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<th><strong>Docket Number:</strong></th>
<th>19-IEPR-06</th>
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<tr>
<td><strong>Project Title:</strong></td>
<td>Energy Efficiency and Building Decarbonization</td>
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<tr>
<td><strong>TN #:</strong></td>
<td>229567</td>
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<tr>
<td><strong>Document Title:</strong></td>
<td>Update to the SB 350 Energy Efficiency Doubling Targets</td>
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<tr>
<td><strong>Description:</strong></td>
<td>***THIS DOCUMENT SUPERSEDES TN 229538-2 *** - Presentation by Anne Fisher, California Energy Commission</td>
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<tr>
<td><strong>Filer:</strong></td>
<td>Raquel Kravitz</td>
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<tr>
<td><strong>Organization:</strong></td>
<td>California Energy Commission</td>
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<tr>
<td><strong>Submitter Role:</strong></td>
<td>Commission Staff</td>
</tr>
<tr>
<td><strong>Submission Date:</strong></td>
<td>8/28/2019 8:20:40 AM</td>
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<td><strong>Docketed Date:</strong></td>
<td>8/28/2019</td>
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Update to the SB 350 Energy Efficiency Doubling Targets

Anne Fisher
August 27, 2019
California Energy Commission
SB 350 Data Streams

- IOU Historical EE Savings
- POU Historical EE Savings
- IOU Projected EE Savings
- POU Projected EE Savings
- Beyond Utility EE Savings

First Year Savings to Cumulative Savings
- C&S Expanded to Total, Statewide

Apply LI/DAC, GHG, QBTU impacts

Updated SB 350
<table>
<thead>
<tr>
<th>Category</th>
<th>Program/Feature</th>
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<tbody>
<tr>
<td>Building Standards (Title 24) Res</td>
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<td>Smart Meter and Controls</td>
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<td>Air Quality Districts</td>
<td>Fuel Substitution</td>
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<td>Local Government Challenge</td>
<td>Agricultural</td>
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<td>Proposition 39</td>
<td>Industrial</td>
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<td>GGRF: Low Income Weather</td>
<td>Conservation Voltage Reduction</td>
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Improvements Since 2017

• Industrial and Agricultural Sector Targets added
  – Potential energy savings estimated from activities
    not funded through utility programs using
    bottom-up approach
• LI/DAC population impacts added
  – Uses LI/DAC population metrics by utility, program
    specific modifiers, end-use specific modifiers,
    LI/DAC technology lag factor to develop LI/DAC
    savings ratios
• CVR potential savings added
  – Uses a top-down estimate of CVR potential based
    on regional CVR factors
Improvements, cont.

• PACE updated savings method
  – Uses savings estimates from an actual PACE program, instead of aggregated data from CAEATFA, which may mix solar PV and EE savings. Broke up energy savings with informed end-use assumptions. Uses more accurate turnover rates to forecast future participation. Once available, we will use savings estimates from a new publication out of LBNL.

• POU Savings updated
  – NTG ratios consistent with IOU EE savings projections
  – High, mid, low POU scenarios examined
Work in Progress

• Codes and Standards
  – T24 beyond 2022 code cycle
  – T20 and Federal Appliances
  – Include historical data missing in 2017 analysis
  – Public comment on best ways to scale IOU attributable C&S savings in the Potentials and Goals model

• IOU Projected Savings
  – Ensure they are consistent with adopted CPUC goals
SB 350 Projections- 2019

SB 350 Doubling Goal

Utility Programs

Beyond Utility Programs

Energy Savings (Quad BTUs)

'15 '16 '17 '18 '19 '20 '21 '22 '23 '24 '25 '26 '27 '28 '29

0 0.05 0.1 0.15 0.2 0.25 0.3 0.35 0.4 0.45

IOU Programs
Codes & Standards
Behavioral and Market Transformation
CVR
Target line

POU Programs
Financing
Agriculture & Industry
Fuel Substitution
Trends: 2017 vs. 2019

- Leveling off IOU cumulative potential savings
  - 2020 Potentials and Goals Study vs. 2018 PG Study
- Enhanced Agricultural, Industrial, CVR savings
- Lower PACE projections
- Financing programs adjusted with historical data through 2018
- Reflects actual program performance/adjusted future funding
Codes and Standards

Energy Savings (Quad BTUs)

IOU Programs
Codes & Standards
Behavioral and Market Transformation
CVR
Fuel Substitution

SB 350 Doubling Goal

Target line

'15 '16 '17 '18 '19 '20 '21 '22 '23 '24 '25 '26 '27 '28 '29
C&S: Proposed Methods

POUs are 25% of CA

Divide by 0.49 for total

IOU PG model (attributable)

GWh

'15 '16 '17 '18 '19 '20 '21 '22 '23 '24 '25 '26 '27 '28 '29

IOU Attributable Savings IOU Total Total Statewide
C&S Comparison

![Graph showing C&S Comparison]
C&S Questions for Public Comment

• How should the Energy Commission calculate total IOU C&S savings from attributable?
• How should the IOU C&S be extrapolated to POU territory to create statewide results? Use electricity sales or econ/demo forecast?