Landscape of Energy Efficiency
New Homes Programs

CEE 2017 New Homes Program
Summary Results and Findings

Alice Rosenberg
October 23, 2017
Chicago, IL
2017 ENERGY STAR Certified Homes Stakeholder Meeting
CEE brings together 100 program administrators serving all or part of 45 states and 7 provinces.

CEE is a member-driven nonprofit, governed by a Board of Directors from member organizations.

Program administrators formed CEE to reach binational markets and accelerate market uptake of efficient products and services, which achieves lasting public benefit of energy efficiency.

CEE MISSION

As the Consortium for Energy Efficiency, United States and Canadian efficiency program administrators develop cutting-edge strategies to accelerate commercialization of energy efficient solutions to benefit gas and electric customers, utility systems, and the environment.
Agenda

- CEE Program Summaries
  - Objectives and purpose
  - Data collection process and methodology

- Initial 2017 New Homes Results
  - Organizational breakdown information
  - 2017 program details and statistics
  - Changes over the past several years
  - Themes and emerging trends
  - Other insights and commentary!

- Questions and Group Discussion
CEE Program Summaries

- Characterize the current landscape of CEE member offerings across the US and Canada
- Includes both detailed individual program information as well as aggregate data about the landscape of efficiency activity
- Abridged versions of these publications are available online to all stakeholders at:

www.cee1.org/content/cee-program-resources
Data collection was from a combination of online research and subsequent CEE member review.

2017 CEE Residential Program Summaries:

- Existing Homes
- **New Homes**
- Low-Income
- Res HVAC
- Res Water Heating
- Res Lighting
- Appliances
- Electronics
- Swimming Pools
CEE Members Included to Date

Number of CEE Members

CEE New Homes Program Summary
2017 CEE Members Included

- Alabama Power
- Alliant Energy
- Ameren Missouri
- Arizona Public Service
- Avista Utilities
- Baltimore Gas and Electric
- BC Hydro Berkshire Gas
- Bonneville Power Admin
- Cape Light Compact
- City Utilities of Springfield MO
- Columbia Gas of MA
- Columbia Gas of Ohio
- Connecticut Natural Gas
- Consumers Energy
- Duke Energy Progress
- Efficiency Vermont
- Energy Trust of Oregon
- Eugene Water & Electric Board
- Eversource
- Focus on Energy—Wisconsin
- FortisBC
- Georgia Power
- Gulf Power
- Hydro One
- Hydro-Québec
- Idaho Power
- Liberty Utilities
- LA Dept of Water & Power
- MidAmerican Energy—Iowa
- National Grid
- New Hampshire Electric Co-Op
- New Jersey Natural Gas
- New Jersey’s Clean Energy Program
- NYSERDA
- Northwest Energy Efficiency Alliance
- Pacific Gas and Electric Company
- PECO
- Platte River Power Authority
- Potomac Electric Power Company
- Salt River Project
- San Diego Gas & Electric Company
- Snohomish County PUD
- SoCalGas
- South Jersey Gas
- Southern California Edison
- Southern Connecticut Gas
- Southwest Gas
- Tennessee Valley Authority
- Union Gas
- United Illuminating Company
- Unitil—New Hampshire
- Vectren Corporation
- Xcel Energy
2017 Results

Year Programs Began

Number of CEE Members

- 1978
- 1981
- 1993
- 1996
- 1997
- 1998
- 1999
- 2000
- 2001
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- 2009
- 2011
- 2012
- 2013
- 2014
- 2015
- 2016
- 2017

CEE Members, Programs Summary Participants
2017 Results

Organization Type

- IOU, 46
- Federal, 8
- State, 4
- Provincial, 2
- Nonprofit, 3
- Muni-/Co-op, 9

Fuel Type

- Electric Only
- Gas Only
- Combined Gas and Electric

2016
- Electric Only: 32
- Gas Only: 13
- Combined Gas and Electric: 26

2017
- Electric Only: 31
- Gas Only: 12
- Combined Gas and Electric: 29
2017 Results

