Evolving Energy Efficiency Programs to Focus on CO_2 Reduction:

Implications for Program Evaluation

Energy Evaluation Asia Pacific

Bangkok, Thailand

OCTOBER 30-31, 2019

AGENDA

- Overview
- Historical Perspective
- 2019
- GHG Reduction Programs
- Reflection

Energy Program Evaluation exists to support clean energy objectives.

To stem the effects of climate change, the focus is shifting to address GHG reductions.

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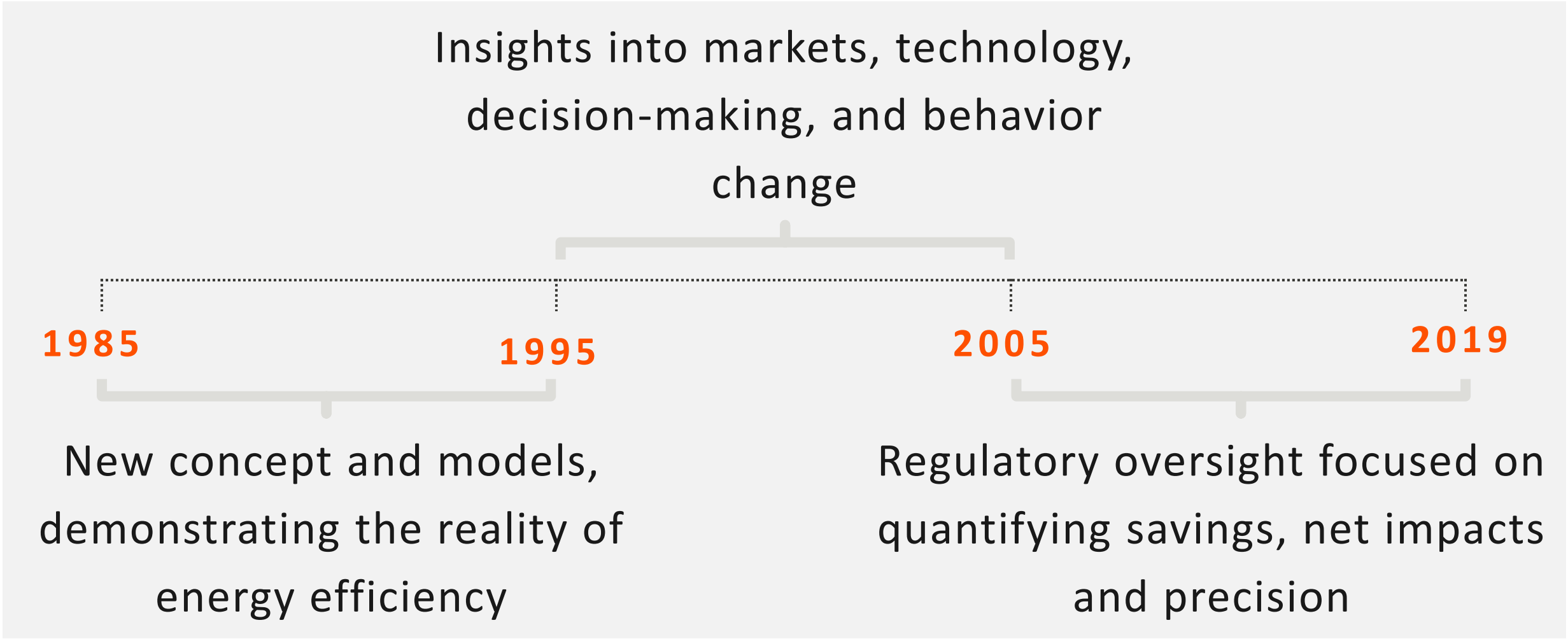
Historical Perspective

Energy programs in the US are largely regulatory-driven

EVOLUTION OF ENERGY POLICY OVER TIME

1970s	1980s	1990s	2000s	2010s
Conserve Energy	Avoid Building New (Nuclear) Plants	Competitive Markets	Grid Reliability	Greening of Supply

Program Evaluation has also evolved



Fast Forward to 2019

Climate change is REAL → Energy sector is a significant contributor

Electricity production is a significant contributor of GHG emissions → EMERGING RATIONALE:

Achieve Reductions in GHG Emissions

What is changing?

