



Designing and Evaluating DSM Portfolios in a Maturing Energy Efficiency Market

Valerie Richardson

January 28, 2009

Introduction

- The growing interest in climate change and saving energy has accelerated CFL adoptions
- The media, government, retailers, and other private industry are providing daily “call to action” messages on becoming green with CFLs
- With so many voices promoting CFLs does this signal that the market is maturing?

Agenda for this Panel

- Three panelist will present their experiences in designing their portfolios
- Next, panelists will respond to three questions giving their assessment on how the energy efficiency market is evolving
- The panelist will then take questions from the audience.
- We are looking for a lively exchange of views and opinions on the market dynamics impacting the energy efficiency market

Desired Outcomes

- Start a dialog on how to recognize when a market is transformed or nearly transformed and when exit strategies are needed
- Recognize and share common challenges in designing portfolios
- Elevate awareness of evaluators and market researchers on challenges portfolio designers are facing



**Designing and Evaluating DSM Portfolios in a Maturing
Energy Efficiency Market**

From a Newcomer's Perspective...

Michael S. Brandt
Manager, DSM & Energy Efficiency Program Planning
ComEd
Chicago, IL

January 28th, 2009

Introduction to ComEd & EE History

- **ComEd**
 - Delivery-only Electric Utility in Northern Illinois
 - ~3.8M customers – includes Chicago
- **Key Dates in IL EE History -**
 - Governor signed Illinois Power Agency Act into law - **August 28, 2007**
 - ComEd filed Energy Efficiency / Demand Response Plan (EE/DR) - **November 15, 2007**
 - Illinois Commerce Commission Approved ComEd's EE/DR Plan - **February 6, 2008**
 - First Set of Programs Launch - **June 10, 2008**

EE Goals

The ComEd Goals			
	2008	2009	2010
% of Energy Delivered	0.2%	0.4%	0.6%
MWh Goal (Energy Efficiency)	188,729	393,691	584,077
MW Goal (Demand Reduction)	11.7	11.1	10.0
Spending Screen (\$M)	\$39.4	\$81.6	\$126.7

- The goal increases to 2% by 2015
- One-quarter of portfolio managed by Illinois Department of Commerce and Economic Opportunity (DCEO)
 - Primarily Low-Income, Municipal and Market Transformation programs

ComEd Portfolio

- **Basis for Portfolio Design**
 - Designed to implement and expand quickly
 - Based on building a strong EE foundation
- **Residential focus** (“*Smart Ideas for Your Home*”)
 - Residential Lighting (CFLs)
 - Appliance Recycling (Refrigerators, Freezers, Window A/Cs)
 - HVAC (Quality Installs, Comprehensive Tune-Ups)
 - All-Electric Homes (Single-Family, Multi-Family)
 - Advanced Lighting Packages (new construction component)
 - A/C Cycling (Demand Response)
- **C&I focus** (“*Smart Ideas for your Business*”)
 - Prescriptive & Custom Incentives
 - Retrocommissioning
 - New Construction
 - Small C&I CFL Intro Kit



Early Portfolio Results

- Through 6 months, all scheduled program have been implemented
- Currently have achieved 40% of kWh goal, which tracks with our projection
 - 75% from CFLs
 - YE projection is for CFLs to be 46% of total

For 2nd and 3rd year, CFLs are expected to produce 39% and 31% of the savings

Maturing Market Concerns?

