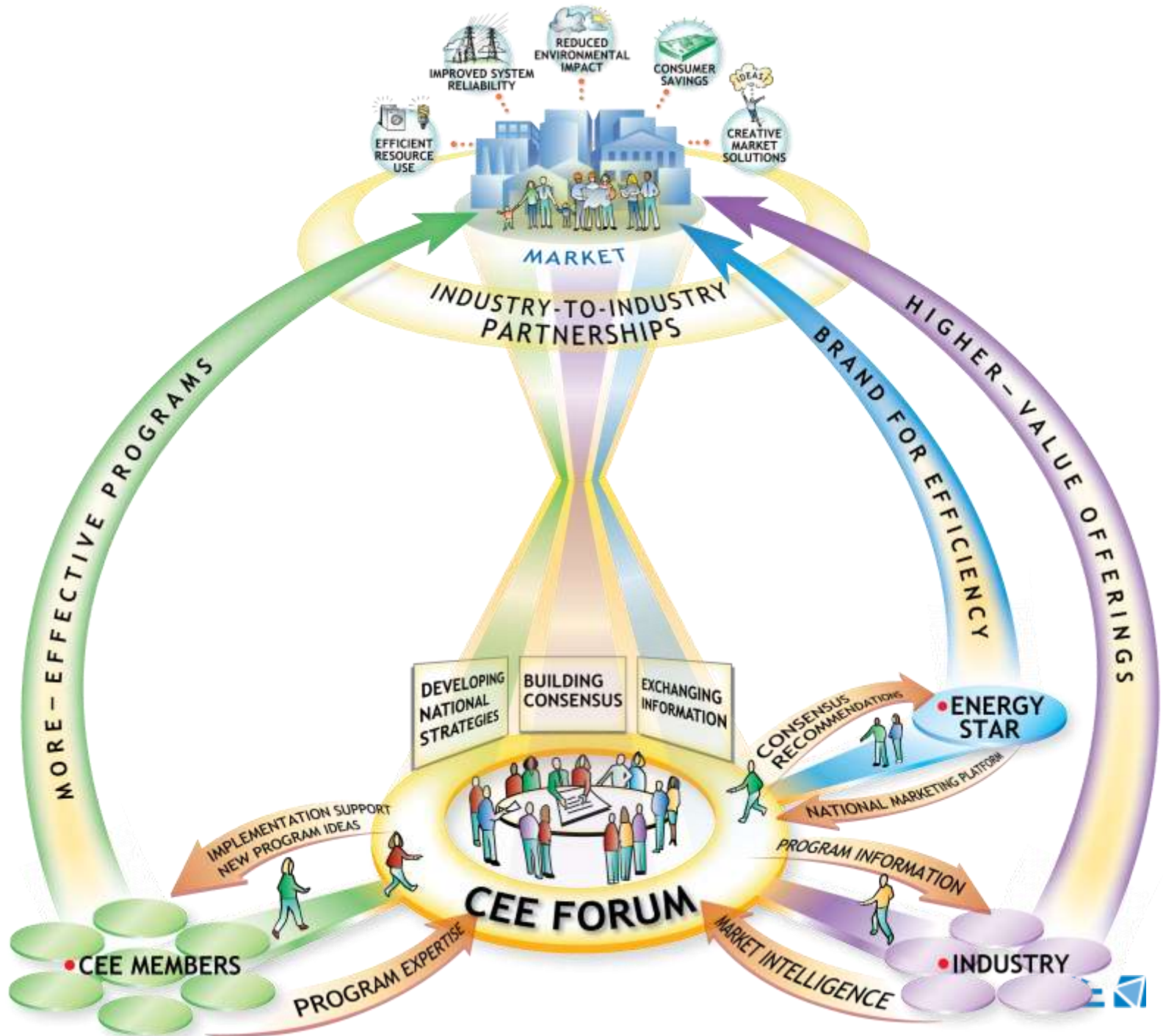




Leveraging National Opportunities

Emerging Platforms Supported at CEE

Ed Wisniewski
Executive Director, CEE
November 16, 2012
Santa Fe, New Mexico



CEE members develop consensus initiatives to impact National Market Players



HVAC and Quality Installation
Water Heating

Lighting and Design
Appliances

Whole House
Consumer Electronics



Unitary AC, VRF
Heat Pumps Systems

Data Centers and Servers


Boiler Systems

Gas Water Heating
Clothes Washers

Kitchens

Lighting Systems

