widely shared. Required skills identified by the group as needed by PUCs include energy modeling and data analytic expertise as the planning and operational models at the distribution level become increasingly complex and reliant upon sophisticated models. However, hiring new – and retaining existing – engineers and other technical experts is difficult given the lure of higher paying and (perceived to be) more exciting positions in technology firms. Put frankly, PUCs are unable to compete again firms like Google or Apple for expertise that is required for a 21st-century energy system. PUCs are routinely limited in the range of positions they can even hire for – given traditional civil service job descriptions available for PUCs – and the vast majority of PUCs are unable to hire outside consultants as an alternative (or complement) to staff.

One participant cited another human-resource issue at regulatory bodies: Their hierarchical structures mean that some newly hired “25-year-olds are all over [technical information and reform initiatives], but they’re buried” in the organization and are not used as effectively as they could be in helping commissions embrace innovation. Participants suggested more use of experts from industry or the national labs to guide PUC staff and commissioners in new technical areas. However, the U.S. Department of Energy does not routinely provide funding for such support, nor are national lab employees necessarily equipped to develop solutions that fit the responsibilities of a PUC.

**NEED VENDOR PARTICIPATION AT STATE PUCS**  
State PUCs are on the front line of development of a 21st-century electricity system, and all participants at the workshop agreed that, to do a good job, voices beyond utilities and consumer advocates are needed in PUC deliberations. However, third-party energy vendors face their own human-resource limitations. Some of them are startups with few employees and no financial resources to participate in state-level regulatory activity. In addition, for many, state PUC proceedings are byzantine and frustrating in their formal rules and processes, as well as the subjective and sometime political nature of deciding what is in the “public interest.” Taking part in the regulatory process is “cumbersome but that’s where the rubber hits the road.” From the perspective of a smaller stakeholder, given that each PUC will set rules based on its own unique circumstances, it is daunting to participate across multiple states. Yet one participant noted that it is nevertheless crucial for even the smaller solution providers to participate in the state-level regulatory process because “without more participation at the state level, decisions are bad.” Another hurdle to participation is that even small firms “have to invest $100,000 in an attorney and a witness.” At the same time, it was fully recognized that the deliberation process itself is in need of reinvention, given the high number of new stakeholders that have material interest in the outcomes of regulatory proceedings.

**OTHER STATES DIFFER**  
Participants agreed that lessons from New York’s experience might be difficult to apply to other states, which have widely varying priorities and degrees of political appetite for reform. States also vary in the amount of staff resources they are able or willing to devote to reform. Even in New York, for example, “only a handful” of regulatory staff is working on reform matters, said one participant. Regardless, for the regulator, “ideally you want to set policy, get the incentives right, and then let the stakeholders” work out the details, said one participant. This, of course, will be subject to local conditions. However, there was common agreement that PUC staff alone do not have the requisite capacity and knowledge, and that each state must find ways to involve the appropriate mix of stakeholders in collaborative efforts if that state seeks grid modernization.

1. The majority of DERs are owned and/or operated by so-called third-party solution providers. [↑](#footnote-ref-1)