



BASELINE POLICY FRAMEWORK

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Workshop on Energy Efficiency Baselines

April 28, 2015

Presentation Overview

Part I: California energy efficiency policy framework

- Direction and party comments on baseline in D.14-10-046
- Energy efficiency legislative mandate
- How CPUC and CEC meet the legislative mandate
- Impact of energy efficiency on procurement planning

Part II: Overview of energy efficiency baseline conundrum

- IOU program design and uncertainty of savings
- Challenges to accurately estimating portfolio savings
- Why existing baseline significantly increases this risk

Part III: Efficiency Baseline Analysis Activities in Progress

- Overview of collaborative process for existing baseline analysis
- Energy Division White paper
- CEC analysis of baseline issues in demand forecast
- Navigant's Existing Baseline Analysis



Section I

CALIFORNIA ENERGY EFFICIENCY POLICY FRAMEWORK

Proceeding background on baseline

In R. 13-11-005 Phase I, IOUs proposed using existing baseline for Prop 39 projects

In support

- NAESCO supported expansion of baseline to all measures
- LGSEC recommend expanding existing baseline to non-burnout replacements
- NRDC generally supports reevaluating the current at code baseline for 2015 requests
- CEEIC, CCILMCT and FirstFuel support existing baseline for Prop 39 projects

Opposed

- ORA state that utilities have not offered evidence that justifies the use of alternative baselines and that CPUC baseline should reflect accurate counterfactual, not just to “support” the industry
- TURN opposed use of existing baseline for Prop 39

Decision 14-10-046 Direction on Baseline

- D.14-10-046 p.74 directs Commission Staff to consult with the CEC and CAISO on the methodologies used to set codes and standards baseline.
- Commission Staff should collect data from stakeholders, program evaluation studies, and market studies relating to, variously, the volume of deferred retrofits; the ability of program administrators to target and accelerate such upgrades cost-effectively; and analyze how to create appropriate incentives so that the program does not substitute for actions users likely would have taken absent support for incentivized EE measures
- Pgs. 52-64 provides detailed explanation of CPUC's baseline policy

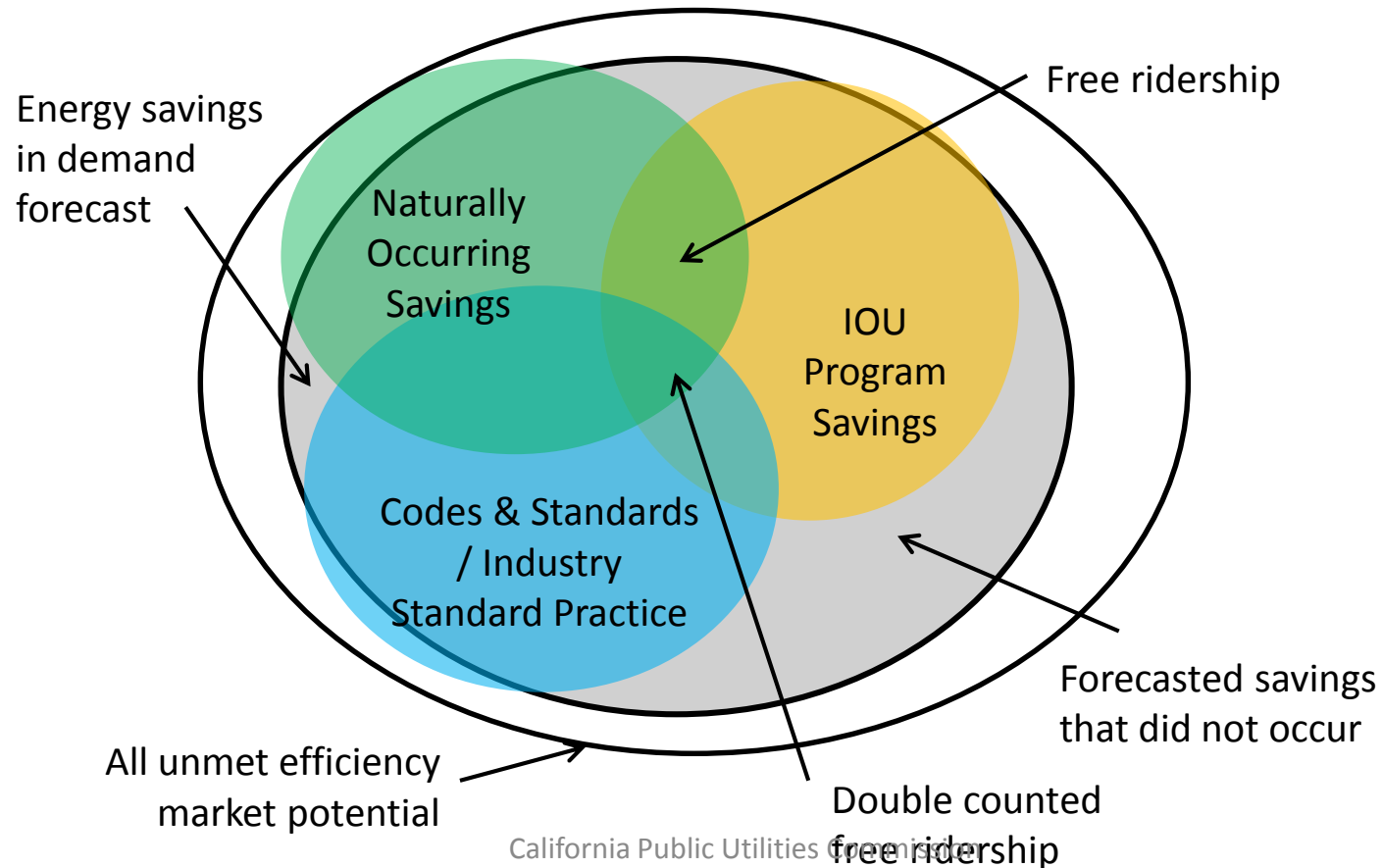
Policy Context for Determining Appropriate Baseline Methodologies

Legislation defines energy efficiency as a procurement resource:

PUC Sec 454.5 requires that IOUs first “meet unmet resource needs with **all available EE** and demand reduction **that is cost-effective**, reliable, and feasible;” and requires CPUC to **establish targets for the IOUs** to achieve all cost-effective electric / gas EE

