

CADMUS

Evaluation and Codes and Standards Programs

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About Cadmus

**Since
1983**

Employee-
owned social
good
consultancy

37

Years

Of helping our clients
address complex
challenges in a highly
collaborative environment

Started with 2 Co-

Founders

**500+ strong
as of 2020**

19

locations
around the
globe



Cadmus Energy Services

Services to meet the changing demands of the energy landscape

Evaluation and market research

Resource planning and integration

Policy, regulation, and programs

Advanced analytics

High performance buildings

Business resilience

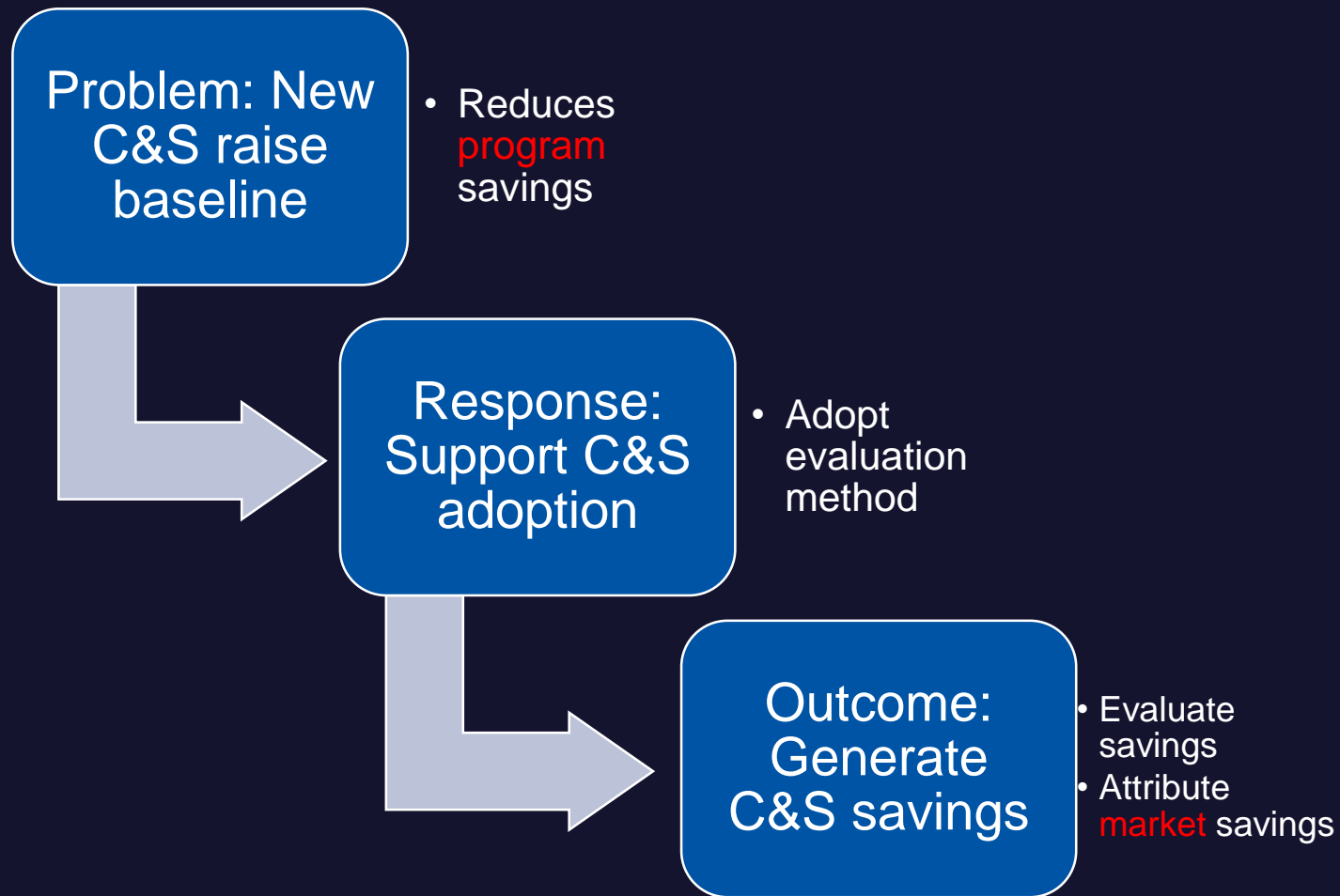
Marketing and outreach



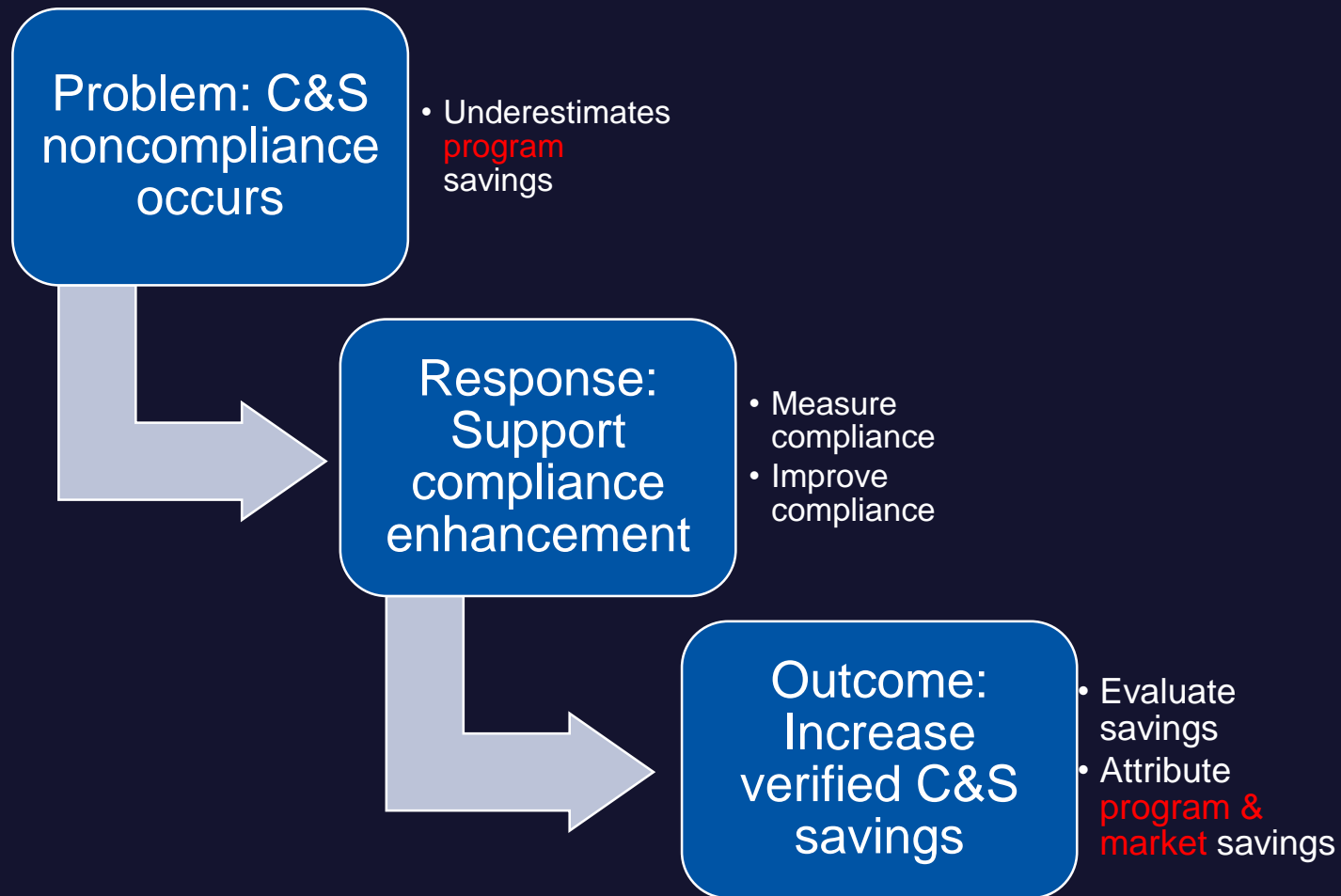
Codes and Standards (C&S) Services

- Clients
 - Utilities, program administrators
 - Regulators
 - Local, state, regional, federal organizations
- Project types
 - Program evaluations
 - Impact
 - Process
 - Compliance studies
 - Policy and program design
- Examples
 - California utilities' statewide Codes and Standards Program (10 years)
 - 21 state code compliance studies
 - BC Hydro North American Code/Standard Program attribution review

