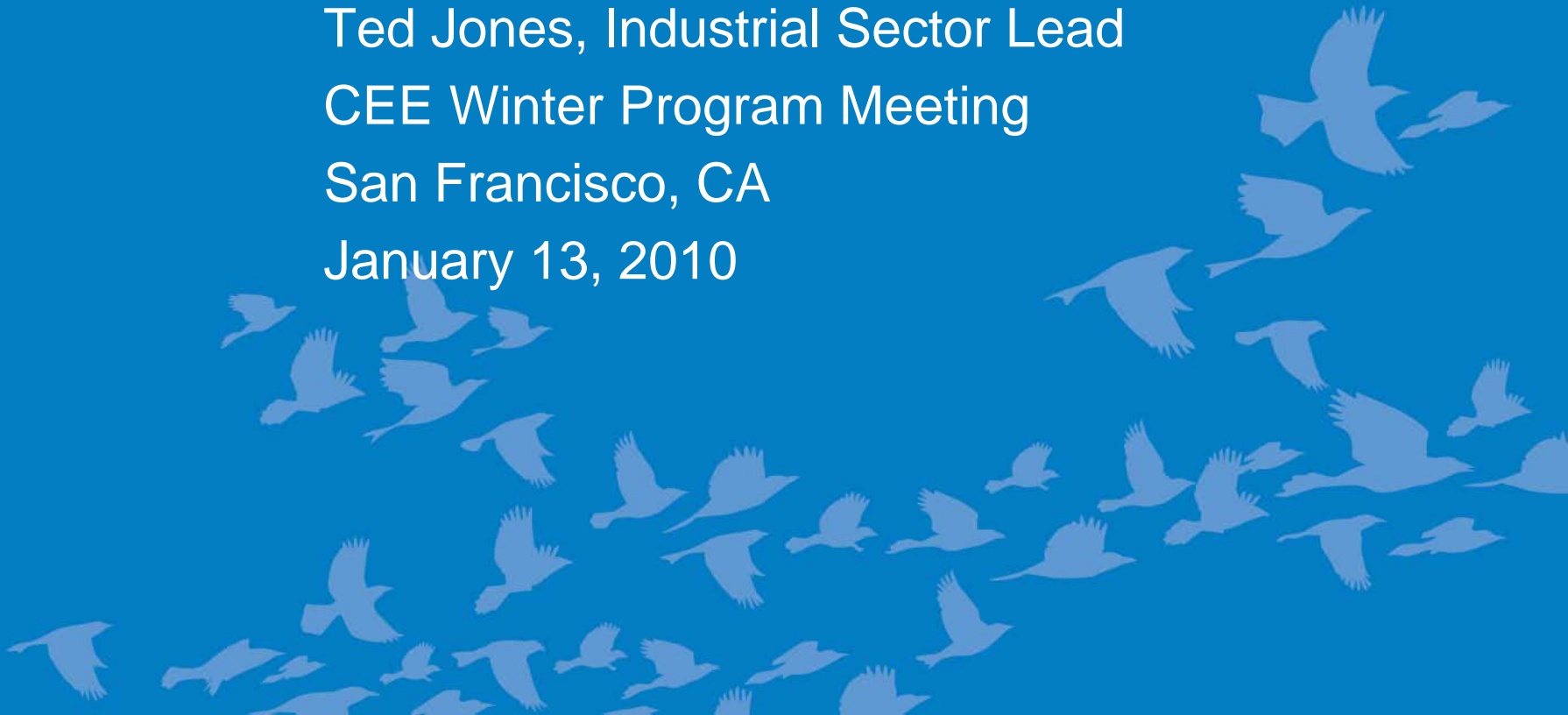




Highlighting Major Efforts at CEE 2010 Industrial Sector Strategies

Ted Jones, Industrial Sector Lead
CEE Winter Program Meeting
San Francisco, CA
January 13, 2010



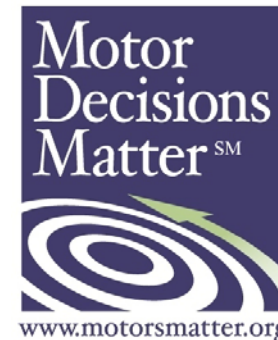
Industrial Program Overview

◀ Initiatives and Explorations

- Motors, Motor Systems
- Water-Wastewater
- Distribution Transformers
- Industrial Program Planning
 - Energy Management