- While we have same concerns as many, our market has not seen the energy efficiency activities as others – not saturated
- However, Regulations, Laws, and Technology Advancements could render current EE measures meaningless in the future
- **Key question** – What replaces the CFL?
 - currently one of the “cheapest” EE measures
- **Our situation**
 - While still building the foundation, we are already looking for the next “big thing”

Future EE Plan

- Market Assessment / Program Potential Study
- Emerging Technologies / R&D
 - IL statute allow 3% of funds allocated for emerging technologies (~\$1M / year)
 - Current Activities
 - **ComEd Community Energy Challenge** (pilot program)
 - testing the concept of community based delivery of EE programs
 - 12 communities competing for cash award (\$100K)
 - **Home Energy Reports Program** (pilot program)
 - 50,000 residential customers receive bi-monthly energy reports on their usage compared to their neighbors
 - Testing the concept of behavioral changes – will need to determine if we can count these savings
 - **Smart Grid / Home Area Networks (HAN)**

Future Role of the Utility in EE

- In IL, we see different forces in the market, but still believe the utility is best positioned and has the most opportunity to deliver EE
- Convergence maybe the answer – and the Utilities hold the key
 - Evolving towards convergence of EE, DR, efficient pricing and distributed generation
 - Idea is to maximize value on the customer side
 - KEY – No entity other than utility can bring all this together

Utility Role Change?

- Does a Mature Market call for Utilities to redefine their role?
 - Believe the Utility role will always evolve and this is just natural progression
 - Utilities can (and should) maintain the market leader role
 - They still have the closest tie with the customers



Designing and Evaluating DSM Portfolios in a Maturing Energy Efficiency Market:

A market Transformation Perspective

Jeff Harris
Sr. Manager for Planning
Northwest Energy Efficiency Alliance

Mission



**Mobilize the Northwest to
become increasingly energy efficient
for a sustainable future.**

Who we are



Owners:

- Bonneville Power Administration
- Energy Trust of Oregon
- More than 130 electric utilities across Wash, Ore., Mont. and Idaho

Supported by:

- State governments
- Energy industry representatives
- Public interest groups

Team:

- ~30 full-time staff
- ~ wide range of contractors

Brands:

- Northwest ENERGY STAR
- BetterBricks
- Continuous Energy Improvement

Key Accomplishments



1997: NEEA kick-starts market for efficient clothes washers. Today market share is 50% - highest in the nation.



2001: Market share for ENERGY STAR windows hits 75%.

2005: BetterBricks launches healthcare focus. Today, hospitals representing 30% of region's beds have adopted a SEMP.

2008: Food processing industry to develop 10-20 year energy roadmap.

1990

Today

1996: NEEA Begins working with CFLs

1998: NEEA helps fund BacGen reducing wastewater treatment energy use by up to 50%.

2000: NEEA shows that VFD cold storage fans reduce energy use by 61-86%. VFDs are now industry standard.

2002: NEEA is first sponsor of 80 PLUS. These efficient computer power supplies could save NW 8.5 million kWh annually.

