Cybersecurity and Energy Management Standards for Transactive Energy

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ISO and IEC, the Switzerland-based organizations responsible for international standards, have published about 50 infrastructure standards for interconnecting IoT devices in homes and buildings. These standards span communication protocols, device interfaces, network management, interoperability, and applications including energy management. Recent projects focus on extending the gateway series of standards to ensure protection for customer privacy, cybersecurity, and safety. (I chair the committee where these standards were developed and was the author of the demand-response energy management standard.)

Cybersecurity for IoT and advanced energy management are essential for real-time automated Transactive Energy. This presentation will introduce this suite of standards and explain how these technical standards allow consumers and service providers to choose and enforce privacy options. Incorporating privacy protection during product design is less costly for manufacturers than fixing problems later and compensating customers for breaches.

Products based on these cybersecurity standards can reassure consumers that privacy is not just an abstract concept, but can be enabled with appropriate policies and technology. This should encourage customer participation in demand response programs and eventually Transactive Energy. The published energy management standards provide a framework that integrates external power from utilities and prosumers with power with locally-generated or stored power.