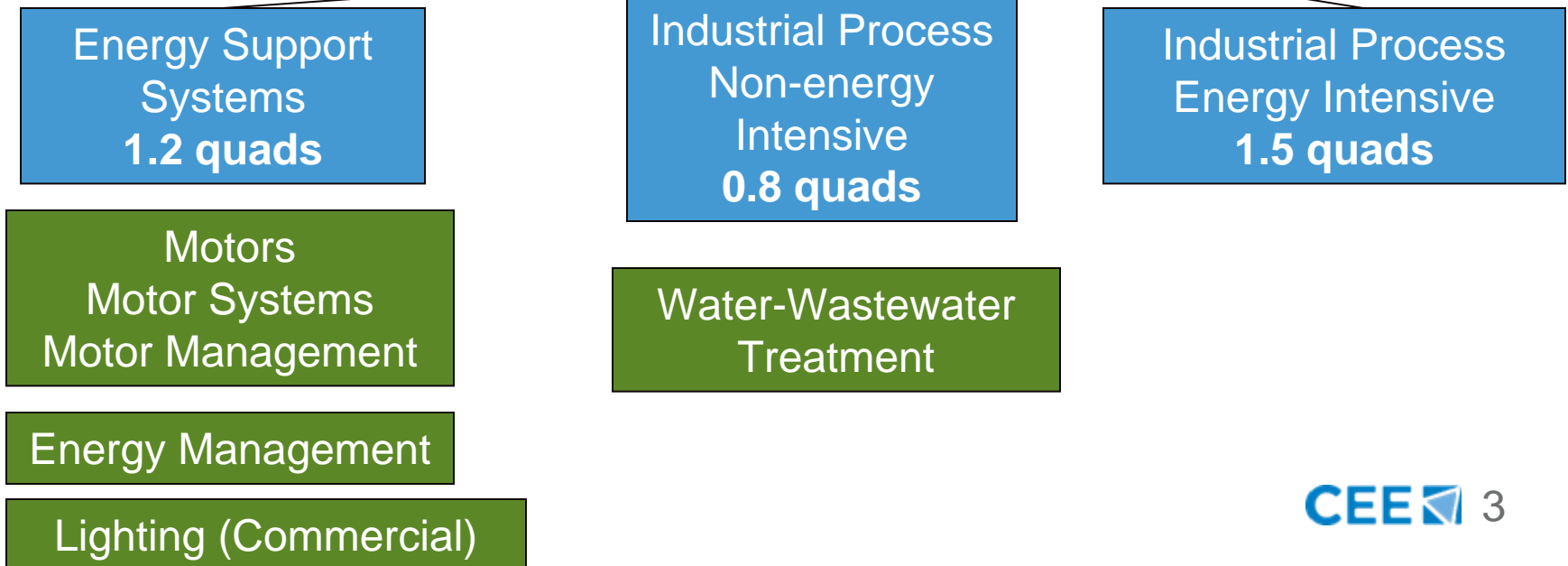
◀ CEE-led platforms

- MDM Campaign
- NEMA Premium
- Water-Wastewater Initiative



Unlocking Energy Efficiency in the Industrial Sector (McKinsey, July 2009)

| | Energy Use 2010 | Business As Usual 2020 | Savings from EE 2020 | Percent Savings Available |
|--------------------|-----------------|------------------------|----------------------|---------------------------|
| Energy Use (quads) | 19.3 | 20.5 | 3.65 | 18% |



Trends Influencing 2010 Workplans

◀ Market and technical inputs

- More federal activity
 - New motor standards, legislated programs (crush for credit),
 - More funding for industrial R&D, industrial technical assistance programs, loans, tax credits, and solicitations (ARRA)
- Approaching max tech potential for motors (as traditionally defined)
- New motor technologies entering the market that incorporate drives and controls; helping to define motor system optimization approaches
- The need to manage carbon footprint is driving customer interest and support for energy management programs

Work Area Objectives for 2010

- ▼ Motors & Motor Systems
 - ▼ Finalize a list of motors with efficiencies greater than federal minimum standards and partner with EPRI to identify emerging technologies
- ▼ Motor Management
 - ▼ Continue the MDM campaign and use it as a platform to promote the adoption of variable speed drives
- ▼ Water-Wastewater Treatment
 - ▼ Support use of ENERGY STAR benchmarking; Complete EE RFQ-RFP Guidance document; Support blower system performance metric;
- ▼ Industrial Program Planning
 - ▼ Draft guidelines for energy management programs; exploring features of energy monitoring tracking and reporting systems; researching program opportunities in process heating
- ▼ Distribution Transformers
 - ▼ Update Initiative by exploring opportunity for an enhanced specification

Cross-Team Efforts

▶ Commercial Team

- ENERGY STAR Benchmarking
 - Wastewater facilities and other industrial sectors
- Commercial Lighting
 - High Bay Applications

▶ Gas Team

- Monitoring Commercial Boiler Initiative Development
- Exploration of Industrial Process Heating