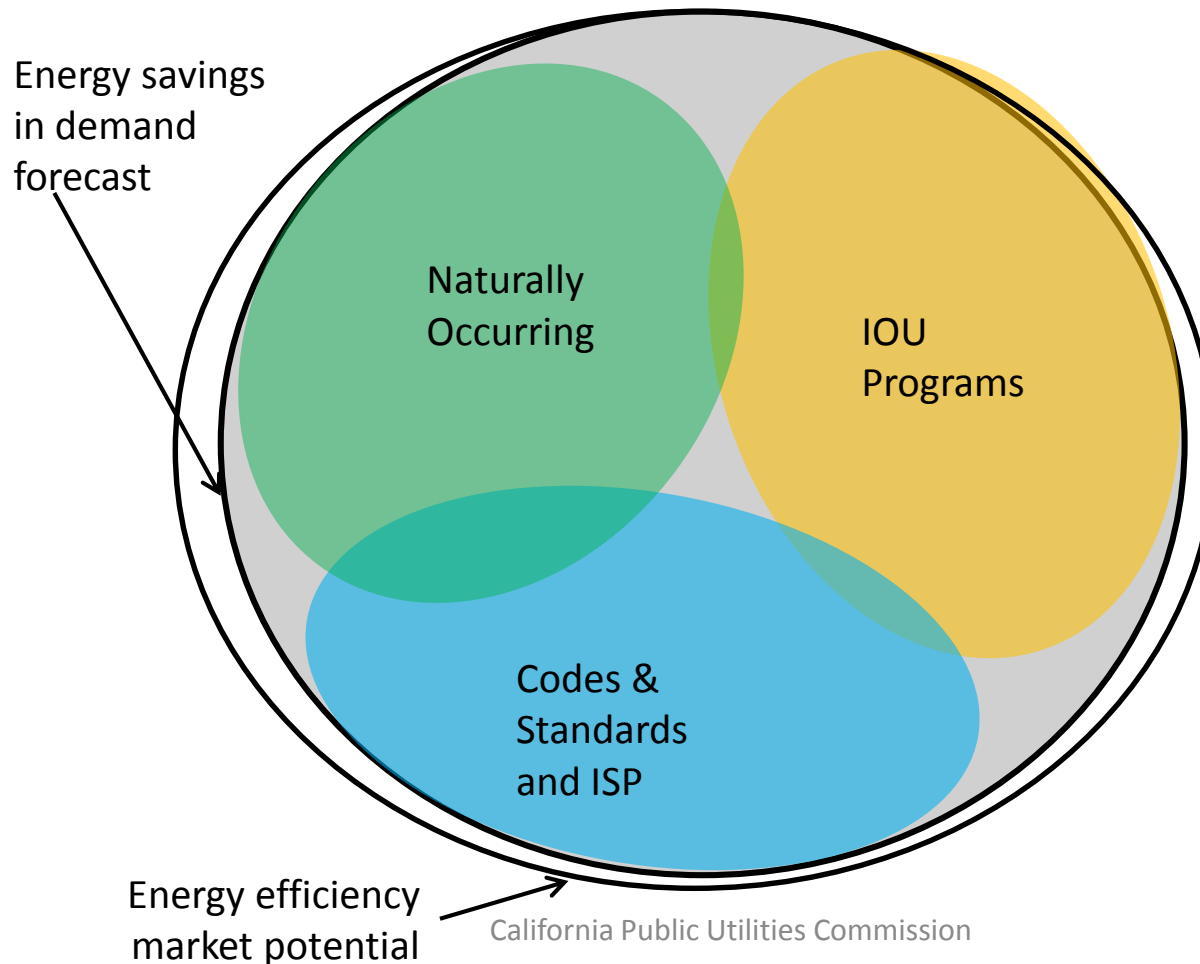
How The Commission Meets Its Legislative Mandate

The CPUC contracts Navigant to identify all potential energy saving available, establish savings goals for the program administrators to achieve, and works with CEC to ensure that the savings are accurately forecasted, including naturally occurring and savings from codes and standards.

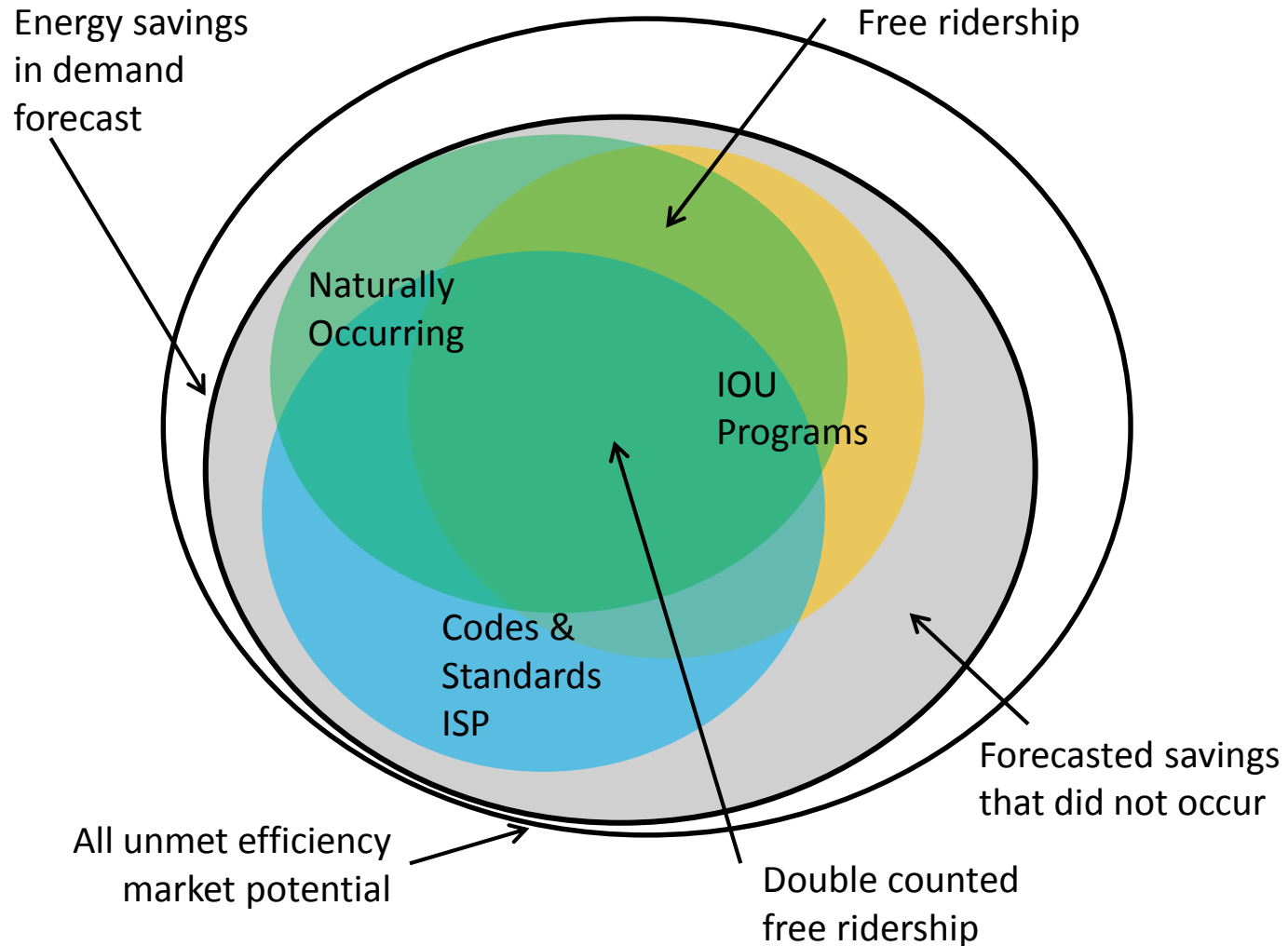


The Ideal Energy Efficiency Forecast

In ideal world, all market potential is captured by IOU programs, codes & standards, industrial practice and naturally occurring savings. It is all accurately counted in the demand forecast to avoid future generation