Building Performance



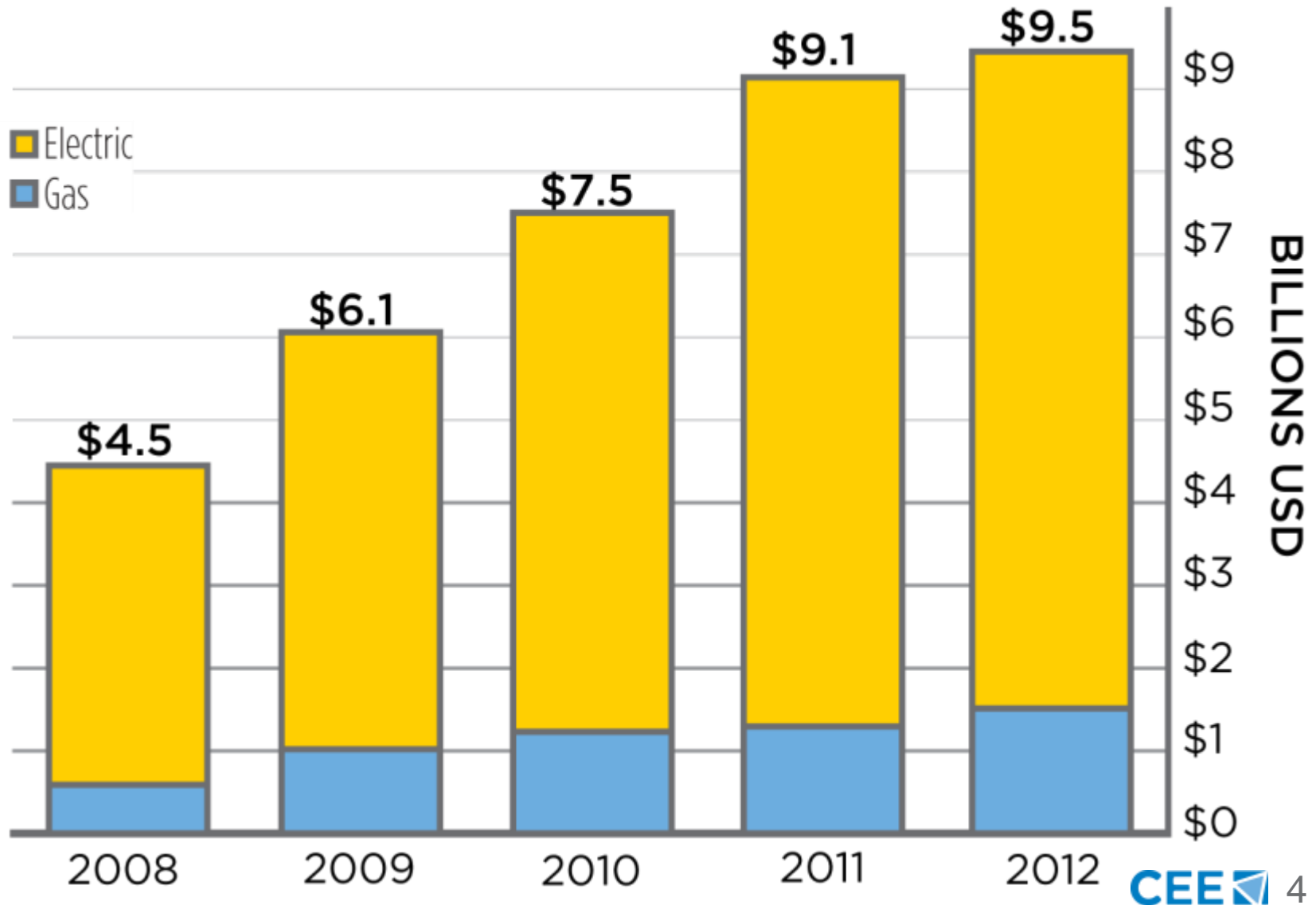
Distribution Transformers
Distribution Transformers

Municipal Water and Wastewater

Premium Efficiency Motors

Continuous Energy Improvement

Annual Industry Report – Preliminary Results



Cross Cutting Considerations

- ▶ Escalating Federal Standards: challenging traditional program models
- ▶ Natural Gas Rates: pressure on cost effectiveness
- ▶ Connectivity/Smart: greater integration of DR and EE
- ▶ Greater Consideration of Behavior Approaches
- ▶ Greater Emphasis on Evaluation