▶ Evaluation Team

- Collection of NEMA Premium Motor Shipment Data
- Measuring impacts from Industrial Programs

Industrial Staff

Industrial Program Team



Ted Jones
Industrial
Program
Planning



Kellem Emanuele
Premium Motors and
Systems, MDM



Jess Burgess
Water & Wastewater
Distribution
Transformers

Commercial Sector - Overview

- ▼ Data Centers & Servers
- ▼ HVAC
- ▼ Kitchens
- ▼ Lighting
- ▼ Whole Building Performance Exploration

Commercial Program Team



Jason Erwin

Sr. Program Manager
Building Performance
Data Centers



Afroz Khan

Sr. Program
Manager
HVAC



Kate Baldacci

Program Manager
Lighting



Kim Erickson

Program Manager
Kitchens
Building Performance

Commercial Sector – Major '09 Accomplishments

▼ Data Centers & Servers

- Started a data centers organizing framework

▼ HVAC

- Updated Unitary HVAC Specification
- QI Standard, Comments to ACCA
- Advanced rooftop unit development work

▼ Kitchens

- Updated Refrigeration Specification
- Market Organization Guidance, Water-Energy Partnership Guidance, <http://www.cee1.org/com/com-kit/com-kit-main.php3>

Commercial Sector – Major '09 Accomplishments

◀ Lighting

- Position Paper on Solid State Lighting, <http://www.cee1.org/files/SSLPositionPaper090911.pdf>
- Updated High Performance T8 Lighting Spec

◀ Whole Building Performance

- Draft Benchmarking Guidance

◀ 2009/2010 Commercial Program Summary

- <http://www.cee1.org/com/programsummary/index.php>

Proposed 2010 Direction

▼ Data Centers

- Organizational framework to support market segmentation, inform program design, targets
- Develop end use specifications as appropriate



▼ HVAC

- Update unitary spec to address part load
- Quality installation & approaches to maintain infield performance
- “Advanced” rooftop unit, working group (AHRI)
- Evaluate new technologies e.g., variable speed systems for potential role

Proposed 2010 Direction

◀ Kitchens

- Maintain relevance of existing specs (7 product categories)
- Potential new 2010 specs include: ovens, ventilation
- Represent program interests in ENERGY STAR, WaterSense



◀ Lighting

- Comprehensive lighting programs (systems approach); Industry Working Group
- Support meaningful ENERGY STAR program
- Emerging opportunities, SSL program sharing