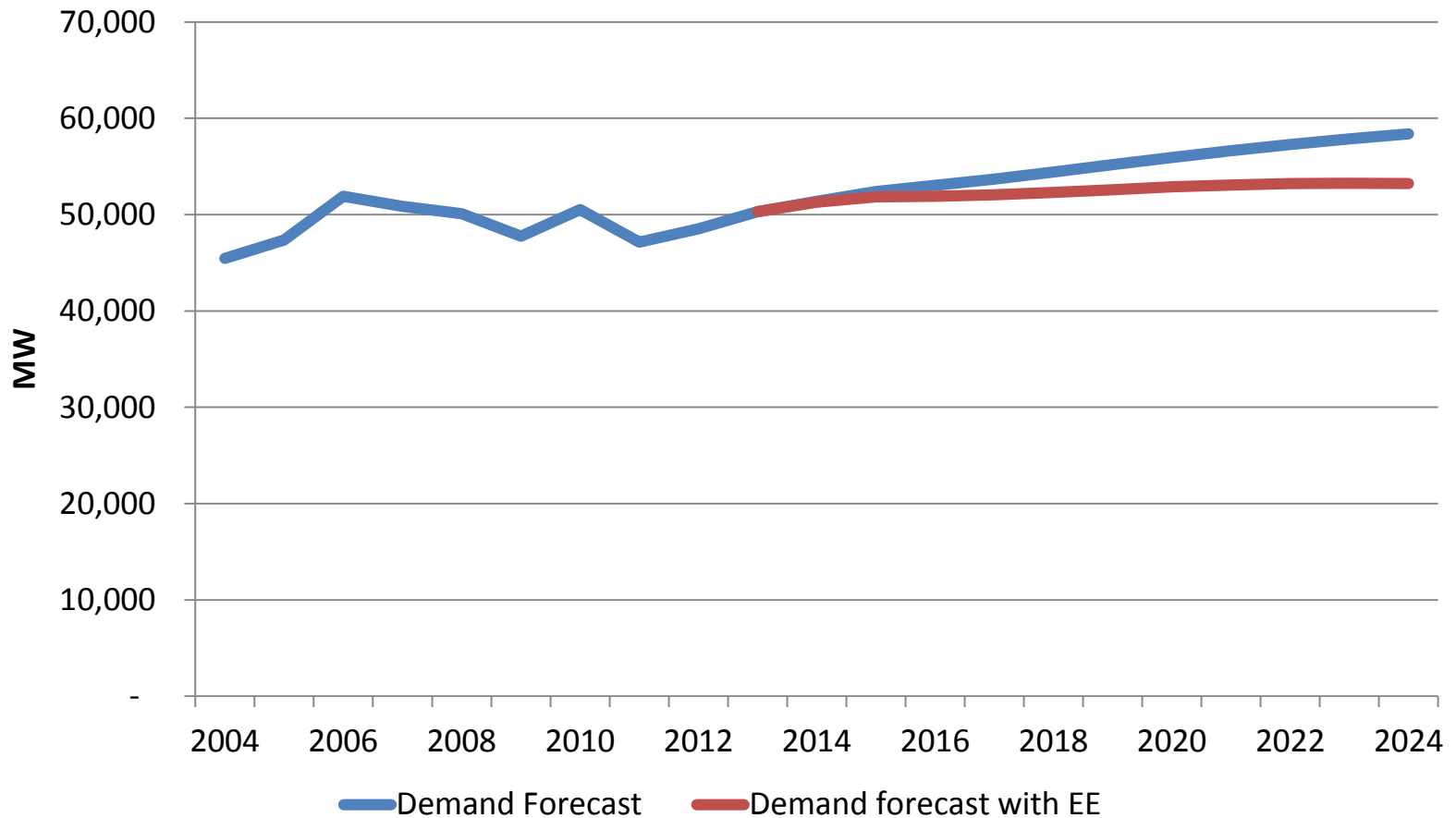


Implications of inaccurately counting savings

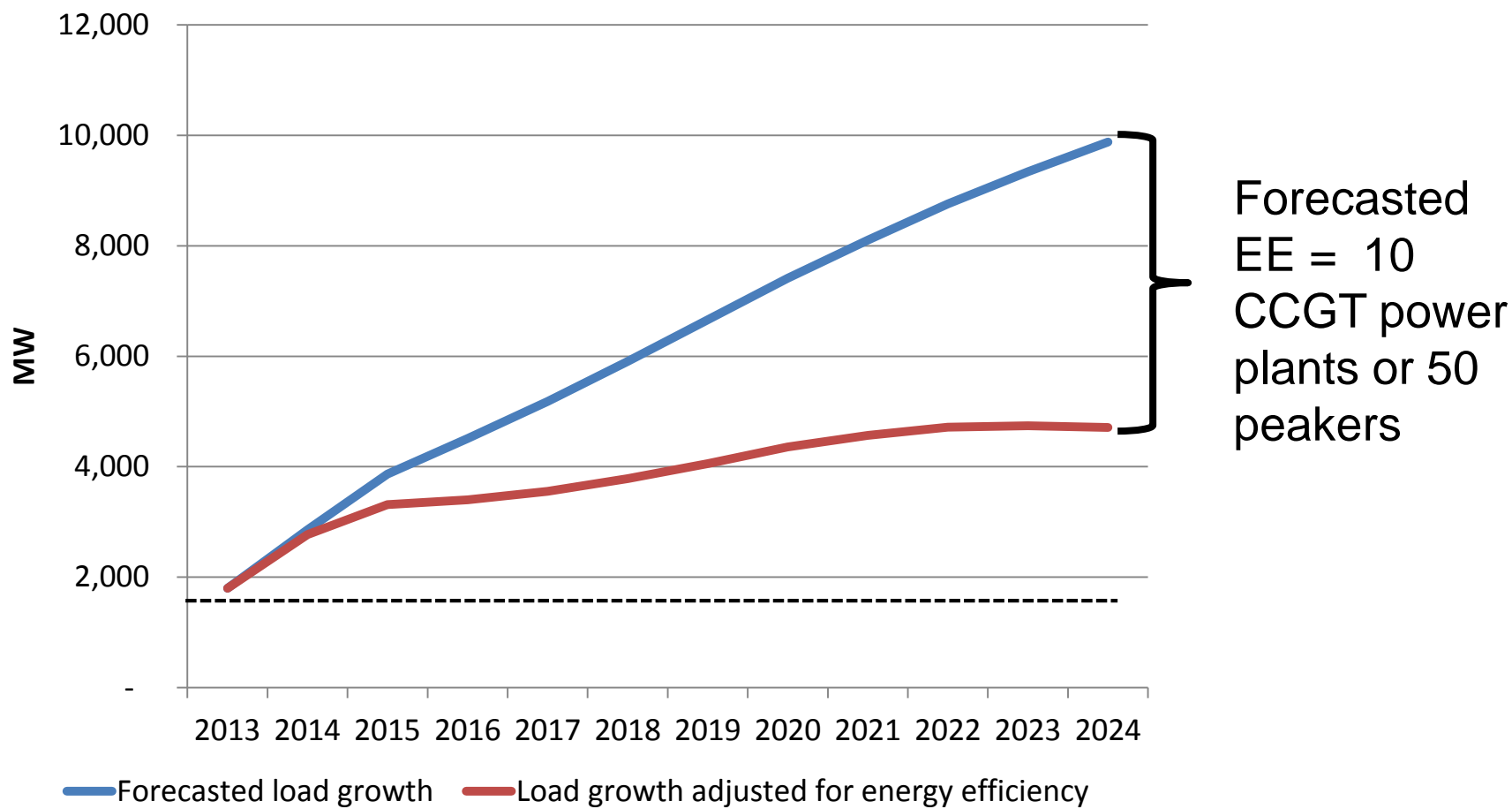


Energy efficiency forecast impacts need for future energy procurement

California Energy Demand in IOU Territories

