

and not wait until the decline in sales and revenues has commenced to develop a new strategy or, in the case of investors, realize their loss.

As discussed above, investors in the utility sector seek increased certainty (or less risk) than in other industries and have confidence in the consistent application of ratemaking recovery models to provide a lower degree of investment risk. As a result of this confidence, when instances have occurred in the past that have not provided consistent application of expected cost recovery models, investors have responded and have caused significant adverse impact on entities' ability to raise incremental capital. But, with the exception of the California energy crisis in the early 2000s, these events reflected embedded cost issues that had defined exposures and time frames. Disruptive changes are a new type of threat to the electric utility industry. Disruptive changes lead to declining customer and usage per customer levels that cannot be easily quantified as to the potential threat posed to corporate profitability. This type of problem has not been faced before by the electric industry and, thus, must be understood as to the strategic issues and alternatives that are raised.

The new potential risk to utility investors from disruptive forces is the impact on future earnings growth expectations. Lost revenues within a net metering paradigm, for instance, are able to be recovered in future rate cases. However, without a shift in tariff structures, there is only so much of an increase that can be placed on remaining non-DER customers before political pressure is brought to bear on recovery mechanisms. Once the sustainability of the utility earnings model is questioned, investors will look at the industry through a new lens, and the view from this lens will be adverse to all stakeholders, including investors and customers. While we do not know the degree to which customer participation in DER and behavior change will impact utility earnings growth, the potential impact, based upon DER trends, is considerable (as stated earlier, industry projections propose that 33 percent of the market will be in the money for DER by 2017, assuming current tax and regulatory policies). Today, regulated utilities have seen allowed returns on equity decline to around 10 percent, a multi-decade low point, as a result of declining interest rates (See Exhibit 4). The cost of equity has also been growing. However, the risks in the business have never been higher, due to increasing customer rate pressures from capital expenditures required to upgrade the grid and address environmental mandates, inflation, low/negative demand growth from active customers, and the threat of load lost due to the rapid development of DER and disruptive forces. The impact of declining allowed returns and increasing business risk will place pressure on the quality and value of utility investments. How large of an impact on investment value will be a function of the impact of disruptive forces described herein. But, lower stock prices will likely translate into lower levels of capital spend, lower domestic economic growth, and fewer grid enhancements.