

EXPLORING WAYS THAT RETAIL ELECTRICITY PRICING CAN SIGNAL WHEN CONSUMPTION SHOULD INCREASE OR DECREASE IN RESPONSE TO GRID NEEDS

Retail electricity pricing can allow consumers to provide grid services similar to what storage or a peaking plant can provide today

Reston, Va. – The <u>Energy Systems Integration Group (ESIG)</u> has released a new white paper providing a contextual framework for the series of seven white papers prepared by members of its Task Force on Aligning Retail Pricing and Grid Needs. The task force brought together experts in rate design and electricity markets, transmission and distribution planning and operations, consumer advocates, and others to explore current issues, potential solutions, and practical implementation challenges involved in using the flexibility in price-sensitive loads. Seven white papers prepared by task force members address different aspects of retail electricity pricing and propose solutions or best practices.

The new white paper by Debra Lew, Erik Ela, and Carl Linvill, "<u>Aligning Retail Pricing and Grid</u> <u>Needs: Introduction to a White Paper Series</u>," discusses power systems' need for a great deal of flexibility as they decarbonize and explores ways that retail pricing can signal the need for changes in power consumption to respond to grid needs. Debra Lew, associate director of ESIG and one of the white paper's authors, said that "retail pricing reform is critical both for integrating high levels of renewable energy and for managing high levels of electrification."

Today, a majority of U.S. households have smart meters, and control and communication technologies are available for everything from water heaters to electric vehicles to space heating and cooling equipment. The introductory white paper explores ways that retail pricing structures can incentivize customer behavior to align with the reliability needs of the future grid.

Carl Linvill, task force chair and one of the white paper's authors, described how "the task force's series of white papers advanced our understanding of the opportunities and challenges of aligning retail pricing and programs with changing grid needs at the wholesale, distribution, and premise layers of the power system." The introductory white paper highlights that: aligning retail rates with grid needs must put the consumer first; capturing flexibility from demand requires that someone (consumers or retailers or utilities) is exposed to price signals that better reflect grid needs; more data and analysis are needed to understand consumer responsiveness; retail pricing can be a tool for resource planning; and retail pricing can allow consumers to provide grid services similar to what storage or a peaking plant can provide today.

The set of white papers is intended for people across the energy industry, including power systems engineering and grid operators, retail economists, consumer advocates, regulators,

and others. ESIG is a nonprofit organization that marshals the expertise of the electricity industry's technical community to support grid transformation and energy systems integration and operation. The white papers can be downloaded at https://www.esig.energy/aligning-retail-pricing-with-grid-needs/.

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