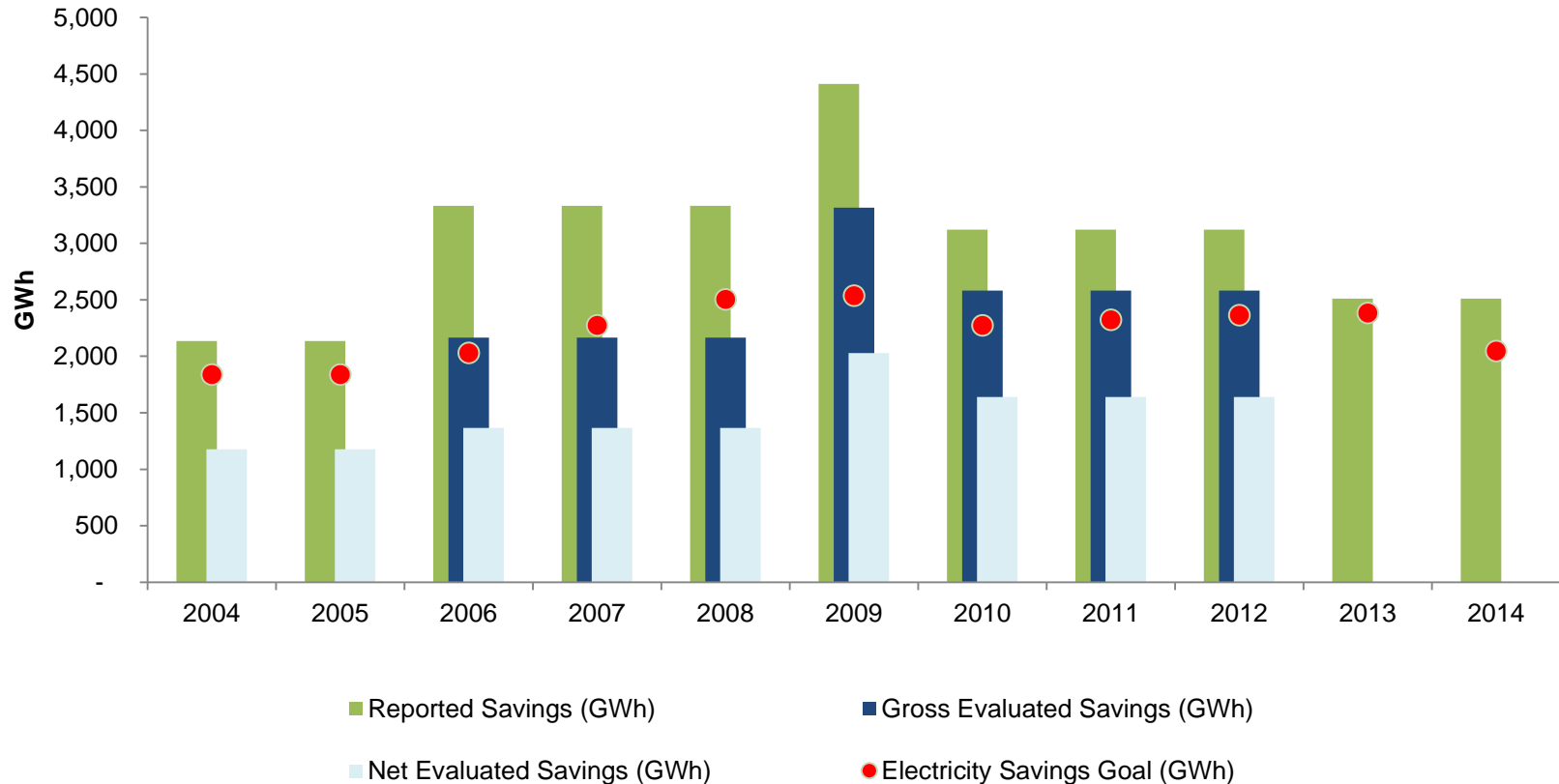


Energy efficiency is the largest resource contribution to meeting load growth



Savings estimates must be accurate to hit our forecasted goals

2004-14 Reported and Evaluated Savings (GWh)