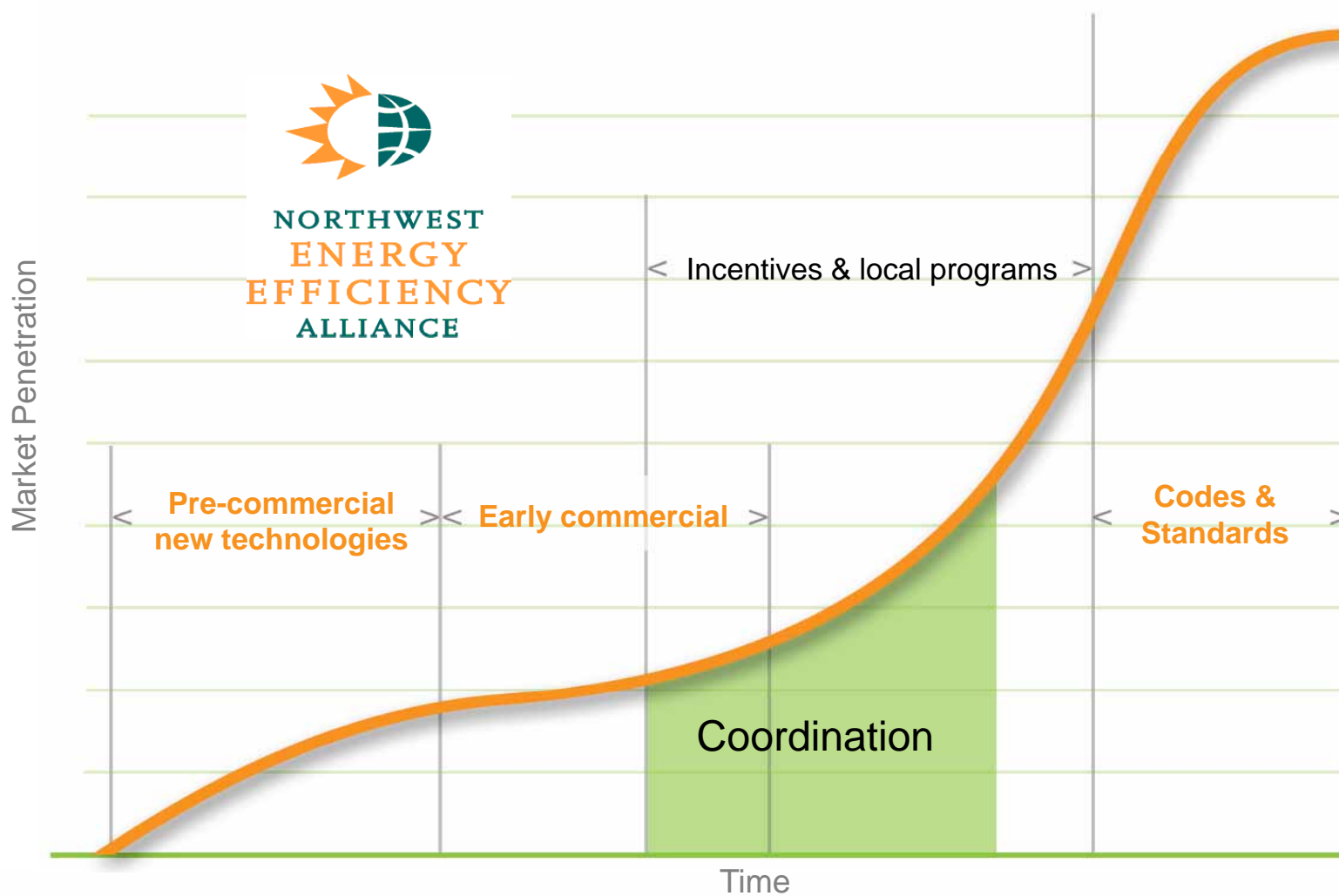


2004: Northwest ENERGY STAR new homes specification established – 15% more efficient than code.