Building Codes

- 2006 IECC
- 2009 IECC
- 2012 IECC
- 2015 IECC
- State
- Stretch Code
- Varies by Municipality

Heat map showing varying degrees of implementation for different building codes across various categories.
2017 Results

Specification or Platform Used

- ENERGY STAR
- HERS Index
- Other
- Prescriptive Measures
- LEED
- DOE Zero Energy Ready Home
- Passive House
- Earth Advantage

2016
2017
2017 Results

HERS Index Scores Promoted by Programs
2017 Results

Nonenergy Features

- Renewable Energy Ready Design, 10
- Water Efficiency, 6
- Indoor Air Quality, 66
- Durability, 40
- Comfort and Healthy Environment, 62

Financing

- Yes, 33
- No, 43
2017 Results

Additional Components of Programs

- Nonenergy Considerations
- Multifamily Program
- Connectivity
- Renewables
- Manufactured Homes
- Water Efficiency

2016

2017

CCE
2017 Results

Program Verification Methods

- HERS Raters
- Utility Verification
- Other
- Third Party
- EnerGuide (Canada)
- SEER

Comparison between 2016 and 2017
Common Themes

- **Rising Codes, Baselines, and Savings Goals**
- **Move Towards Zero Net Energy**
  - Definitions vary, gas vs. electric
  - Efficiency, then renewables
- **Tiered Incentive Structures**
  - Multiple offerings and levels
  - Pathways to Zero Net Energy
  - Performance-based programs
- **Statewide Coordination**
  - Connecticut, Massachusetts, California, New Jersey
  - Gas and electric partnerships
Emerging Trends

Connectivity and Smart
• Smart meters and smart thermostats
• Integrated demand side management

Engagement with Real Estate Industry
• Relations with lenders, mortgagers, realtors, appraisers
• Trainings, education, tradeshows, meetings
• Green Addendum, MLS

Emphasis on Nonenergy Features
• Air quality, health, durability, etc.
• Quantifiable and marketable
Contact

Alice Rosenberg
Senior Program Manager
617-337-9287
aroosenberg@cee1.org

https://www.cee1.org/content/cee-program-resources
Additional Slides
Some Dynamics Utilities Face

Declining Electric Load
- Energy efficiency and conservation have become a part of the general culture
- Growth of customer self-generation

Need for Increased Investment
- Customers desire greater reliability, resiliency after Superstorm Sandy, etc.
- Generally aging infrastructure
- Use control technologies, Smart Grid
- Cybersecurity

Disruptive Technologies
- Communicating products
- Dynamic products
- Energy storage and accessibility to renewable sources

Utilities are challenged under the existing regulatory model

Grid Quality
Credit Quality

Historical & Forecasted Electricity Growth

Historical & Forecasted Electricity Growth
Integrated Demand Side Management

- Integration of technologies at end user homes and facilities
- Integration of programs, delivering customer solutions
- Integration of DSM for power planning, acquisition, transmission planning, and reliability

Demand-side management refers to, and encompasses, both energy efficiency and demand response programs
Creating the IDSM Platform

- Consensus Connected Principles
  - Ensure Private and Secure Data
  - Utility Specified Data
  - Controllable, Responsive
  - Multiple Connection Pathways
  - Standard Information Protocols

Cooperation with AHRI

Energy Intensive Priority Product Categories
- Room AC
- Central AC
- Smart Tstats
- Pool Pumps
- Water Heating
- Lighting

Managing for Grid Value
Managing for Customer Value
Managing for EM&V Value
Local Regulatory Policy in Motion

Key considerations:

• New utility business models
• Carbon valuation
• Inclusion of nonenergy benefits
• Increased grid resiliency and efficient use of grid capital
US and Canadian Expenditures

Preliminary data as of September 1, 2017