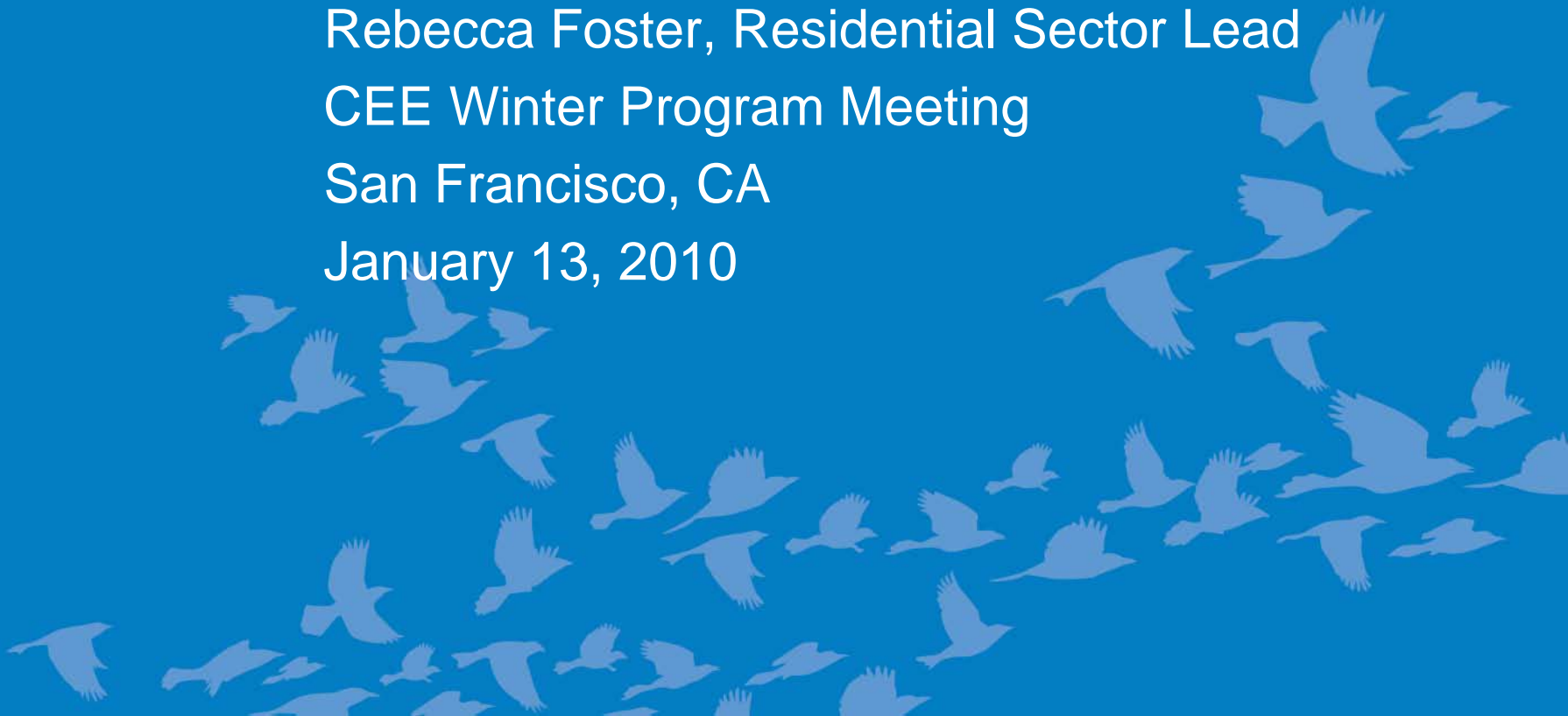
◀ Whole Building Performance

- Benchmarking as key program strategy, program integration
- Support programs focused on improving existing building operations (RCx, continuous improvement)
- Energy management systems – spec opportunities



Residential Sector Committees: 2010 Highlights

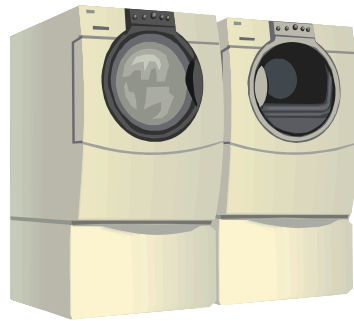
Rebecca Foster, Residential Sector Lead
CEE Winter Program Meeting
San Francisco, CA
January 13, 2010



Residential Sector: Primary Objective

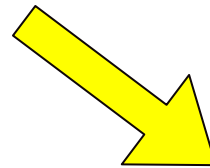
▶ Support members' efforts to capture the largest savings opportunities in homes