ENERGY STAR -- Connected

- ▶ CEE facilitating consensus needs of members and non members
 - Standardize Communication Protocols
 - Integration of DR, EE, Behavior and Platform for Messaging
 - Protect Brand Integrity/Past Investment of Rate Payer Resources

2013 Opportunities -- Residential

▶ New Initiative Specifications for:

- Swimming pool pumps
- Clothes washers and dryers
- Refrigerators

▶ *2013 Lighting for Tomorrow*

▶ Exploring a Home Network Specification

- Relate to Connected Products
- Support Whole House and Behavior Efforts

▶ Extending Consumer Electronics Center

- Set Top Boxes and/or Power Strips

▶ Supporting Advanced Performance Tier for “Most Efficient” Products (ENERGY STAR)

ENERGY STAR®
for market differentiation

CEE Specifications
for Programs



INCREASING ENERGY PERFORMANCE

CEE Advanced Tier

- ▶ CEE Advanced Tier reserved for stretch target
- ▶ Truly exceptional, aspirational energy efficiency performance
- ▶ Attracts early adopters
- ▶ Ideally, two or more manufacturers
- ▶ Brings attention to top performers
- ▶ Cost-effective in the future

CEE Tier 2, 3, and 4

- ▶ Tiers above ENERGY STAR minimum when performance merits differentiated treatment with incentives
- ▶ Typically 3 or more manufacturers relative to category
- ▶ Cost-effective for customer with incentive
- ▶ Cost-effective for most market transformation programs
- ▶ Tied with Save More if incentives are offered

CEE Tier 1

- ▶ Cost-effective for programs when CEE Tier 1 aligns with ENERGY STAR®
- ▶ Top 25% of models
- ▶ Cost-effective for customer
- ▶ Multiple manufacturers make product widely available in many styles and sizes

Top 25% of Energy Performers in a Mass Market Product Category

2013 Opportunities -- Commercial

- ▶ Advancing the Commercial Lighting Strategy
- ▶ Enhancing AC and Heat Pump Initiative
 - Recent Launch of VRF Specification
 - Evaluating with Industry - A CEE Systems Specification, well vetted, combined systems industry calculation method
- ▶ Evolving Data Centers Work
 - Identification of Common Energy Related Factors
 - Good practice air flow management program design
 - “How to” guidance on implementation
- ▶ Focus in Whole Buildings – Continuous Energy Management/Improvement
- ▶ Opportunity in Demand Control Ventilation

Commercial Lighting Strategy

▶ Performance Specs

▶ Plug and Play Design

▶ Controls

- Support a Central Data Source and Procedure for Controls Studies
- Reduce undue variation in savings

▶ Focus in Key Applications

System Design Templates

Purpose and Goals

Room Characteristics

Lighting Fixture Specifications

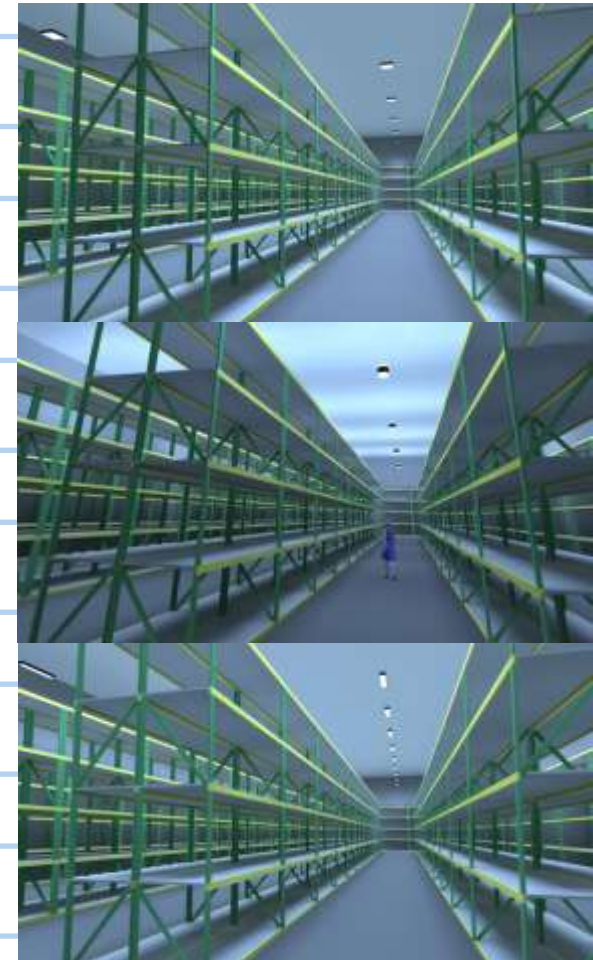
Typical Situations and Suggested Improvements

