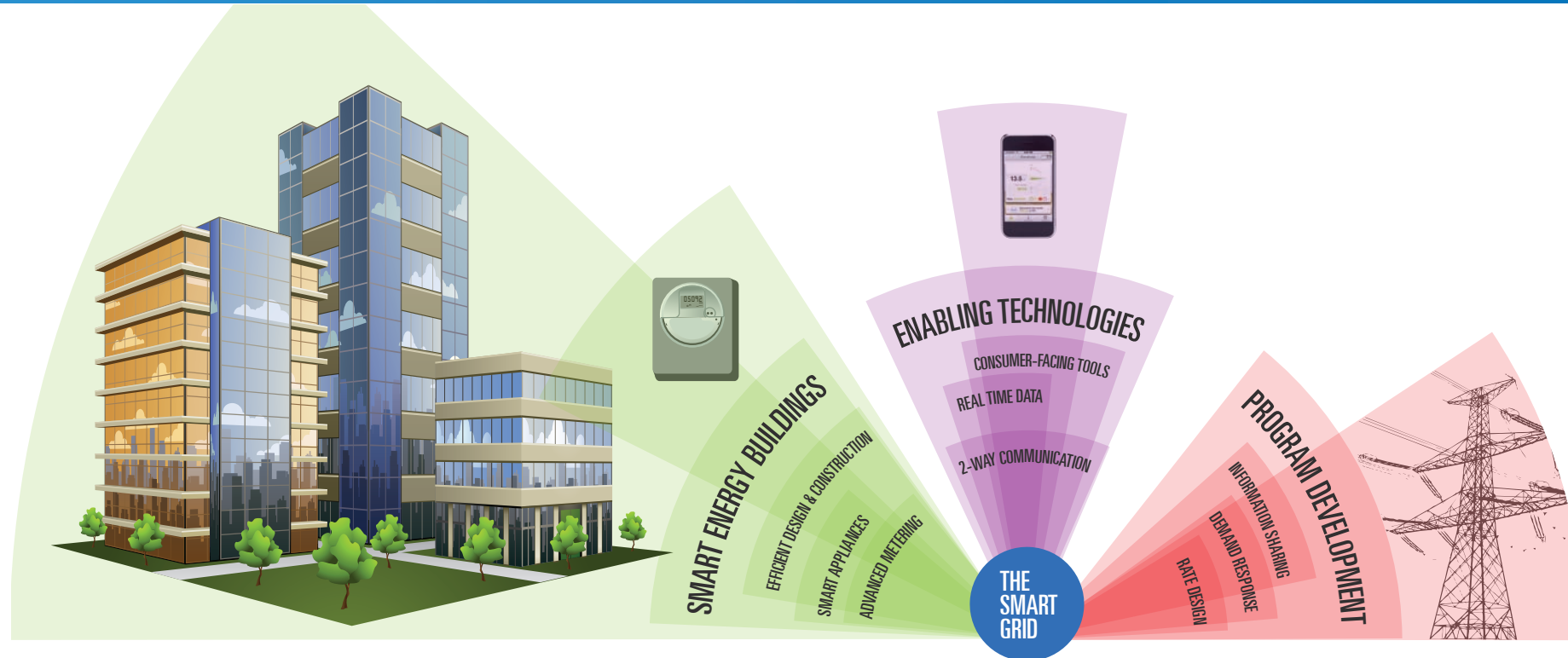


BUILDING THE FOUNDATION FOR THE SMART GRID

THE ASSOCIATION OF STATE ENERGY RESEARCH AND TECHNOLOGY TRANSFER INSTITUTIONS

ASERTTI



THE DEVELOPMENT OF SMART ENERGY BUILDINGS, ENABLING TECHNOLOGIES, AND CORRESPONDING UTILITY PROGRAMS ARE CRITICAL ELEMENTS TO ENABLE THE SMART GRID.

THE SMART GRID AND ENABLING TECHNOLOGIES ALLOW US TO CREATE A VISION FOR THE IDEAL BUILDING OF THE FUTURE, THE “SMART ENERGY BUILDING.”