- End uses



- Systems

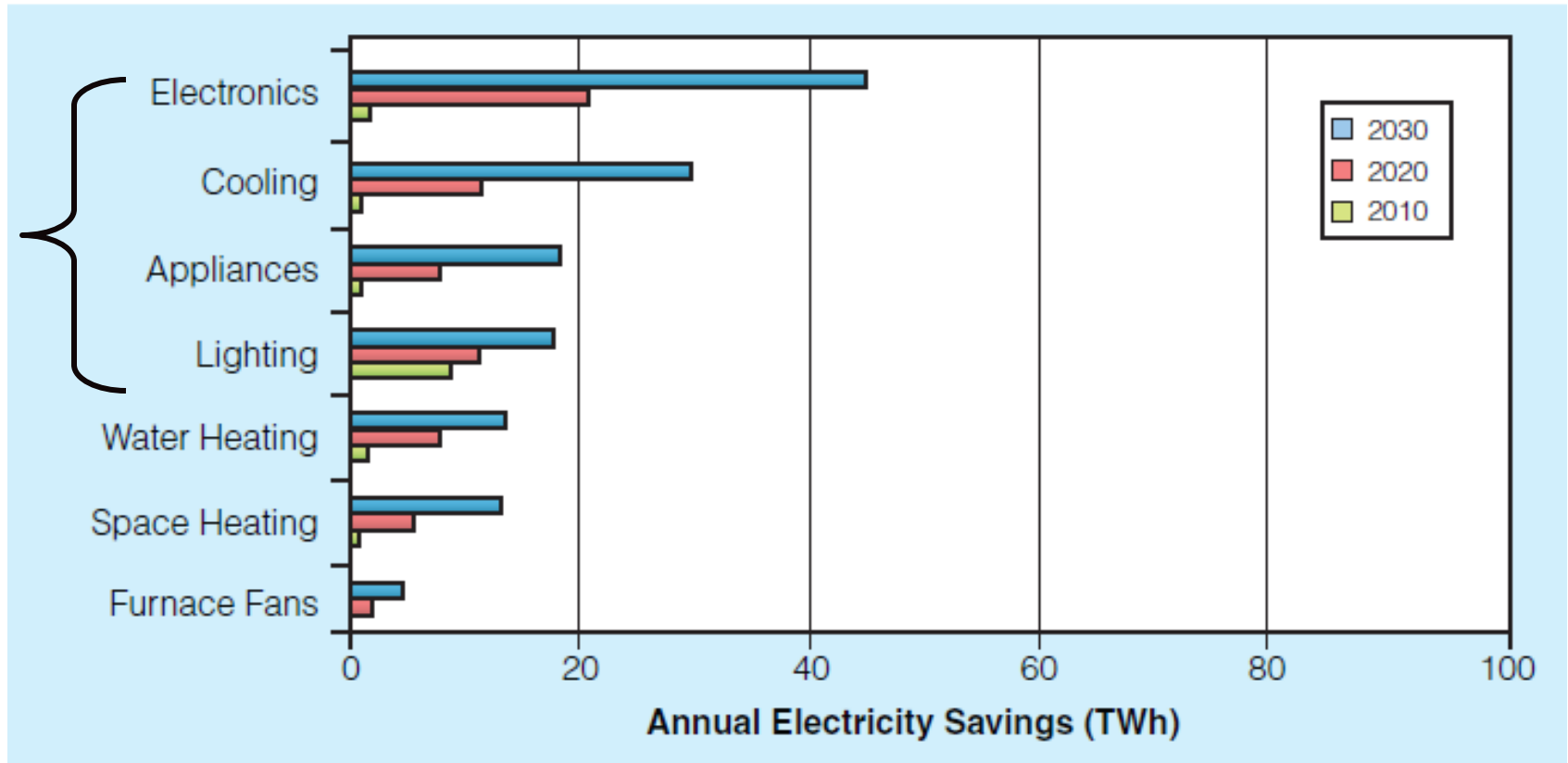
- Whole house



Where are those savings?

Take 1 = EPRI Report

Res Sector End Uses



Where are those savings?

Take 2 = McKinsey Report

| | Energy Use 2008 | Business As Usual 2020 | Savings from EE 2020 | Percent Savings Available |
|--------------------|------------------------|-------------------------------|-----------------------------|----------------------------------|
| Energy Use (quads) | 10.8 | 11.4 | 3.16 | 28% |

Existing Homes
1.3 quads

Existing Low Income Homes
0.6 quads

Electrical devices
0.59 quads

Lighting, Major Appliances
0.34 quads

New Homes
0.32 quads

Committee Overview



◀ Initiatives and explorations

- Appliances
- HVAC
- Lighting
- Electronics
- Whole House

◀ Platforms

- CEE Directory of AHRI Verified Equipment
- Lighting for Tomorrow
- Existing Homes Working Group

Directory of Energy Efficient HVAC Equipment

Central Air-Conditioner and Heat Pump Efficiency 101
Find a Rebate or Incentive Program
Why Choose ENERGY STAR?
How and Why of Certified
How to Use the Directory
About CEE and AHRI

ENERGY STAR

- Find Split or Packaged Air Conditioners
- Find Split or Packaged Heat Pumps
- Find Variable Speed Mini-Split and Multi-Split Air Conditioners
- Find Variable Speed Mini-Split and Multi-Split Heat Pumps

The CEE/AHRI Verified Directory identifies a list of products (less than 65 MBtu/h) that the manufacturers represent as meeting energy performance tiers established by the Consortium for Energy Efficiency (CEE) as a part of the Residential Air Conditioner and Heat Pump Initiative and the High Efficiency Commercial Air Conditioning Initiative. These initiatives make use of tiers to differentiate equipment on the basis of energy performance with a higher tier representing a higher level of claimed performance.

Major Objectives for 2010

- ▼ Appliances
 - ▼ Revise CEE clothes washer spec, develop spec for pool pumps, explore dryers
- ▼ HVAC
 - ▼ Explore variable speed systems and quality maintenance, support QI programs
- ▼ Lighting
 - ▼ Comment on new E* program, develop comprehensive program model, promote LFT
- ▼ Electronics
 - ▼ Develop Energy Efficiency Program Center, revise CEE TV spec, transfer lessons from early programs
- ▼ Whole House
 - ▼ Finalize Existing Homes Program Guide, launch windows effort, support programs on revised E* new homes spec

Contacts

Rebecca Foster

Principal Program Manager
Sector Lead & Existing Homes
617-337-9265
rfoster@cee1.org