Lighting Layouts

Additional Savings

Contractor Checklist

Lighting Design



Lighting Controls – Integrity of Performance Claims

- ▼ **Challenge:** Varying info on energy and demand savings
- ▼ **CEE and NEMA industry collaboration**
- ▼ **Goal:** Develop common procedure for assessment, reduce variability, stronger basis for program savings



National Platform for High Performance HVAC



Source: Wikimedia Commons

- ▶ Industry tiers of efficient performance
- ▶ Full and part load metrics
- ▶ Future looking: Combined system approach

	AC Savings	HP Savings	VRF Savings
Base Tier	3-5%	2-8%	N/A
Tier 1	10-12%	9-12%	10-13%
Tier 2	15-19%	N/A	N/A

Anticipated part load savings vs. ASHRAE 90.1-2010 baseline

CEE specification at www.cee1.org

Demand Control Ventilation

- ▶ CEE Field Test Protocol to drive consistent demonstrations and reporting of savings
- ▶ Central field study clearinghouse

<http://www.cee1.org/com/com-kit/CKVDCVClearinghouse.php3>



Photo courtesy of Halton

2013 Opportunities - Industrial Program

- ▶ Recent Specification -- Customer Side Distribution Transformers
- ▶ Platform for Ongoing Energy Management –
 - **Identify minimum elements**
 - **Support O&M Behavioral Measures**
 - **Standard Terminology/Capture case studies**
 - **Catalogue member and federal resources (including ENERGY STAR and SEP)**
 - **Develop Monitoring and Reporting Protocols**
- ▶ Motor Systems – Emphasis on Effective Use of Variable Speed Drives
- ▶ Water/Waste Water - Program Approach and Elements to Serve this Customer

2013 Opportunities and Explorations Gas Committee

- ▼ Residential Heating
 - Combined Space & Water Heating Applications
 - Heating System & weatherization
- ▼ Residential Water Heating
 - Review Specifications
 - Combined Space & Water Heating Applications
 - Coalition for ENERGY STAR® Water Heaters
- ▼ Commercial Water Heaters
 - Explore Controls
 - Segment approaches
- ▼ Commercial Boiler System
 - Explore Controls
- ▼ Development & Explorations
 - Gas Rooftop Units
 - Commercial Heating Controls
 - Industrial Process Heating
 - Cross Utility Partnerships
 - Fireplaces
 - Energy Recovery Ventilation
 - Unit Heaters

2013 Evaluation and Research

- ▶ Capture policy and practice barriers that prohibit credible and comparable evaluation information
 - Program purpose, relative emphasis on demand vs. energy, system reliability, other public objectives
 - Terminology and interpretive differences - NTG, codes, code enforcement, etc.
- ▶ Identify Existing/Develop New reference materials for members, regulators, stakeholders, and industry
 - Effective practices, lessons learned, training materials, publications
- ▶ Research
 - Annual Industry Report
 - Annual ENERGY STAR Awareness and Engagement Survey
 - Evaluation “Program” Survey/Summary
- ▶ Enhance CEE Program Industry Library

2013 Behavior Work

- ▼ Annual Behavior Program Summary
 - Improve data collection and research
- ▼ Focus on **Two-Way Feedback** technologies and case study collection
- ▼ Catalogue regulatory treatment of behavioral programs
- ▼ Develop reference materials for members, regulators, stakeholders, and industry
 - Effective practices, lessons learned, training materials, publications

Emerging Technology Collaborative – Outcomes and Industry Implications

- ▶ 13 Organizations – Cross Section of CEE members (Sempra, Duke, NYSERDA, TVA, BPA, Com Ed, NEEA, SMUD, DTE, SCE, Xcel, PG&E, BC Hydro)
- ▶ Standardized Technology Assessment
- ▶ Agreed to Common Terminology to Catalogue ET Efforts
- ▶ Connect ET efforts to CEE program committees

Contact

Ed Wisniewski
Executive Director
617 589 3949
ewisniewski@cee1.org

CEE FORUM
www.ceeforum.org