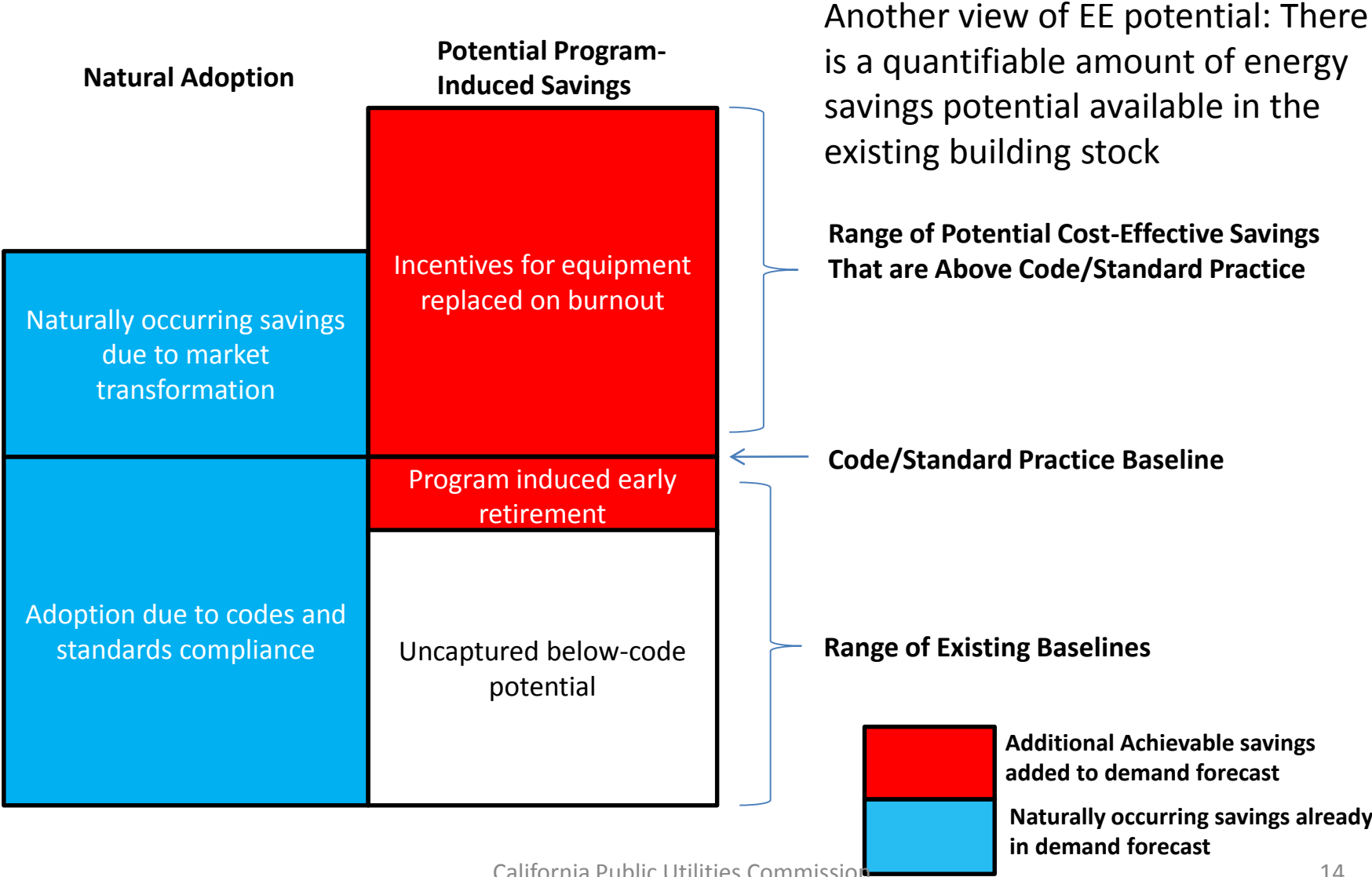
* 2004-05 reported savings are net; 2006-12 are gross; 2013-14 are projected