John Taylor

Senior Program Manager
HVAC & ENERGY STAR
617-532-0944
jtaylor@cee1.org

Margie Lynch

Program Manager
*Electronics, New Homes,
& Windows*
617-337-9277
mlynch@cee1.org

Eileen Eaton

Program Manager
Lighting & Appliances
617-337-9263
eeaton@cee1.org

Seth Wylie

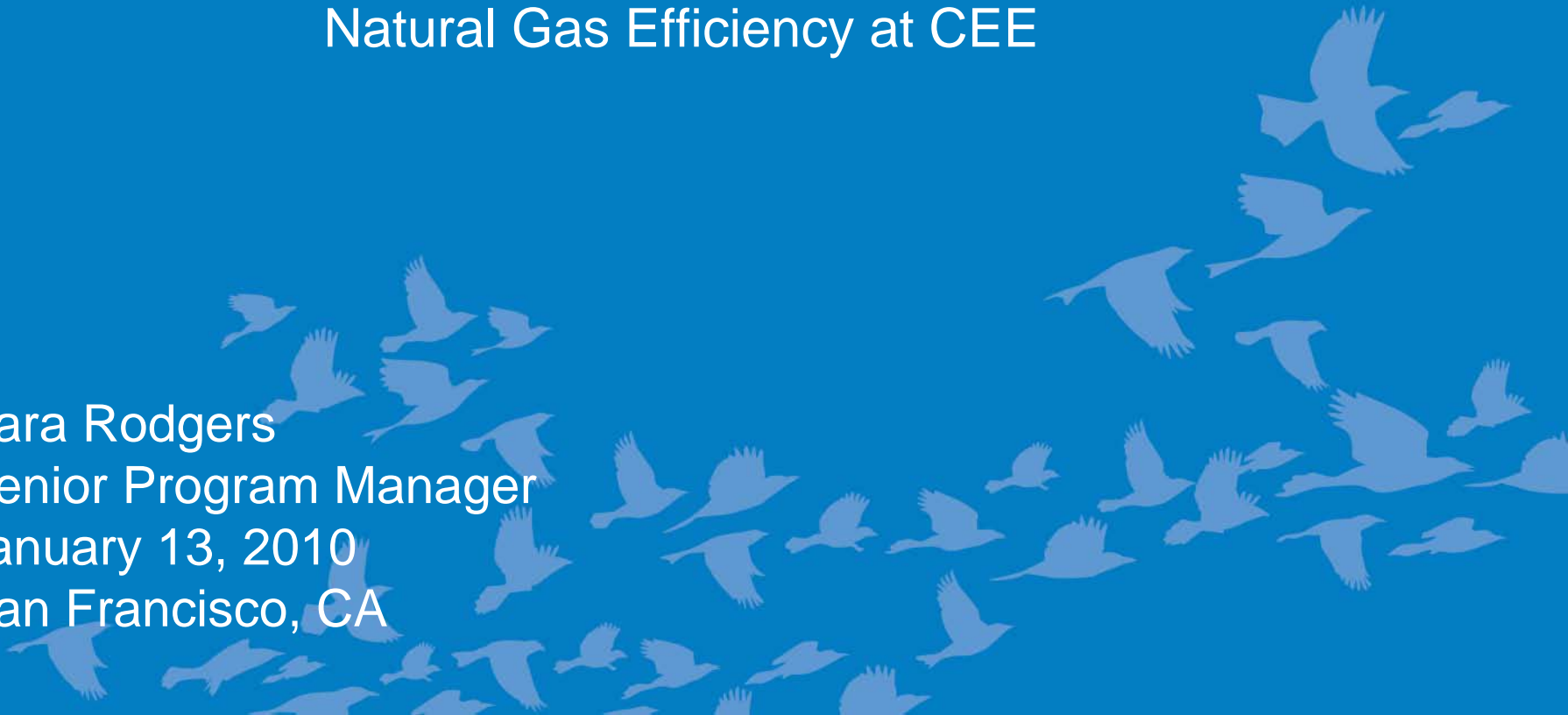
Program Manager
Electronics
617-337-9288
swylie@cee1.org