2007: CFL sales top 18 million

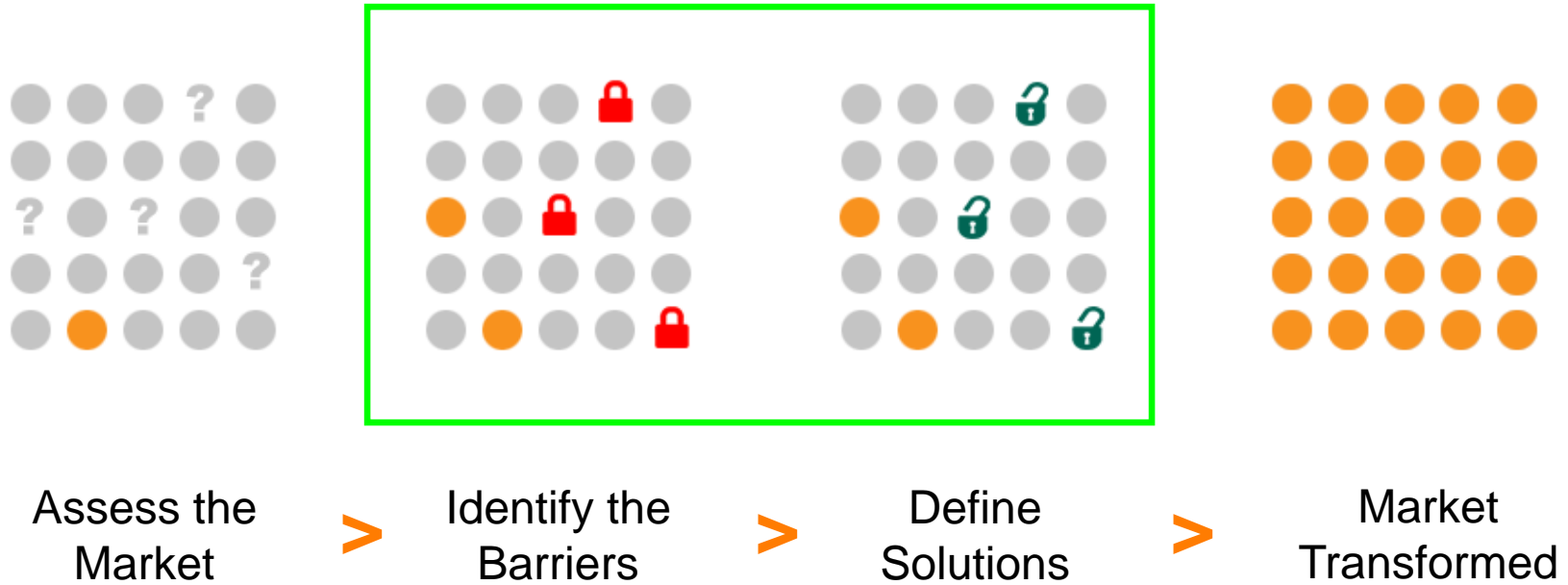


Market Transformation Theory



The Process:

Measurement and Evaluation



CFL Example: 1990

- Awareness
- Experience
- Satisfaction
- Availability
- Price
- Market share

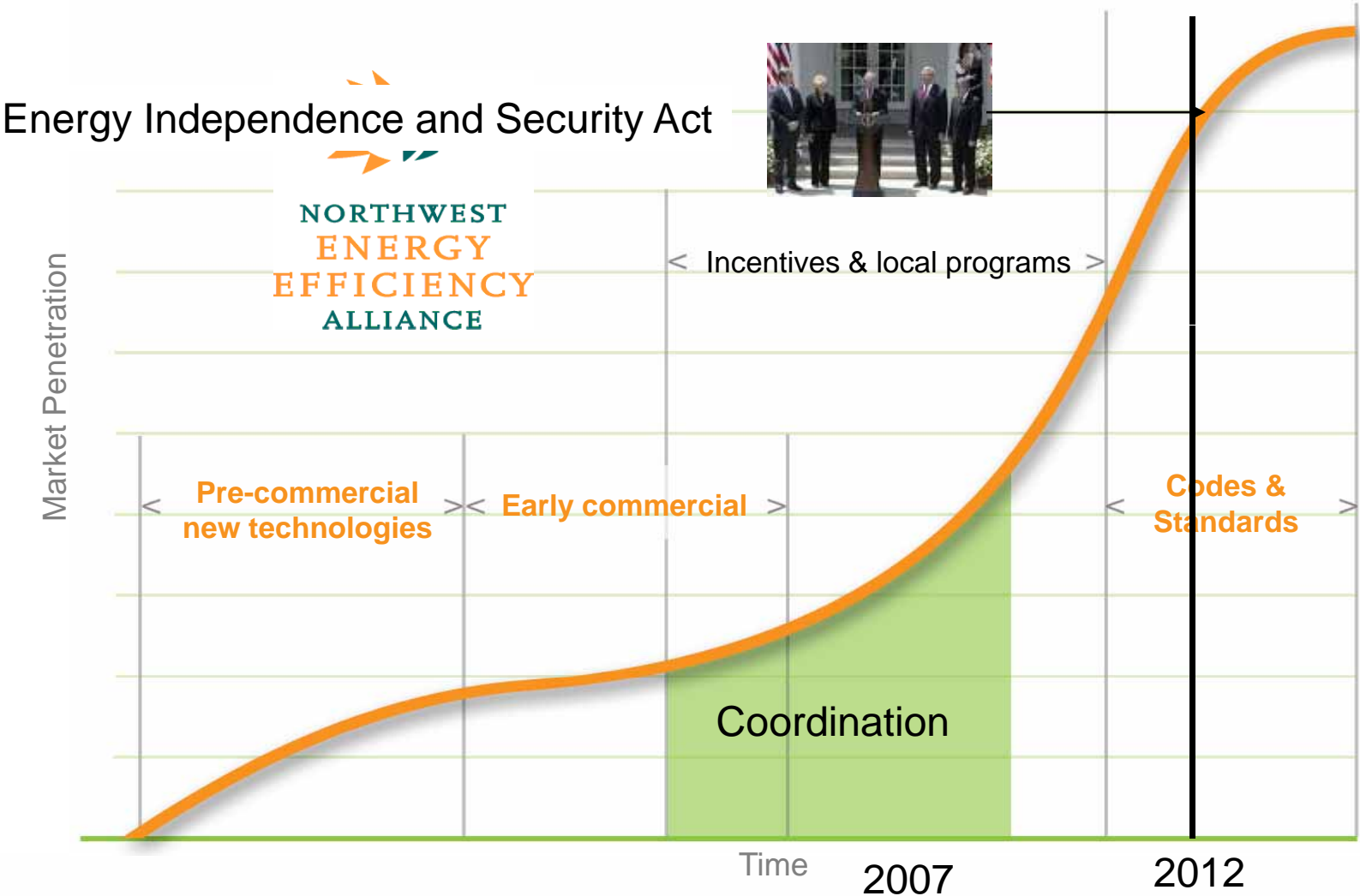


CFL Example: 2008

- Awareness
- Experience
- Satisfaction
- Availability
- Price
- Market share



CFL Example: 2012



CFL Example: 2015