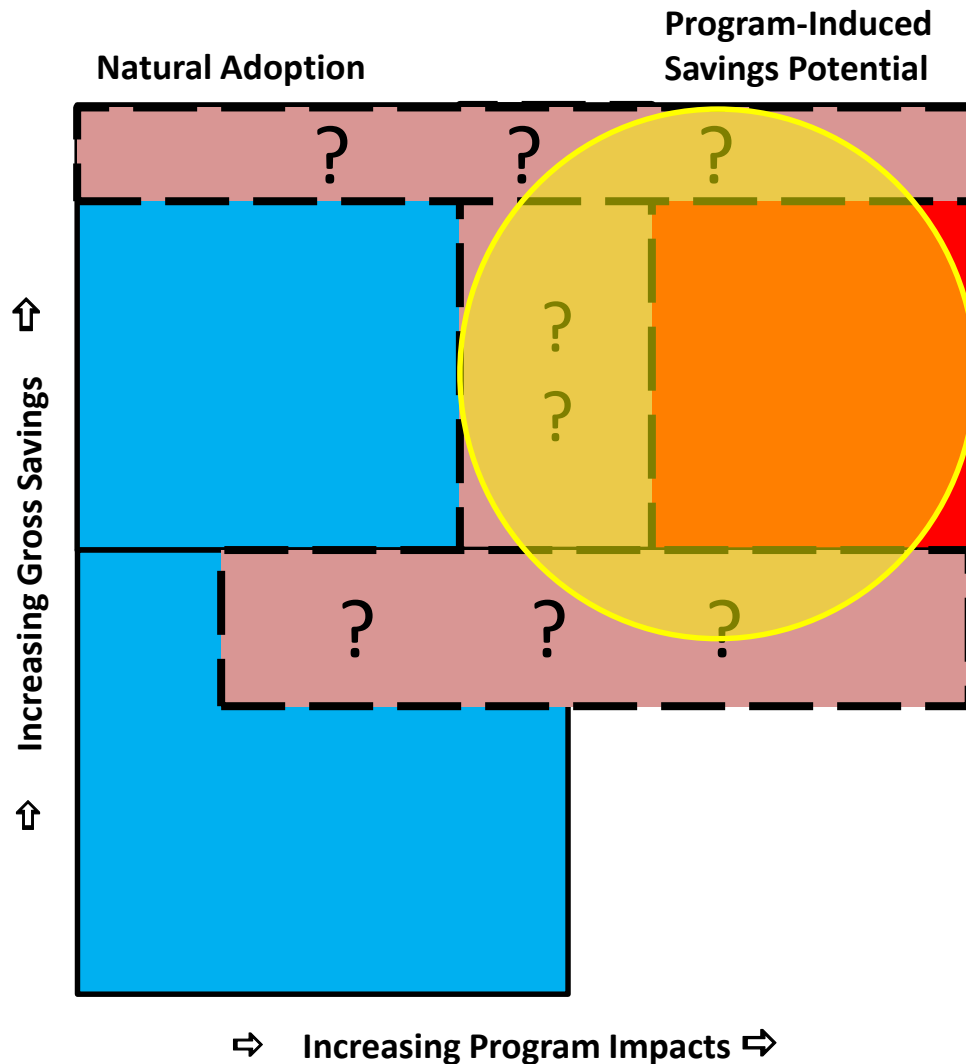
Part III

THE ENERGY EFFICIENCY BASELINE CONUNDRUM

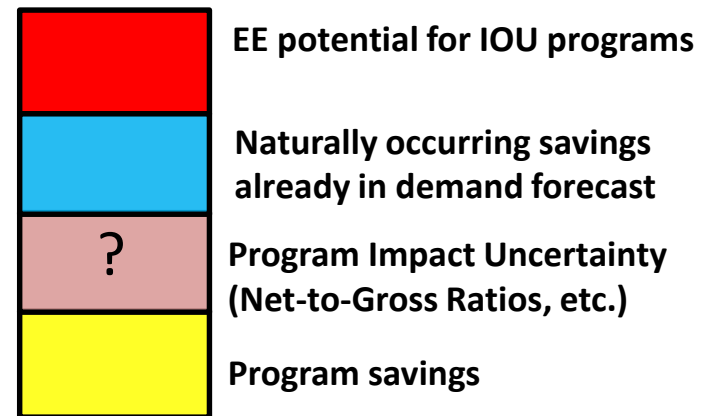
The Types of Energy Savings Potential



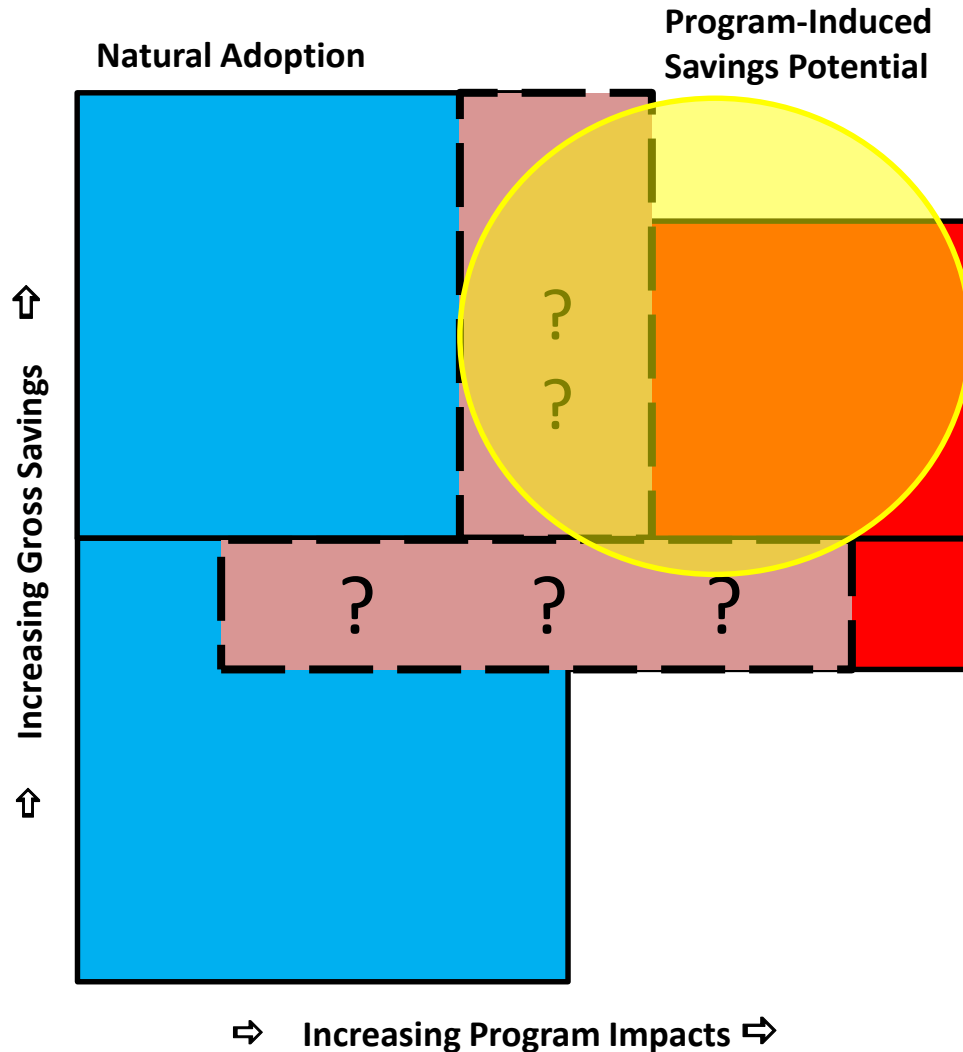
IOU programs designed to minimize free ridership



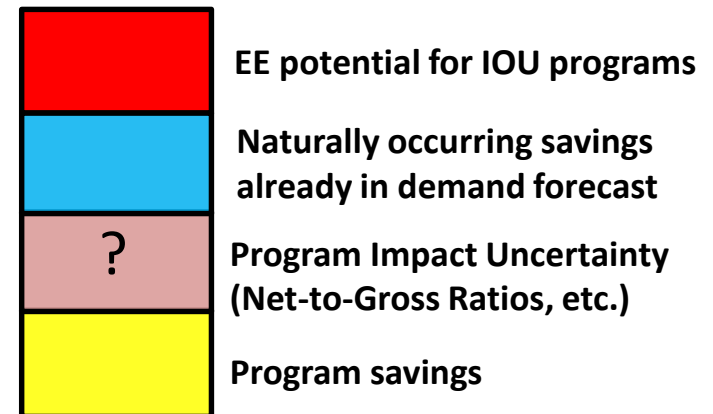
IOU program rules are designed to capture a maximum amount of the additional achievable savings and to minimize the naturally occurring savings captured, which waste ratepayer funds. However, there is a lot of uncertainty about whether savings are program induced or naturally occurring.