NEXT STEPS: A STRATEGIC FRAMEWORK

A strategic framework is needed that will act as the catalyst for the development and deployment of smart grid technologies, as well as the growth of the market for these technologies. This framework should include the following:

Research opportunities on smart grid, smart energy buildings, and consumer behavior

- State and local government support for research and demonstration projects
- Utility programs for customers and direct investment in new smart buildings and smart grid technologies
- Public-private partnerships to propel research

Policies and regulations that support energy efficiency and the smart grid

- Energy Efficiency Resource Standards (EERS)
- Alternative utility revenue recovery models
- Financial incentives for investments in smart grid-enabled building technologies

Electricity rate design that allows dynamic pricing, which will

- Support the development of more effective demand response programs
- Drive the market for enabling technologies

Consumer access to energy data, which will

- Enhance consumer awareness and improve decision-making
- Facilitate the development of an open, competitive market of smart grid tools and technologies

ASERTTI MEMBER RESEARCH

Many ASERTTI members are leading cutting-edge research efforts to advance building energy efficiency and smart grid technologies. Some of these members include:

- Advanced Energy
- Brookhaven National Lab
- California Energy Commission
- Desert Research Institute
- Energy Center of Wisconsin
- Energy Resources Center, University of Illinois at Chicago
- Electric Power Research Institute
- Gas Technology Institute
- Iowa Energy Center
- Long Island Power Authority
- New York State Energy Research and Development Authority
- North Carolina Solar Center
- Northeast Energy Efficiency Partnerships
- Oregon Department of Energy
- Sacramento Municipal Utility District
- Washington State University Energy Program
- Wisconsin Energy Research Consortium

INITIATIVE TO ADVANCE THE SMART GRID

The ASERTTI Buildings Committee seeks to leverage the findings of this report to continue and expand its efforts to:

- Implement and demonstrate emerging smart energy building technologies in commercial, industrial, and residential facilities throughout the U.S.
- Promote a regulatory framework and market environment that allows and encourages utilities, third-party service providers, and researchers to be actively engaged in smart grid innovation
- Encourage establishment of financing mechanisms for research, development, demonstration, and deployment of smart energy building technologies throughout the U.S.
- Enhance coordination among national, state, and local smart grid initiatives, including through partnerships with the Zero Energy Commercial Buildings Consortium, the New Buildings Institute, and state energy offices

ABOUT ASERTTI

ASERTTI promotes energy efficiency and clean energy applied research and commercialization through state, federal, and private collaboration on emerging and breakthrough energy technologies. ASERTTI members include state energy agencies, university energy centers, national laboratories, non-profit organizations, utilities, and others.

The ASERTTI Buildings Committee works with public, private and nonprofit stakeholders to support the development and application of low-impact, energy efficient building technologies. Committee activities are driven by member interests and expertise.

Learn more about us at www.asertti.org

Peter W. Douglas, NYSERDA (ASERTTI Buildings Committee Co-Chair)
Cris Love, WSU Energy Program (ASERTTI Member)
David Terry, Executive Director, ASERTTI
Sarah Ruen Blanchard, BCS, Incorporated (Program Director, ASERTTI)



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For more information, please contact: sarah@asertti.org or 303-425-6800 ext. 463

THE SMART GRID & BUILDING EFFICIENCY

Buildings play a central role in smart grid deployment as the host of two-way communications equipment to collect and share electricity use data. Enhanced building energy efficiency will be realized in several ways through smart grid technologies and associated consumer energy programs:

- Improved consumer feedback about electricity use and prices, leading to greater awareness and increased efficiency
- Reductions in total energy use at customer facilities, as a side-effect of demand response programs facilitated by smart grid technologies
- “Continuous Commissioning” of end-use equipment, enabled by two-way communication between the utility and customer’s facility
- The design and implementation of more effective energy efficiency programs through improved evaluation, measurement, and verification (EM&V) capabilities, enabled by the smart grid

