



March 22, 2017

The Honorable Fred Upton
Chairman
Subcommittee on Energy of the House Energy and Commerce Committee
2125 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Upton:

Please find attached my response to the Question for the Record from the hearing at which I testified entitled "Modernizing Energy and Electricity Delivery Systems: Challenges and Opportunities to Promote Infrastructure Improvement and Expansion."

Thank you again for the opportunity to testify. We look forward to working with you and your colleagues going forward. For questions about this Submission, please contact me at:

[REDACTED] or Ladeene Freimuth, Policy Director of the GridWise Alliance, at:

[REDACTED]

Sincerely,

[REDACTED]

Steven G. Hauser
CEO
GridWise Alliance

Cc: The Honorable Bobby Rush, Ranking Member, Subcommittee on Energy

Attachment

1. Are efforts to modernize the grid and maximize the benefits to consumers of time-of-use rates, demand response, and smart meters hindered by the lack of real-time pricing rates at the nodal level?

One of the key benefits of modernizing the grid is engaging consumers to benefit them both directly and indirectly. Smart meters are used to monitor consumers' energy usage and provide them better information to manage their own energy consumption and costs, thereby providing a direct benefit(s). Typically this is done in hourly increments but, in some cases, can be done in near real-time. With smart meters and rates that reflect real-time prices, consumers also can modify their energy usage to benefit the operation of the grid. This is typically referred to as demand response and involves decreasing some customers' electricity consumption specifically when electricity demand in a particular area is at its highest. Doing so at these "peak" times increases the available electricity supply to the utility, reduces the overall cost(s) to these customers for their utility bills, and also reduces costs to other consumers by lowering the marginal cost of supplying load. Utilities often provide incentives for customers to do this by offering real-time rates that are higher during peak periods and lower during off-peak times. These rates are referred to by different names, including time-of-use rates, critical peak pricing, or real-time rates and, in many cases today, still are specified by formulas based on expected costs, rates of return on equity, and so forth.

Nodal prices are calculated by a grid operator, i.e., an Regional Transmission Organization (RTO) or Independent System Operator (ISO). They are reflected in the market prices seen by local utilities. Currently, only the utility can see the nodal price, not the customer, so customers seeking to use time-of-use rates and some customers who may wish to provide demand response are unable to see the price signals. The exception would be for some large commercial and industrial customers who often have access to real-time rates. If a utility uses nodal prices to design real-time rates offered to consumers, such rates, coupled with the use of smart meters, could maximize benefits to customers by empowering them to make decisions based on actual electricity costs, rather than based solely on a specified formula-based rate determined by the utility, particularly when actual and/or peak rates are high. Nodal prices also can result in lower peak rates in some areas, better reflecting the true costs.

In sum, time-of-use rates, demand response, and smart meters are being very successfully deployed across the country with many benefits to consumers. Nodal pricing being better reflected in consumers' rates can provide additional benefits in cases where congestion and other issues may be driving the cost of providing electricity higher.