Measurement and Evaluation



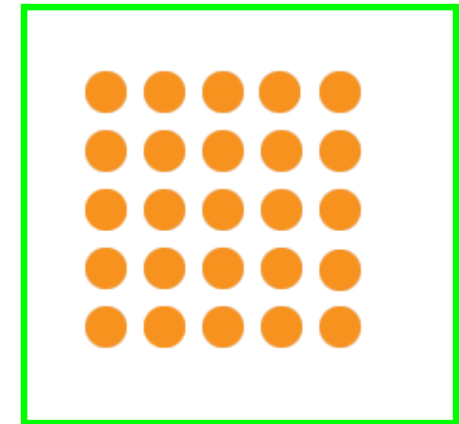
Assess the Market



Identify the Barriers



Define Solutions



Market Transformed



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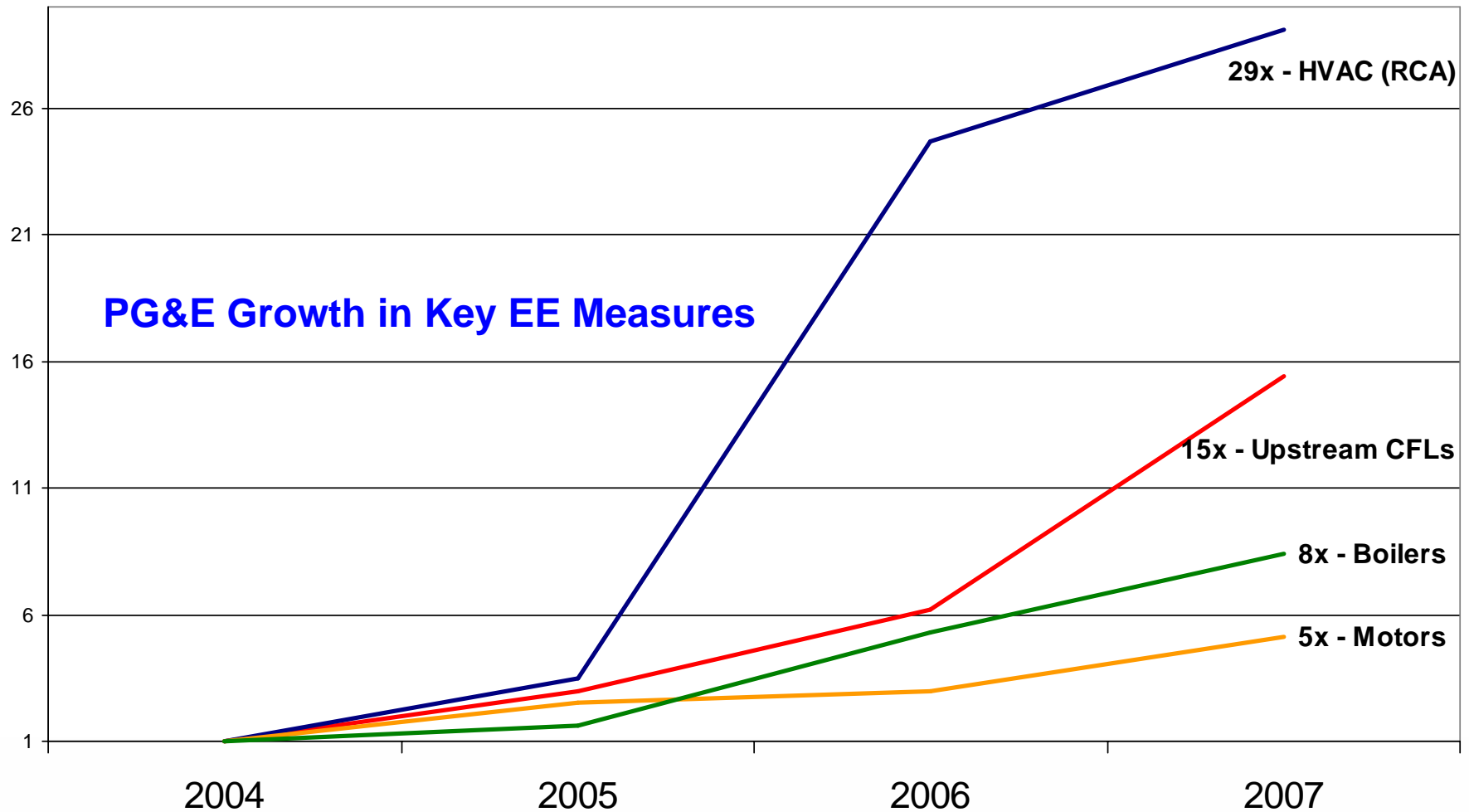
**Duane Larson
January 28, 2009**

“What are we talking about?”