The Shift Toward GHG Reduction Programs…

Efficiency, Yes, but … GHG reductions are MOST important

Focus is on utilizing all the green energy available.

Grid management support through EE, DR, Electrification, Storage

Provide capacity at very specific times of day and at very specific locations on the grid.

EXAMPLE: 2019 Clean Energy Optimization Pilot (CEOP)

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PARTNERSHIPS WITH CALIFORNIA UNIVERSITY SYSTEMS:

University of California

California State University

KEY PERFORMANCE METRIC:

- GHG Reductions
- GHG reductions: whole-campus level

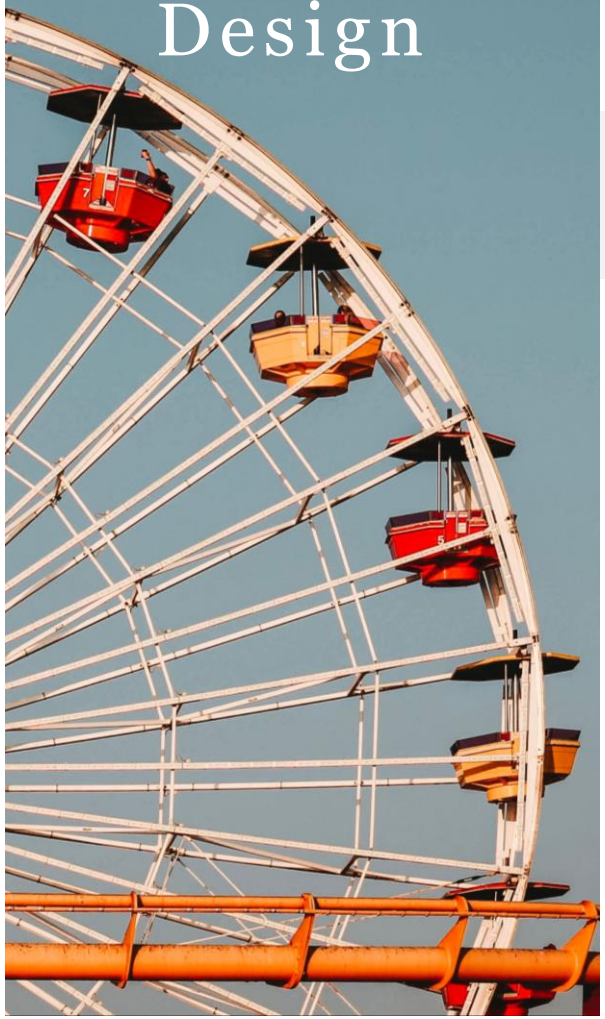
APPROACHES MAY INCLUDE:

- EE, DR, Cogen, renewables, clean transport, energy storage

CUSTOMER PARTICIPATION:

- Customer flexibility
- Customer decides how to achieve reductions!

CEOP Program & Evaluation Design



PROGRAM GOAL

Outcomes focused on GHG reductions

APPROACH

Pay for Performance: Moving away from measure / project specific incentives and approvals