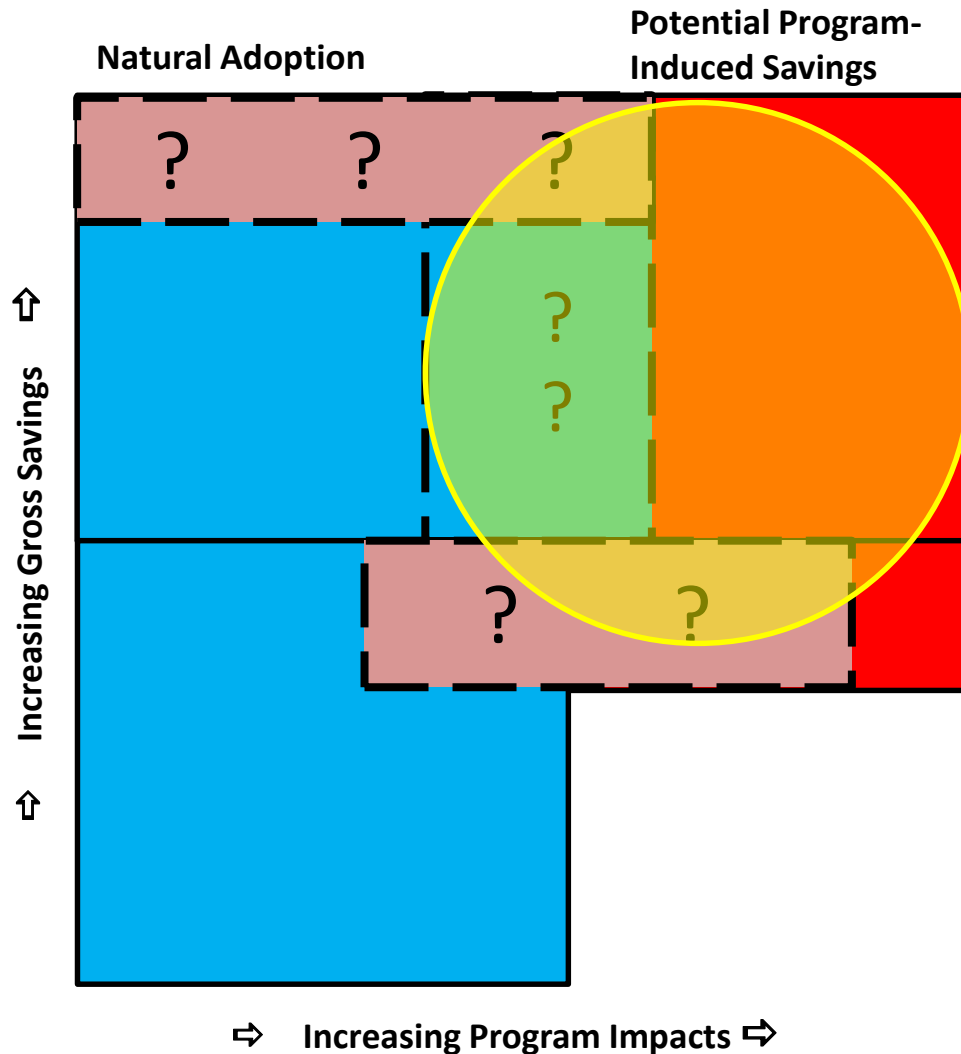
Challenge #1: Overestimated Portfolio Savings



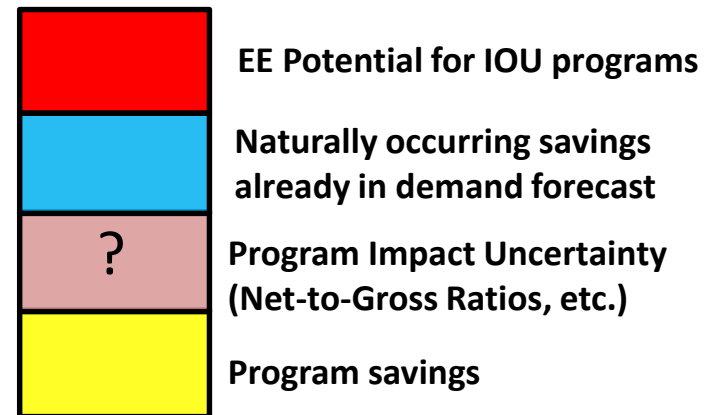
Commission finds through impact evaluations savings were not as substantial as claimed, due to overestimations of savings parameters, such as expected useful life, hours of use, unit energy savings...



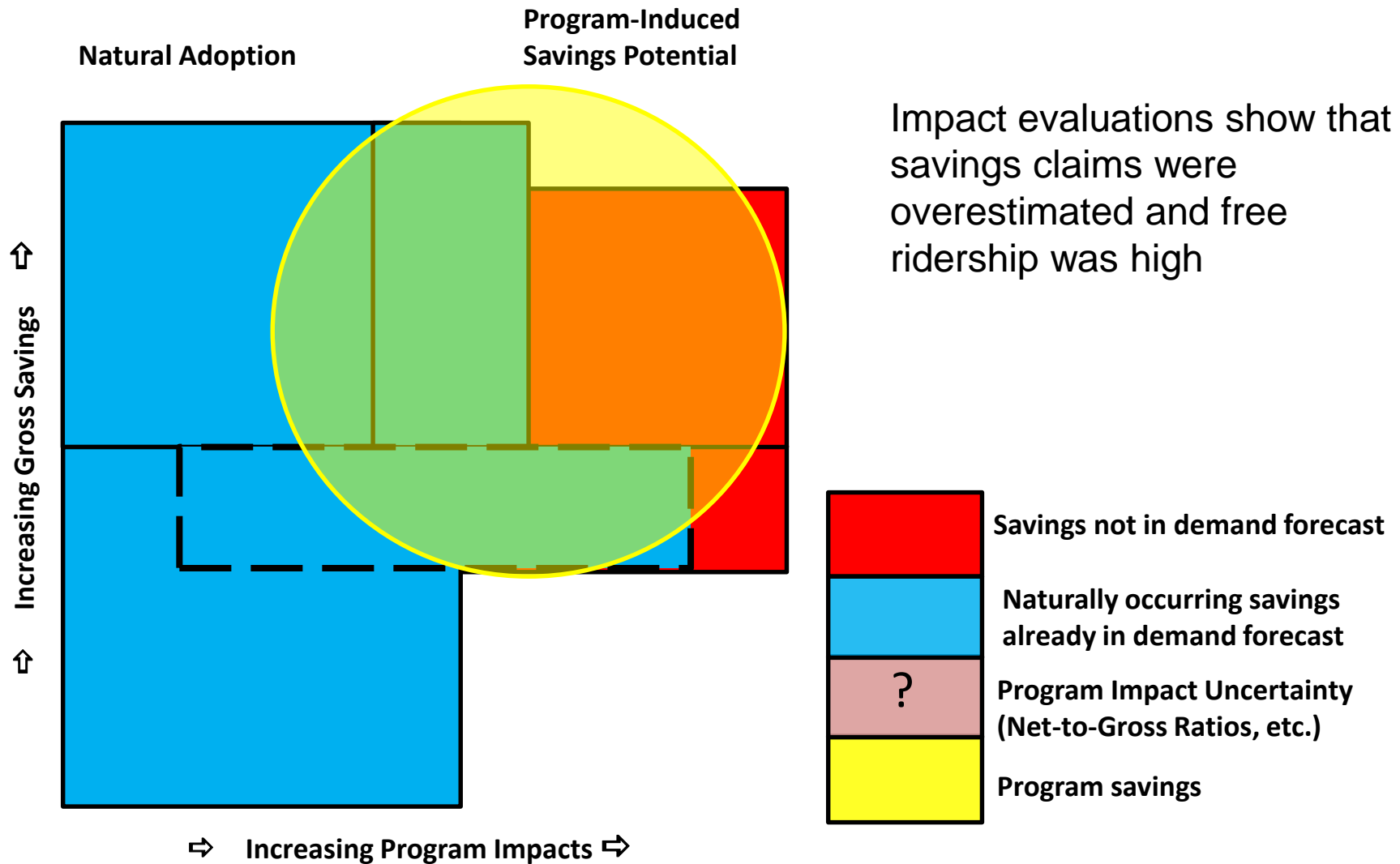
Challenge #2: Underestimation of Free Ridership