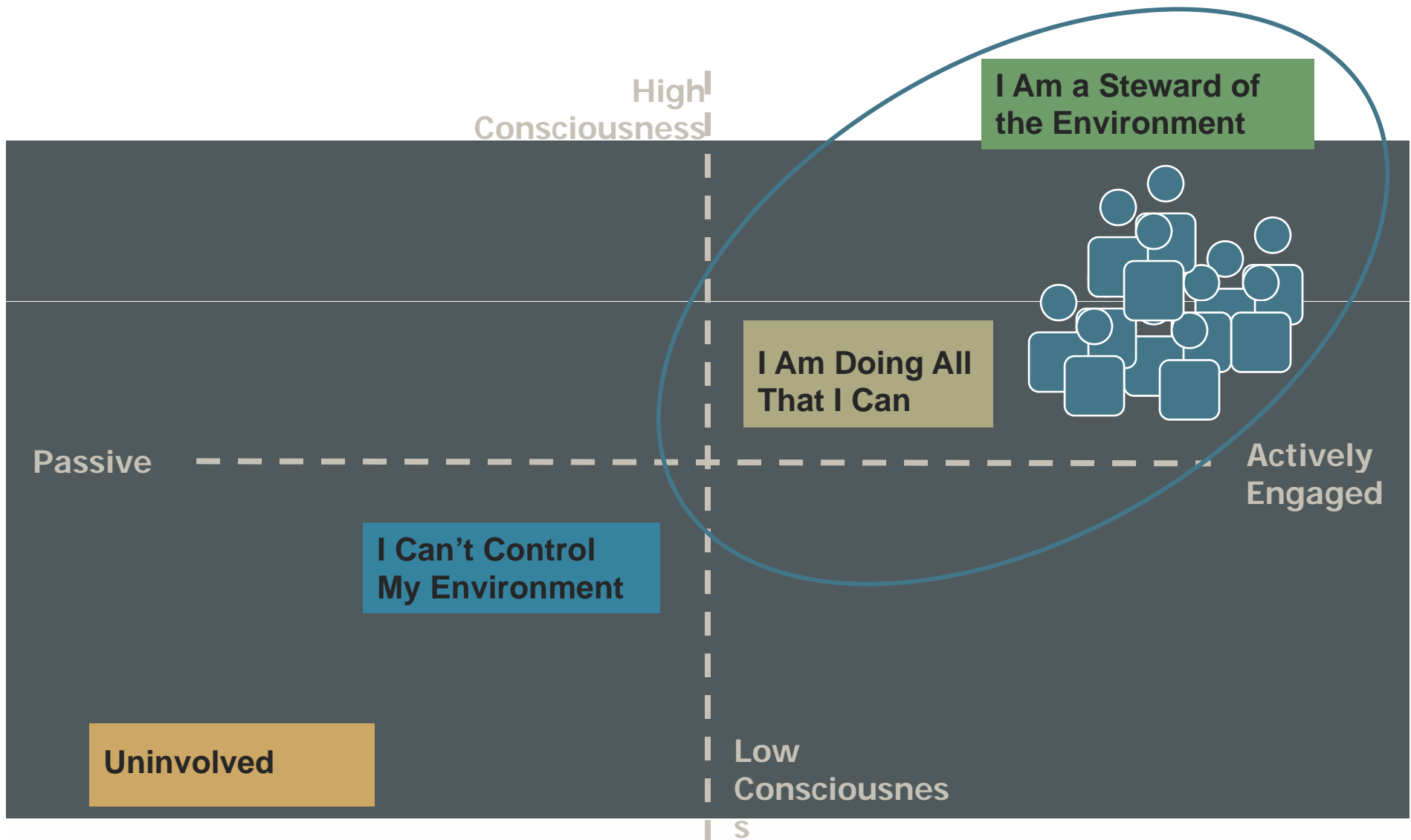
- What Maturing Energy Efficiency Market?
- Why it is good?
- What’s the problem?



Are technologies maturing and saturating EE Markets?



Are Consumer Attitudes Maturing?



What's the Problem?

- Technology and innovation are growing faster than programs are adapting them.
- Consumers have more interest and frustration.
- Our EM&V Policy and Design hasn't kept pace to optimize the opportunities.



Evaluation Should Enable, Not Hinder

- California evaluation paradigm is focused on Net-of-Free-Ridership attribution of savings from specific widgets.
- Context requires upgraded evaluation paradigm because EE Portfolio offerings:
 - are more integrated and complex;
 - leverage other market actors; and
 - leverage the societal move to “green.”

New Evaluation Paradigm

- Acknowledge NTG impossible to evaluate accurately in today's context.
- Recognize and welcome publicly funded EE portfolio efforts becoming the “oil” of a much larger “EE machinery.”
- Welcome and track effectiveness with which leverage larger market actors EE efforts.
- Track progress in markets, using metrics and methodologies appropriate to each.
- Work to implement new metrics and methods aligned with today's context.



Example: “Super CFL”

- Super CFLs – need market push/pull IOU programs will:
 - require stringent characteristics for “Super CFL” label;
 - incent these more than traditional CFLs;
 - promote their sale across the territory and diverse retail outlets; and
 - promote their purchase with advertising and education pieces.

