Utility of the Future:
Paths Through Policy and Regulation Toward Collaboration, Innovation, and Market Solutions in the Electric Power Industry

Powerful economic, technological, social, national security, and environmental imperatives are pressing for fundamental change in the traditional business model of the electric power industry. The contours and pace of this change will be greatly affected by state and federal policies and regulation.

Against this backdrop, Covington, in collaboration with the Bipartisan Policy Center, recently hosted a series of conversations with key thought leaders in industry and government to discuss when, where, why, and how this transformation will unfold and what new business models will emerge. Over 150 guests participated in person and by webinar. Followers on Twitter joined the conversation at #CovingtonUOTF.

Highlights of these discussions appear below together with links to the full audio replays of the discussions.

October 1, 2015 – Covington’s Washington, DC Office
Focus on Federal Policies (click here for the recording)

Program Introduction and Overview: Covington Partner, James Dean.

- The phrase "Utility of the Future" means different things to different people. The focus of our program today is to look at the federal policy backdrop that affects how participants in the grid can collaborate to help achieve the goals of greater efficiency and lower carbon intensity and to do so profitably while also maintaining and enhancing reliability of the grid.

Keynote Luncheon Program: A conversation with Department of Energy Under Secretary for Science and Energy, Franklin (Lynn) Orr, led by Covington Senior Of Counsel and former Deputy Director and General Counsel of the White House Council on Environmental Quality, Gary Guzy.

- Dr. Orr, who serves as the principal advisor to the Secretary of Energy on clean energy technology and energy research and development, helped us to assess the rapidly changing state of energy technology and how it affects business opportunities, markets, and regulatory policy.

He said, “It wasn’t so very long ago that the way to tell if a tree fell on a feeder line was by driving a truck out there and shining a light on the poles to know who’s got power.”
Today, with the “convergence of sensors and communications with everything else we do . . .” we can assess the state of transmission and generation in nanoseconds. “In a world loaded with distributed generation,” where large parts of the world are rapidly electrifying, there is a new possibility of a range of transformative services in the power sector.

Combine these changes with advanced materials, that facilitate lighter structures and enhanced properties, and a whole range of new services will become available. The dramatic changes we have seen in the new energy generation mix over the last five years, with huge growth in wind and grid-scale solar generation, are only likely to accelerate. And with much work going on with more effective storage, we can expect to see changes from the micro-control level to over the entire grid. These changes are enhanced by policy certainty, but the market has a tremendous ability to innovate and solve problems if pointed in the right direction.

Panel Discussion: Moderated by Covington Partner, W. Andrew Jack, with panelists: William (Bill) Tyndall, Duke Energy’s Senior Vice President - Federal Government and Regulatory Affairs; Jennifer Macedonia, Bipartisan Policy Center’s Senior Advisor leading on the Clean Power Plan; and Jamil Khan, SolarCity’s Deputy Director, Policy & Electricity Markets.

- What do we mean by greater “efficiency” of the grid?
  - Greater efficiency means meeting market demand for power, at the “lowest total cost” -- that includes capital and operating costs (LCOE) as well as minimizing negative externalities -- including all environmental impacts -- greenhouse gas emissions, other pollutants, wildlife impacts, and impacts on viewscapes. It also includes the costs of transformation, such as lost value of coal fired generation and otherwise productive assets that are taken offline.

- What is the traditional utility’s vision of the utility of the future?
  - We expect to see load flattening and new generation technologies coming in, but fundamentally the same ingredients -- generation, transmission, distribution -- are needed to make the grid work. That’s a very efficient approach using regulated competition to provide “cheap as possible” service reliably reaching all customers.

- What is the new entrant’s vision of the utility of the future?
  - We would like to see incentives for more efficient utilization of the grid (and its capital investment) by a more customer driven system with substantial investment in distributed generation, storage, and distributed load controls -- particularly distributed load controls.

- What is the business model for distributed load management and demand response, who owns that service and how can it be valued?
  - Utilities should look to third party innovators in the competitive market to provide needed investment in distributed resources and grid management services, but should be allowed to earn a return by investing in these collaborations rather than requiring utilities to build and own this capability. While this model might reduce overall revenues for some utilities, the open question is whether it will allow utilities to maintain or increase profitability on a more efficient use of capital.
- Can there be practical, implementable federal policy that helps the transformation?
  - DOE support for R&D and the Clean Power Plan will help to place value on low carbon power and inspire states to think about what they can do to lower emissions while meeting reliability requirements.

- What is the role of Congress in this?
  - There is bipartisan support for legislation around incentives for energy efficiency, but prospects of passage is low. At the same time the overhang of legislative uncertainty impedes progress.

November 13, 2015 – Covington’s New York, NY Office
Focus on State Policies (click here for the recording)

Program Introduction and Overview: Covington Senior Of Counsel, Gary Guzy.
- Our discussion takes place against a rapidly changing backdrop of the power generation mix in the United States. For the first time ever this year, according to the Energy Information Agency, more electricity was generated by natural gas than by coal. More than ninety percent of new power installations last year were wind, utility scale solar, and natural gas. Add to that the projection that about one-quarter of existing coal facilities are slated to shut down by 2025.