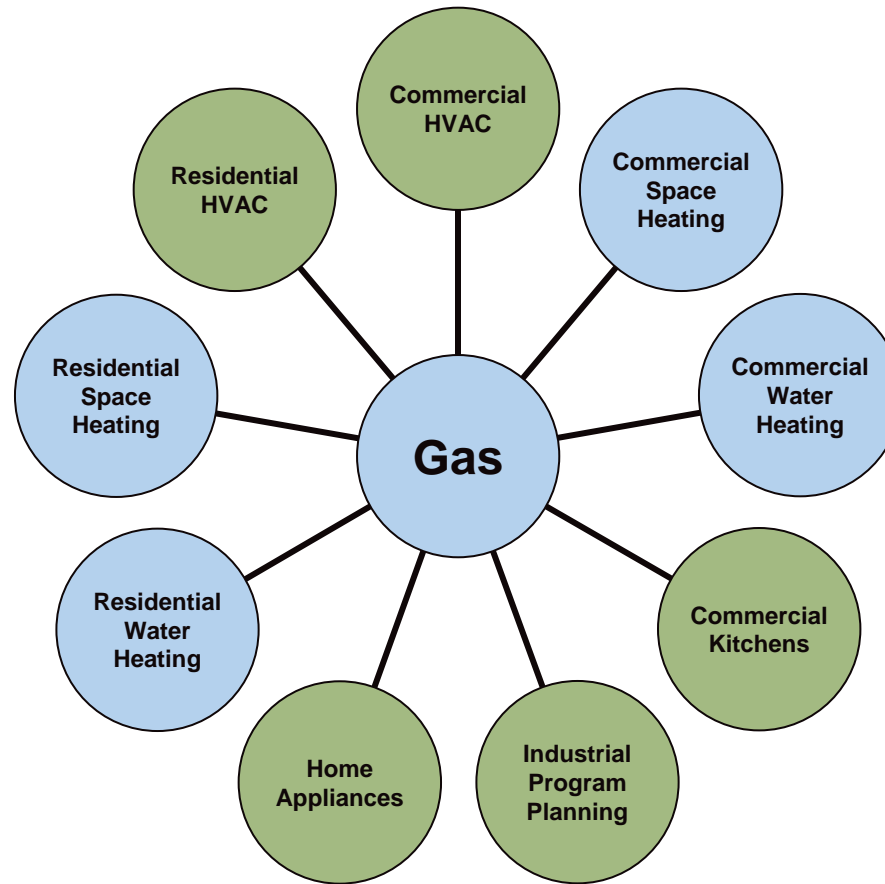
Sector Strategies

Natural Gas Efficiency at CEE

Kara Rodgers
Senior Program Manager
January 13, 2010
San Francisco, CA



Gas Stands Alone, Crosses Sectors, and Is Embedded in Dual Fuel Efforts



Blue = Gas-only

Green = Gas & Electric

Gas Committee Projects in 2010

▶ Residential Gas Programs

- Support Heating and Water Heating Initiative
- Manage Coalition for ENERGY STAR® Water Heaters
- Explore Integrated Space & Water Heating, Room Heating Hearth Products

▶ Commercial Gas Programs

- Explore Boilers, Water Heaters, Gas PACs

▶ Gas Program Development

- Support existing programs and recruiting of new ones

Contact

Kara Rodgers
Senior Program Manager
617-337-9262
krodgers@cee1.org



Evaluation, Research & Behavior: 2010 Highlights

Monica Nevius, Evaluation, Research &
Behavior Lead

CEE Winter Program Meeting

San Francisco, CA

January 13, 2010



Cross-Sector Committee Work

◀ Evaluation & Research

- Data collection & coordinated research
- Support for member needs related to state policy & regulation
- Evaluation resources & support for members & for CEE initiatives

◀ Behavior Change

- Support for incorporation of behavioral insights into EE program design & evaluation

Evaluation, Research and Behavior Team



Monica Nevius, PhD
Principal Program Manager



Kira Ashby
Program Manager

Major Objectives for 2010

- ▼ Data Collection & Coordinated Research
 - ▼ 2010 EE Industry Report
 - ▼ Explore ENERGY STAR survey revisions with entire membership
 - ▼ Scope additional coordinated research if applicable
 - ▼ Hire Associate Program Manager or Program Manager
- ▼ Support for Member Needs Related to State Policy & Regulation
 - ▼ Revise & reprise evaluation webinar for regulators; Camp NARUC; other webinars for regulators

Major Objectives for 2010

- ▶ Evaluation Resources & Support
 - ▶ Market penetration data
 - ▶ Enhancements to library of member Market Assessment & Program Evaluation reports (“MAPE” Clearinghouse)
 - ▶ Summary of current & planned evaluations
- ▶ Support for incorporation of behavioral insights into EE program design & evaluation
 - ▶ Complete overview of members' efforts to change energy consumption behavior among target audiences to inform future Committee work
 - ▶ Develop other web-based support & resources, including social marketing training

