



# Commercial Energy Management

Clearing the Energy Management Hurdle: How Do We Prove They Work and Claim Savings?

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# Ground Rules

- ▶ All perspectives valid and valued
- ▶ Building on ongoing committee work
- ▶ Active use of parking lot
- ▶ Interactive
- ▶ No such thing as a dumb question
- ▶ Follow CEE committee conduct guidelines
- ▶ No griping about policy

# Session Agenda

- ▶ Objectives, Definitions, Context
- ▶ Overcoming Barriers to M&V for Commercial Energy Management Programs
  - David Jump, QuEST
  - Crispin Wong, PECL
- ▶ Next Steps

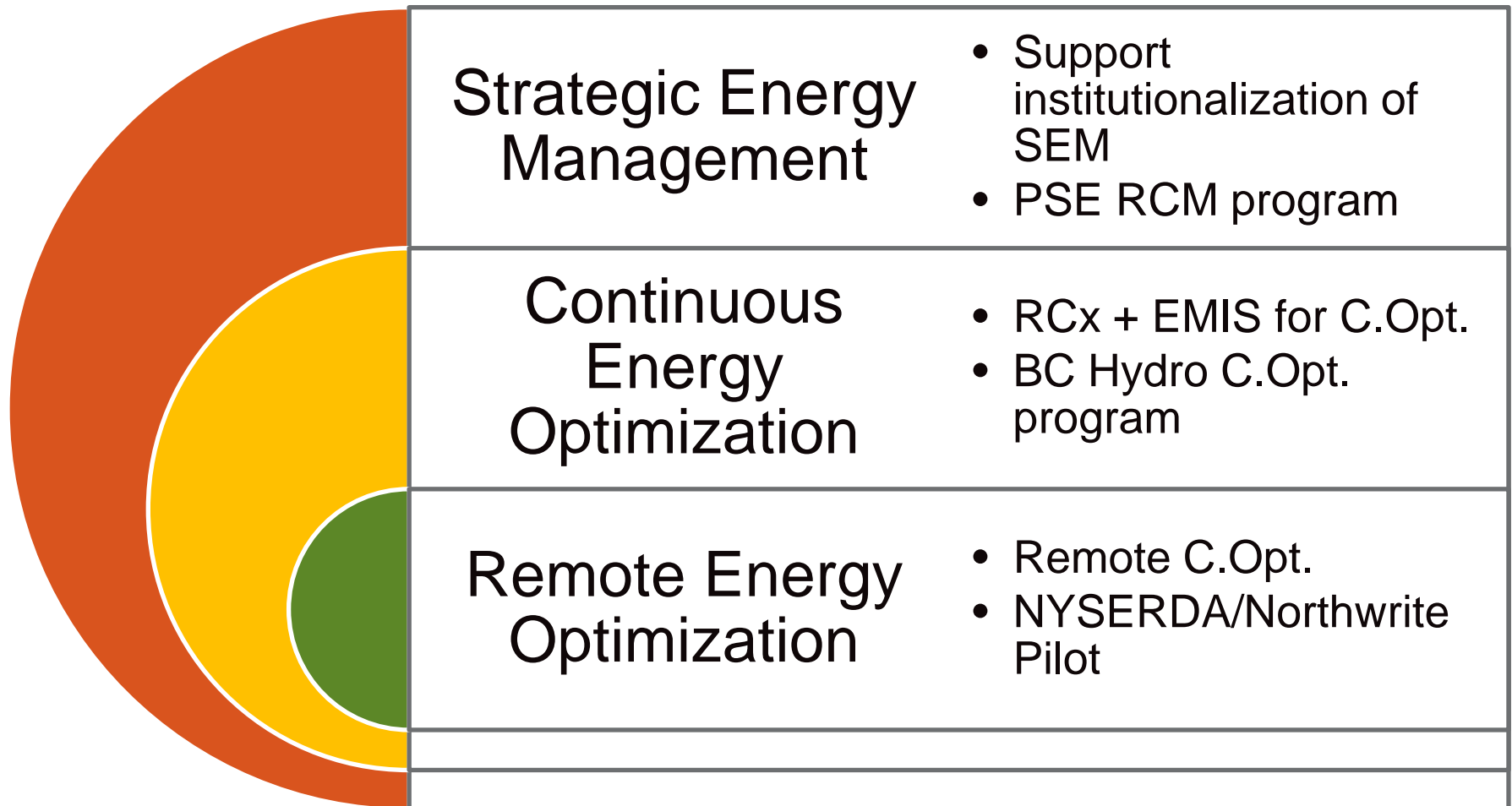
# Session Objectives

- ▶ To learn about integrating M&V options into commercial energy management programs design
- ▶ To inform actions that can help overcome common M&V challenges impeding greater uptake of commercial energy management programs

# M&V and the Whole Building Performance Exploration

- ▶ Exploration Goal: build the program infrastructure to support whole building performance programs
- ▶ Current Activity: develop a set of commercial energy management program templates to help streamline program design
- ▶ Program Barrier: M&V
- ▶ Today: learn about strategies to overcome M&V challenges