- With innovations occurring in grid modernization, clean power, green buildings, manufacturing efficiency, fuel composition, and transportation, markets are changing. Layer on top of that the external drivers, such as EPA’s Clean Power Plan rules or the United Nations Climate negotiations in Paris, and it is apparent that the pace of change is enormous.

- Whether one sees that change as a positive or a negative depends on one’s perspective, much as is true of the large sculpture at the base of the Brooklyn Bridge that reads as the greeting or admonition “YO” to Manhattanites, but as the observation “OY” when seen from Brooklyn. But it is incumbent upon us to foster a dialogue so that we all understand that change and better understand the opportunities and pitfalls it presents, hence Covington’s commitment with the Bipartisan Policy Council to this dialogue.

Keynote Luncheon Program: A conversation with Chair of the New York State Public Service Commission, Audrey Zibelman, led by Covington Senior Counsel, Bill Massey.
- What was the catalyst for New York’s Reforming the Energy Vision (REV)?
  - Super Storm Sandy. Gov. Cuomo saw the devastation and all the constituents without electricity and said we’ve got to change.

- What is the goal of REV?
  - REV raises regulatory and market issues. We need to get the regulations right and the markets right. We need to get price signals to demand. The goal is to create a network with end-to-end optimization of generation to load.

- How will REV change the distribution system?
  - It will no longer think of itself as merely a wires provider, but rather as driving economic value by integrating distributed energy resources and maximizing their
value. The utility role will be that of an enabler, and utilities must be given incentives to think of this as a positive outcome for them.

- What collaborations to you anticipate among market participants?
  - We have several demonstration projects that will facilitate collaboration and innovations. For example, a utility may collaborate with a data provider to select the best locations for storage. Utilities are creating incubators within their companies to think about innovations, like Lucent was created by AT&T. We want utilities to think of third parties as partners, and third parties to think of utilities as partners.

- Do you see a key role for storage under REV?
  - Yes, we can’t get where we want to go as a society without commercial storage. Among other things, storage plays a fundamental role in supporting fast responding resources.

- What is the role of the regulator?
  - Not to pick winners and losers, but rather to get the prices right and let the market pick winners and losers.

- How will reliability be affected?
  - It cannot be overstated that we are dealing with electricity, still an essential service, and reliability and safety are always important. It is critical that we “crawl, walk, run.” There is a public trust, and we are going about this very carefully.

Panel Discussion: Moderated by Covington Partner Bill Collins with panelists: Todd Giardinelli, Morgan Stanley’s Managing Director and Global Head of M&A - Power and Utilities Group; Marisa Uchin, Opower’s Director of Regulatory Affairs and Market Development; and Steve Corneli, NRG Energy’s Senior Vice President for Sustainability, Policy and Strategy.

- Are we at a tipping point? In five or 10 years, will we look back on where we are as a major shift point in electric market design?
  - We are definitely at a point of inflection. Customer empowerment will be dramatically impacted by the explosion of digital technology companies that can manage data and create value for customers (like Netflix as an example), and on the supplier side, there are many new competitive providers crowding the space. Explosion of renewable energy is a massively huge driver of customer demand response and smart response. Digital distributed resources that we are seeing are poised to get to a tipping point, actually an explosive tipping point. One of the big gating issues is whether or not regulatory apparatus, competitive business models, and utility business models will evolve quickly enough to manage the explosion of consumer interest.

- Are states and utilities taking distributed energy resources seriously enough in business planning and development?
  - Distributed generation planning is at the Board level not just at the CEO level; so yes, they are absolutely taking it seriously. We need multi-year planning though, which is difficult to do. There is skepticism of regulators among customers. Also $100 billion of utility investment is required in the next two to three years in infrastructure, and utilities’ balance sheets are stretched. Customers also need to understand the full value proposition, and without that, you will not get the buy in from customers required to make all the changes on the wholesale level we need.
Regarding reliance on “mandates” versus “markets,” where should the emphasis lay?

- This will vary state-by-state, but we should not expect to go all the way to a full market-based system. Storage is the linchpin to distributed generation, and we need incentives. This can't be completely unregulated, but can't be completely regulated either. A set of mandates can create a platform that will support markets, which is what NY REV is trying to do.

What are the proper roles of the customer and the utility in the future system? Are utilities keeping pace with disruptive technologies?

- This is not a generational thing. We need better and stronger relationships and dialogue with customers. Utilities need to manage those relationships in a personalized way and build trust with customers as a foundational element. The deeper issue is how can utilities build infrastructure that allows more value to be created by distributed generation resources. Utilities are innovative but they need to earn returns on what they invest.

What is the one opportunity you see emerging in the near future in a business model, technology collaboration, innovation or transaction?

- We have to be bullish on storage. Storage is absolutely critical to having an effective distributed generation platform, but capital is needed for this, including start-up capital. A “storage IPP” model is even possible in the next few years. The NY REV demo projects that Audrey Zibelman was describing are very exciting and crucial. An important way to drive innovation is to allow utilities to effectively do R&D, and take risk out for them. We also need energy efficiency software between the utility and behind the meter for the benefit of both the utility and the customer. It would certainly help if utilities could rate base software investments.

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