BENEFITS

- Reduces silo'ing
- Allows electrification
- Customer empowered
- Scalable

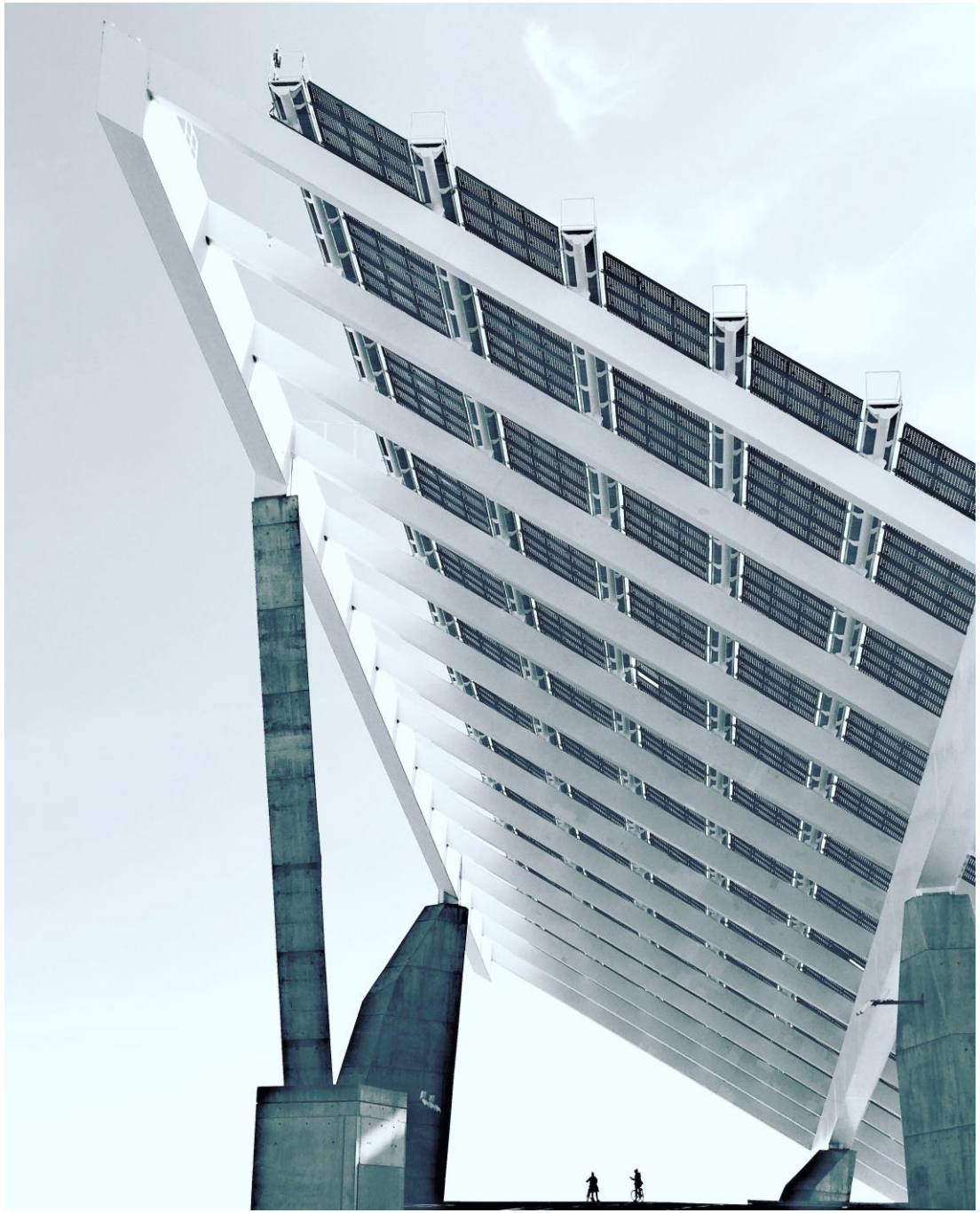
KEY EVALUATION ELEMENTS:

- Benefits = reduced emissions
- Evaluation: IPMVP protocols
- Normalized metered energy consumption analysis techniques
- Process evaluation: optimize design, test scalability

Stepping Back… Fundamental Challenges Ahead

- As these programs change, how does the role of program evaluation change?
- How can we ensure that the efforts of program evaluation are relevant?

Are we framing the correct evaluation questions?



Summary

- Traditional utility-sponsored EE programs will continue
- The urgent need for GHG reductions is resulting in a new portfolio of energy programs
- Evaluation will be serving new and different needs.

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