2006 - 2008 Energy Efficiency Portfolio: Focus on the Customer

- Portfolio includes: financial incentives and rebates, training, education, energy audits, emerging technology projects, energy codes and standards support, marketing and outreach, and evaluation activities.
- Multiple delivery channel opportunities: utility programs, partnerships, third party programs.
- Mass Market: single family, multifamily and small business customers; and Low Income Energy Efficiency.
- Targeted Markets:
 - Agriculture & Food Processing
 - Hospitality & Lodging
 - Health Care & Biotech
 - High Tech
 - Large Commercial & Institutional
 - Manufacturing & Heavy Industry
 - Residential New Construction
 - Retail
 - Schools, Colleges & Universities

Are CFLs too Mature for your EE Portfolio?

Residential Lighting and Electronics remain the most cost-effective measures to reduce carbon emissions.

Any EE portfolio looking to maximize carbon reduction and cost-effectiveness needs to address the measures using the most energy.

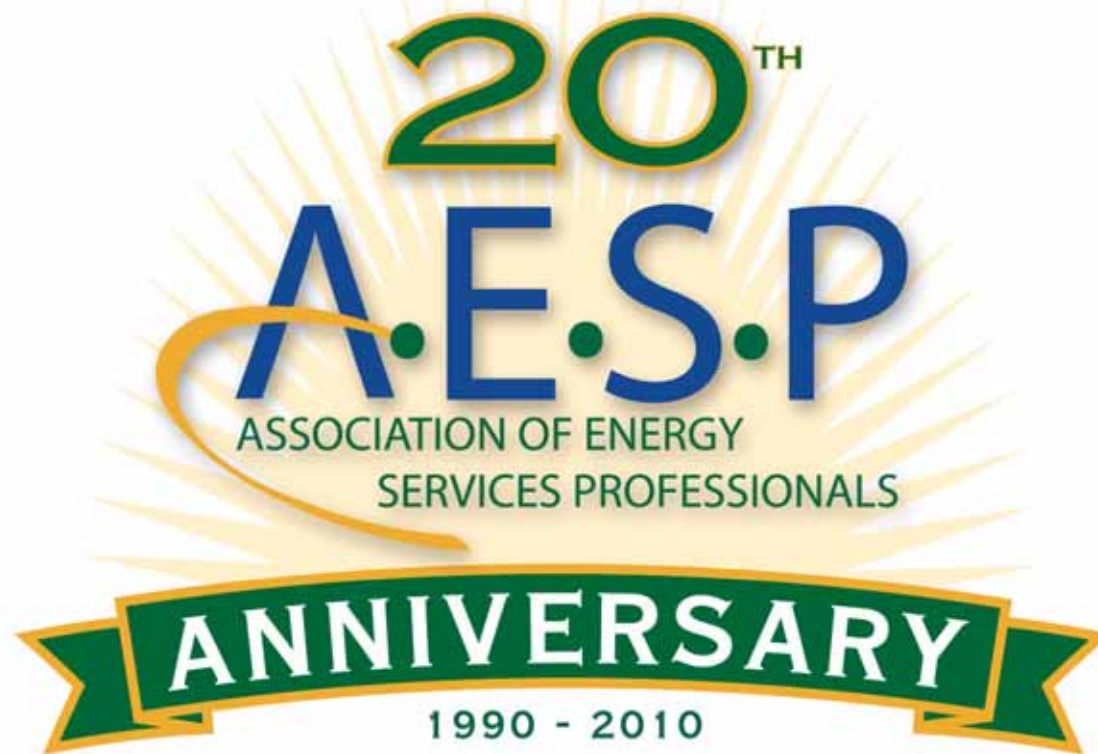
Thank you
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Questions for Panelist

- After nearly two decades, are energy program administrators still the primary voice driving the growth of EE in today's market?
- Does a maturing market call for program administrators to redefine their role as leaders?
- What impact do you foresee the proposed federal energy budget will have on your role as program administrators?

Questions from Audience

?



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