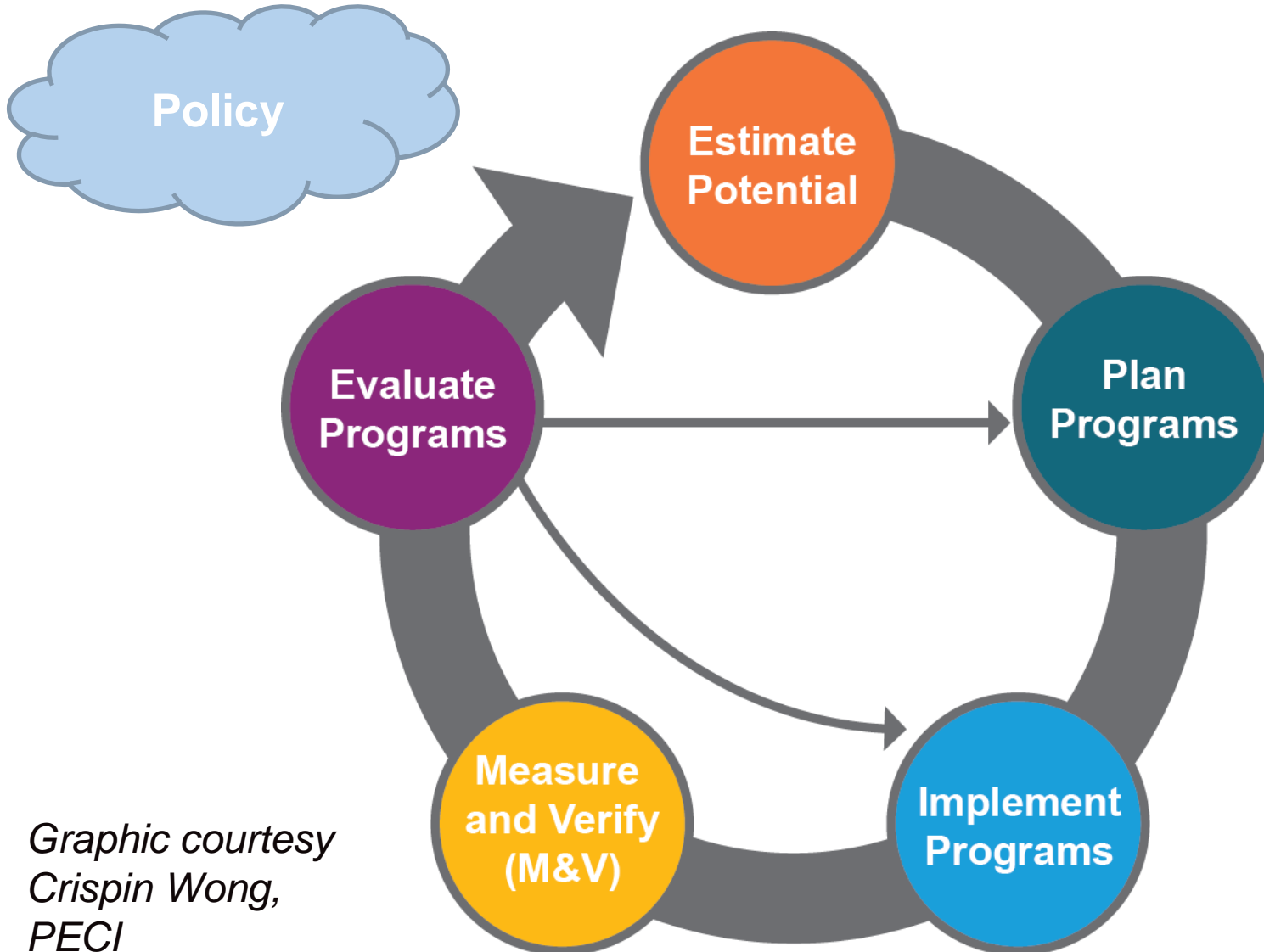
# Commercial Energy Management Program Examples



# What is M&V?

- ▶ The **process** of using measurements to reliably determine actual savings created within an **individual facility** by an energy management program.
- ▶ Savings cannot be directly measured, since they represent the absence of energy use.
- ▶ Savings are determined by comparing measured use **before and after** implementation of a project, making **appropriate adjustments** for changes in conditions.

# The Program and Evaluation Cycle



*Graphic courtesy  
Crispin Wong,  
PECI*

# M&V to Minimize Program Risk

Program Administrators

Site Level M&V

Add up savings

Program Gross Savings

Evaluators

Sampling, Review Program, Site Level M&V

Evaluated Gross Savings

Non-Program Influences

Co-Benefits

Net Savings

# Site Level M&V Complexity in Energy Management Programs

- ▶ Matching exact savings with specific measures in programs focused on O&M and behavior
- ▶ Changes may occur over a long time period
- ▶ Applying whole building M&V methods

There are no standard M&V methods or data req's.

# Desired Outcomes Today

- ▶ Participants: what considerations and practical steps can take at the program design phase to increase confidence that program M&V meets evaluation needs
- ▶ Industry: Document considerations and practices found to be successful in the past into program guidance under development

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