Rationale for C&S Advocacy



Rationale for Enhancing Compliance



C&S Program Examples

Development/ adoption advocacy

- California utilities' Codes and Standards Program
- Massachusetts program administrators' program
- Northwest Energy Efficiency Alliance appliance standards







Compliance enhancement

- Massachusetts program administrators' training program
- NYSERDA training, technical assistance program

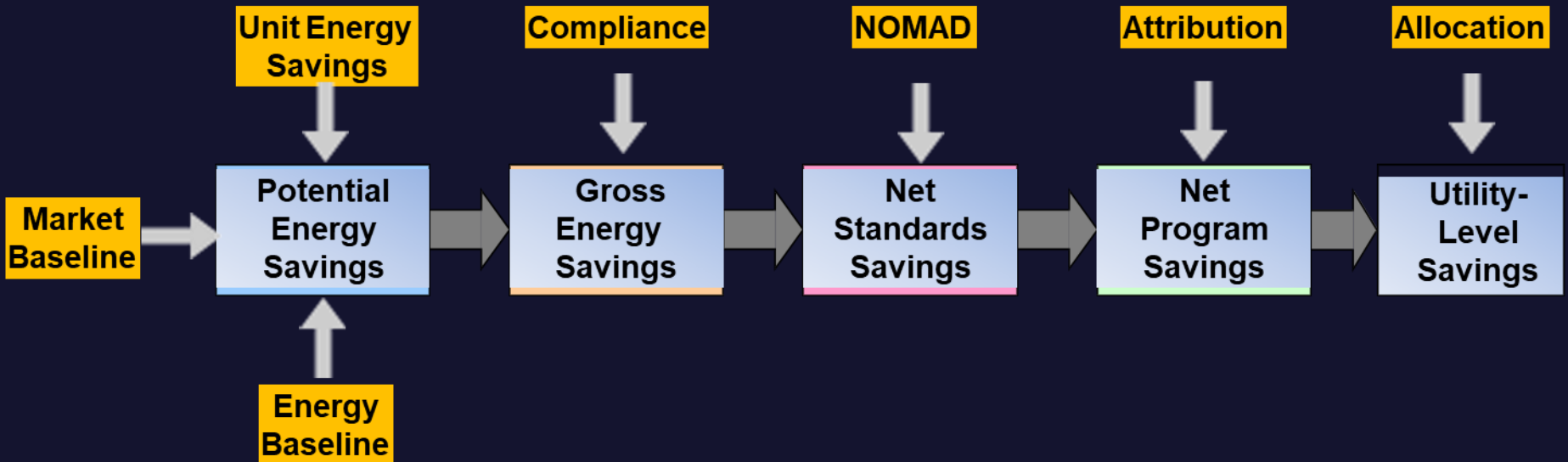
Reach/stretch code adoption

- National Grid Rhode Island
- California utilities

Why Conduct C&S Studies?

Study Types	Purpose
 Compliance studies	 Provide new-product efficiency baseline
 Program evaluations	 Attribute energy savings
 Best practice research	 Inform program design

C&S Program Impact Evaluations



- California has most comprehensive method for evaluating savings from supporting adoption
- Massachusetts applies similar logic to evaluate savings from supporting compliance enhancement
- Arizona implements hybrid deemed/quantification approach to credit utilities with partial savings from C&S

Evaluation Method Observations

- Potential savings are much larger for C&S adoption than compliance improvements
 - Adopting standards offers significant savings potential
- Evaluation method parallels usual energy-efficiency evaluation program protocol, but key questions must be answered
 - What policy conflicts exist?
 - How will impacts on future products be treated?
 - What is appropriate baseline?
 - Should impacts be quantified as net or gross?
- Cost and complexity can be tailored
- Comprehensive reference available
 - <https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/regulatory-planning-documents/regulatory-filings/rra/bch-f20f21-rra.pdf> (Appendix CC)
 - Allen.Lee@cadmusgroup.com

Implications for Minnesota

It is the energy policy of the state of Minnesota to achieve annual energy savings equal to 1.5 percent of annual retail energy sales of electricity and natural gas directly ... and indirectly through energy codes and appliance standards... [Next Generation Energy Act of 2007]

Lack of C&S program has consequences

- Increasing baseline reduces voluntary program savings
- Noncompliance understates program savings

C&S program requires statewide perspective

- Impacts affect entire markets

Evaluation can be tailored

- Attribution needs attention in net vs. gross assessment
- Evaluation approach should be crafted with program design

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Thank You/Q&A

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