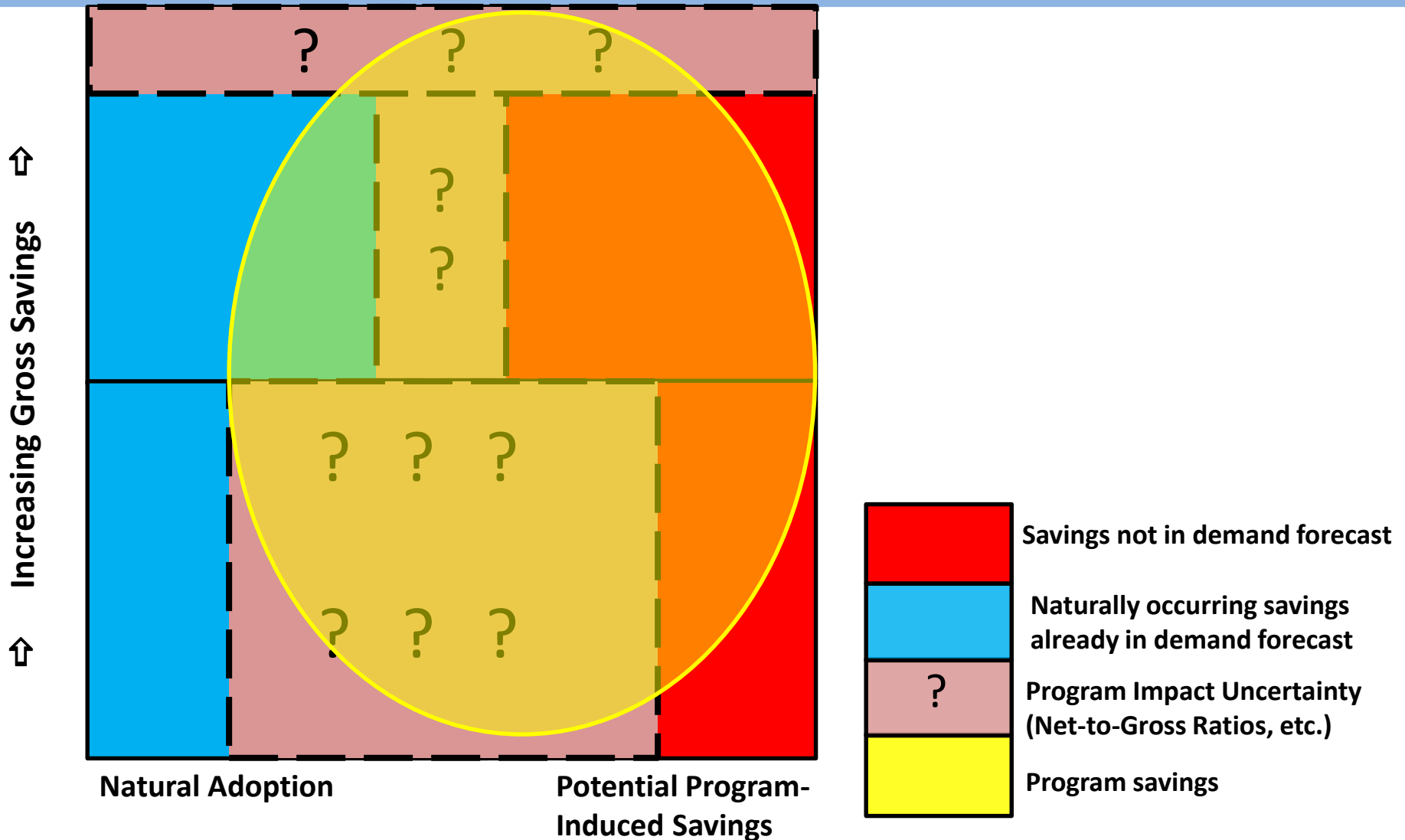
The Commission finds through Net to Gross studies that much of the estimated savings would have happened anyway, as naturally occurring savings, without program funds.



Challenge 1 + 2: Significant Overestimation of Net Savings



Adding Existing Baseline = Increased Uncertainty





Part III

EFFICIENCY BASELINE ANALYSIS ACTIVITIES IN PROGRESS

Efficiency Baseline Analysis

- 1. Collaborative public process:** CPUC and CEC staff are holding a series stakeholder workshops to identify candidate measures for existing baseline treatment, including how they are currently accounted for in the demand forecast
- 2. CPUC Staff policy white paper:** Staff will evaluate what types of measures may have unrealized savings below code, and Industrial Standard Practice, and the implications of using existing baselines for measure groups and market segments that have been identified in the collaborative process
- 3. CEC White Paper on Implementation and Forecast of Codes and Standards:** CEC will consider how energy efficiency has been forecasted for procurement planning purposes, in order to ensure that there is a minimal double counting of savings and that any identified below-code savings potential does not represent “naturally occurring” free ridership.
- 4. Quantitative Savings Analysis:** Navigant, will assess the savings potential associated with existing baselines of qualifying measures

Energy Division Baseline White Paper

Issues to Study:

- Identify building types and measure classes that may be defensible candidates for an existing conditions baseline
- Assess the current baseline categories, and how the codes and standards updates and ISP studies are impacting measure baselines
- Analyze moral hazard and possible perverse incentives related to measuring from existing conditions and giving incentives for to-code measures
- Assess budget and cost effectiveness implications

CEC Analysis of Codes and Standards in the Demand Forecast

Issues to Study:

- Application of code to existing buildings for the measures
- CEC's assumptions regarding natural rates of turnover for measures in existing buildings
- Assess available information on code compliance rates and recommend policy to improve information availability
- Assess how codes and standards, IOU programs, and naturally occurring savings are incorporated into the demand forecast to ensure they are consistent with real market conditions

Navigant's Existing Baseline Analysis

As part of the Potential and Goals Study, Navigant will provide an analysis the savings potential up-to-code for qualifying measures.

Navigant's Methodology:

- Work with CEC to understand the baseline used for each end use in the demand forecast, and how codes and standards are applied
- Identify what measures are applied differently in the code than in the IOU programs, providing untapped savings opportunities
- Explain cost-effectiveness and budget implications of giving incentives on full measure cost rather than incremental measure cost
- Clarify what compliance rates are applied to what measures
- Work with DEER to propose approach to establishing an existing baseline
- Quantify the incremental savings potential for the

Next Steps

1. Stakeholders to submit their comments by May 28, 2015 to questions attached to agenda
2. CEC/CPUC staff will review comments and prepare preliminary phase
3. Staff will prepare a working group list for follow-up meetings to discuss progress and preliminary results on analysis
4. Final reports will be entered into record of R.13-11-005, Phase III, in addition to IOU and parties' existing baseline analysis

Staff will NOT be deciding what the baseline policy should be; we will be collecting and analyzing the issues in an open forum.