

Executive Summary

Recent technological and economic changes are expected to challenge and transform the electric utility industry. These changes (or “disruptive challenges”) arise due to a convergence of factors, including: falling costs of distributed generation and other distributed energy resources (DER); an enhanced focus on development of new DER technologies; increasing customer, regulatory, and political interest in demand-side management technologies (DSM); government programs to incentivize selected technologies; the declining price of natural gas; slowing economic growth trends; and rising electricity prices in certain areas of the country. Taken together, these factors are potential “game changers” to the U.S. electric utility industry, and are likely to dramatically impact customers, employees, investors, and the availability of capital to fund future investment. The timing of such transformative changes is unclear, but with the potential for technological innovation (e.g., solar photovoltaic or PV) becoming economically viable due to this confluence of forces, the industry and its stakeholders must proactively assess the impacts and alternatives available to address disruptive challenges in a timely manner.

This paper considers the financial risks and investor implications related to disruptive challenges, the potential strategic responses to these challenges, and the likely investor expectations to utility plans going forward. There are valuable lessons to be learned from other industries, as well as prior utility sector paradigm shifts, that can assist us in exploring risks and potential strategic responses.

The financial risks created by disruptive challenges include declining utility revenues, increasing costs, and lower profitability potential, particularly over the long-term. As DER and DSM programs continue to capture “market share,” for example, utility revenues will be reduced. Adding the higher costs to integrate DER, increasing subsidies for DSM and direct metering of DER will result in the potential for a squeeze on profitability and, thus, credit metrics. While the regulatory process is expected to allow for recovery of lost revenues in future rate cases, tariff structures in most states call for non-DER customers to pay for (or absorb) lost revenues. As DER penetration increases, this is a cost-recovery structure that will lead to political pressure to undo these cross subsidies and may result in utility stranded cost exposure.

While the various disruptive challenges facing the electric utility industry may have different implications, they all create adverse impacts on revenues, as well as on investor returns, and require individual solutions as part of a comprehensive program to address these disruptive trends. Left unaddressed, these financial pressures could have a major impact on realized equity returns, required investor returns, and credit quality. As a result, the future cost and availability of capital for the electric utility industry would be adversely impacted. This would lead to increasing customer rate pressures.

The regulatory paradigm that has supported recovery of utility investment has been in place since the electric utility industry reached a mature state in the first half of the 20th century. Until there is a significant, clear, and present threat to this recovery paradigm, it is likely that the financial markets will not focus on these disruptive challenges, despite the fact that electric utility capital investment is recovered over a period of 30 or more years (i.e., which exposes the industry to stranded cost risks). However, with the current level of lost load nationwide from DER being less than 1 percent, investors are not taking notice of this phenomenon, despite the fact that the pace of change is increasing and will likely increase further as costs of disruptive technologies benefit further from scale efficiencies.

Investors, particularly equity investors, have developed confidence throughout time in a durable industry financial recovery model and, thus, tend to focus on earnings growth potential over a 12- to 24-month period.