Fundamental Basis for Determining Value and Direction in the Electric Energy Industry

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Overview: Presentation of the “What and Why” not the “How” accomplished in the industry.

– The “How” - Many options that include industry control, participation by aggregators and direct automatic response by customers.

– Many hurdles and obstacles to address concerns of constituents from where we are today to full market maturity

– Presentation aligned w/ metric that provides objective of “value” maximization for both customers and suppliers based upon open, transparent market perspective.
Customer prices not consistent w/ economic value considerations

– Customer prices (tariffs) based upon utility revenue requirement costs
  • Utility costs based upon historical investment, not marginal
  • Costs recovery not specific to “real time” conditions, out of period recovery

– Utility planning based upon ‘marginal costs”, often referred to as “avoided costs”
  • Historically ignored customer options of consumption preferences, timing and marginal cost
  • Generally ignore detailed granularity or volatility corresponding to real time conditions
What Has Changed?
Acknowledgment of Customer Options and Preferences Essential

– Technology allows communication of real time price incentives
– Customer options of consumption expanded (appliances, DERs)
– Variable generation (renewables; wind and solar) create volatile swings in marginal costs and prices
Industry Approaches Market Fundamentals of Supply/Demand and “Market Clearing Prices”

– Clearing price (supply/demand equilibrium) establishes both marginal avoided cost and customer preference of consumption to price

– Near-term, signal attracting additional supply where price > variable costs, hence provides contribution to fixed costs.

– Long-term, anticipated prices attract investments when revenues are sufficient to recover all fixed investment and variable costs specific to anticipated operations. Inclusive of the variability of market prices.
Market “Dynamics”

– Changes in levels of Supply or Demand alter the equilibrium price.

– Early recognition of appropriate metrics for the determination of “value” is essential to avoid adoption of uneconomic alternatives that take value and opportunity away from preferred alternatives – customer pays the price.