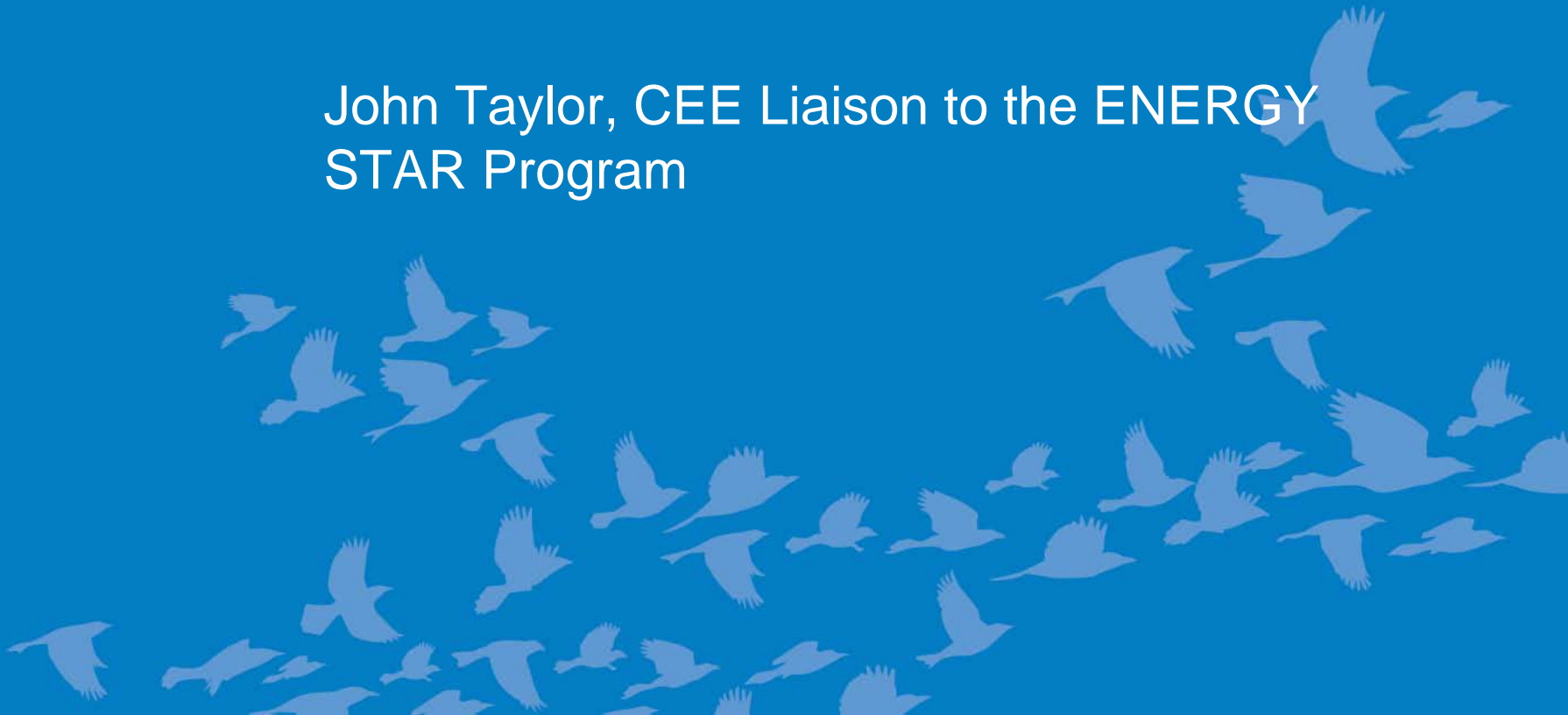
Trends Influencing 2010 Workplans

- ▶ Increasing recognition of relationship between market transformation and behavior, and central role of behavior in technology adoption
 - Work on behavior change covering broad spectrum—not just residential conservation or feedback
- ▶ Obtaining market penetration data from industry associations is slow work; challenges generalizing from these data
 - Shed more light on limitations of currently available data, renew focus on exploring other possible data sources
- ▶ Need for centralized, standardized industry data
- ▶ Program need for better understanding of evaluation-related issues by regulators



ENERGY STAR : 2010 Highlights

John Taylor, CEE Liaison to the ENERGY
STAR Program



Context: Highlighting the Opportunity Presented by ENERGY STAR

- ▶ 70% brand recognition
- ▶ Partnership with 15,000 organizations
 - 2,400 manufacturers
 - 1,000 retailers
 - 6,500 builders
 - 4,500 building/facility owners
 - 600 EEPs (including all CEE members)
- ▶ 60 product categories
- ▶ 50,000 existing/100,000 new homes (2008)
- ▶ 180 billion kWh saved (2007)

Trends Influencing 2010 Work Plan

- ▶ New roles and responsibilities for EPA/DOE
- ▶ Enhanced Program Plan for Products
 - Rapid expansion
 - Ramped-up efforts
- ▶ Federal incentive programs
 - Coordination increasingly valuable
- ▶ Higher stakes—more scrutiny

2010 Priorities

- ▶ Support board, members, staff during transition
- ▶ Comment on the 2011 business plan
- ▶ Partner on “Top Tier” program development
- ▶ Support verification programs