CGE WG
Customer Grid-Edge Working Group

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Home, Building & Utility Systems
Chair, CGE WG — SGIP Founding Member
Convener, ISO/IEC Home Electronic System
Chair, CTA R7.8 Energy Management

GridWise® Architecture Council, ME

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Customer Grid-Edge WG

- Customer Grid-Edge participants *(residential & commercial)*
  - Utilities and DER developers
  - Equipment suppliers
  - Trade associations

- Customer Grid-Edge activities
  - Develop white papers; write blogs to engage industry
  - Propose national & international energy standards
CGE Residential Papers

- Papers published since 2010
  - Home-to-Grid Requirements
  - Roadmap for Interoperable Networks, Systems, Devices
  - Privacy of Consumer Information
  - Electromagnetic Compatibility (EMC) for H2G Devices
  - Free Market Choice for Appliance Physical Layer Comm.
  - Appliance Socket Interface
  - Modular Communications Interface for Demand Response
  - Installation Guide for Smart Grid Appliances
  - Broadcast-based H2G Communication Solutions
  - Barriers to Responsive Appliances at Scale
  - Local Grid Definitions
  - Smart Grid System Stability with Broadcast Communications
CGE Residential Activities

- Papers completed — candidates for blogs
  - *Consumer Metrics for Smart Grid Programs*
  - *Economic Value of Integrating Consumption Preferences in Electric System Planning*
  - *Smart Grid System Security with Broadcast Communications*

- Projects under development
  - Home Nanogrids Meet Smart Grids
  - *Alonetic Appliances* for Load Following
  - Transactive Energy and Consumer Products
  - Develop ISO/IEC requirements for:
    - Enhancing gateway cybersecurity, privacy, & safety
    - Combining residential solar and storage
Modular Comm. Interface Standard

ISO/IEC 10192-3
ANSI/CTA-2045
MCI Standard
CGE Standards Recommendations

- Standards for *Home & Building Systems*
  - Gateway *cybersecurity* for data, privacy, safety
  - Customer *solar + storage* for energy management

- International standards:
  - Voluntary standards to *promote world trade*
  - *Home Electronic System (HES)* family of standards for IoT
    - Communication protocols
    - Device interfaces / gateway
    - Network management
    - Applications
  - 1 vote / country ⇒ *diplomacy & negotiation*
  - US experts and votes recommended by: