Residential HVAC Alts. Permit Compliance

Best Practices for Local Governments

Marissa Spata, Project Manager

CalTF Savings Below Code Subcommittee, July 16, 2015

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Our Mission:

Accelerate the transition to a sustainable world powered by clean energy

Energy Programs

Public Sector Services

Workforce Training

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Today's Discussion

- *HVAC Permit Compliance & Financing Pilots*
  - *Residential HVAC Permit Compliance: A Policy Overview & Best Practices Guide*
    - Study methodology and best practices for building departments

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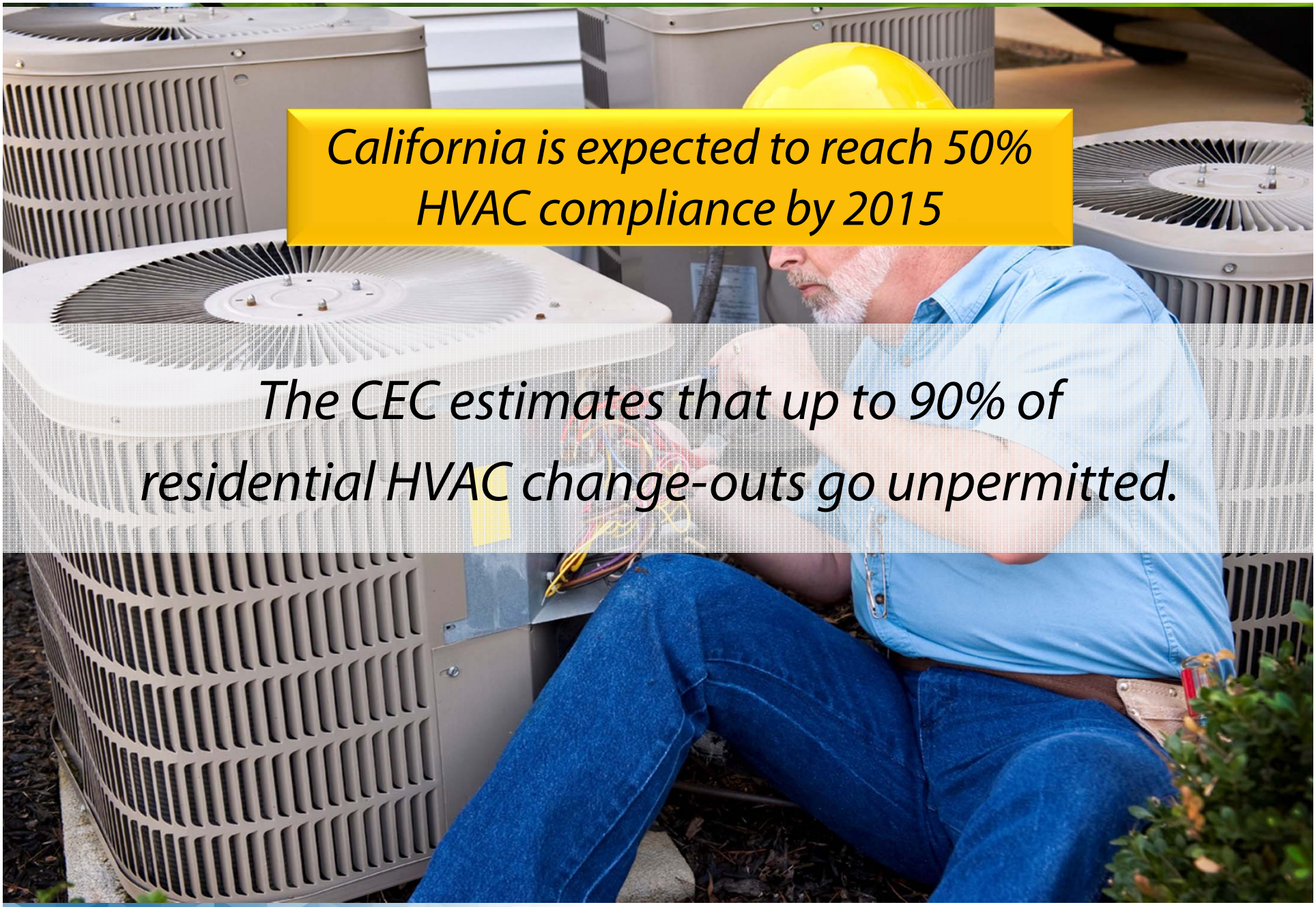

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Why do we care about permit compliance?

- To ensure HVAC installations meet Title 24, Part 6 standards
- To ensure safe installations
- To track energy savings tied to HVAC change-outs to support climate action plans and state greenhouse gas reduction goals
- To ensure a level playing field for contractors who follow the rules
- This study's effort focuses on making compliance a "no-brainer"

Project Background

- CSE led a 14-month study on residential HVAC alts. permit compliance
  - Assess Title 24, Part 6 (California's Building Energy Efficiency Standards) compliance barriers
  - Identify and promote effective permit streamlining strategies
- Research methods
  - Online survey
  - Conduct energy policy analysis (state and local levels)
  - Convene local governments (building departments) via working groups
  - Engage industry stakeholders that have the greatest ability cultivate change within the HVAC compliance market (CSLB, contractors, HERS providers, permit software providers, etc.)
- Area of study: Southern California
  - Counties of Los Angeles, Orange, Riverside, San Bernardino, San Diego & Ventura

Project Design

Target Audience

- Building departments, plan reviewers, permit processors, planners and any other depts. invested in tracking energy reduction data.

Major Milestones

1. HVAC Permit Compliance Survey – **March/April 2014**
2. Local Gov. Working Groups (regional); presented survey results – **Sept/Oct 2014**
3. Local Gov. Working Groups (one-on-one); explored best practices – **Nov 2014**
4. HVAC Permit Compliance Best Practice Guide – **Q4 2015**
5. Local Gov. Outreach & Best Practice Implementation– **Now through December 2015**

Survey Design

- Focus: residential HVAC alterations compliance
- Distributed March-April 2014
  - 54 Southern CA Bldg. Depts.
    - Surveyed jurisdictions with varying populations
      - Small ~25,000 – 90,000
      - Medium ~100,000 – 250,000
      - Large 250,000+
  - 94 contractors, raters, and permit service providers
- Sections
  - Building Department Resources
  - Compliance Documentation
  - Permit Tracking
  - Permit Compliance Barriers
- Questions based on responder job role (~50 Qs.)
  - Results identify compliance barriers specific to HVAC stakeholder

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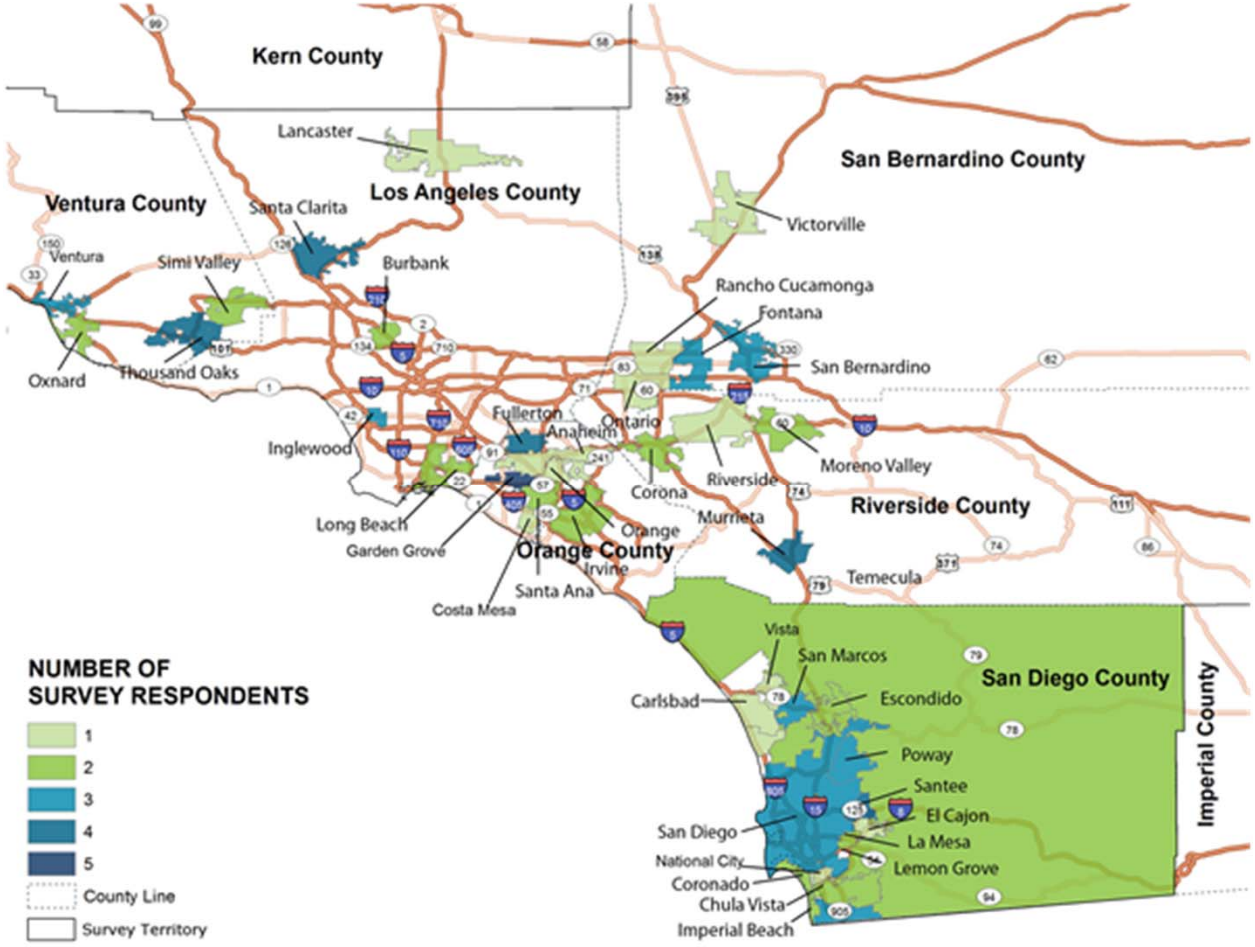
Respondents by Region



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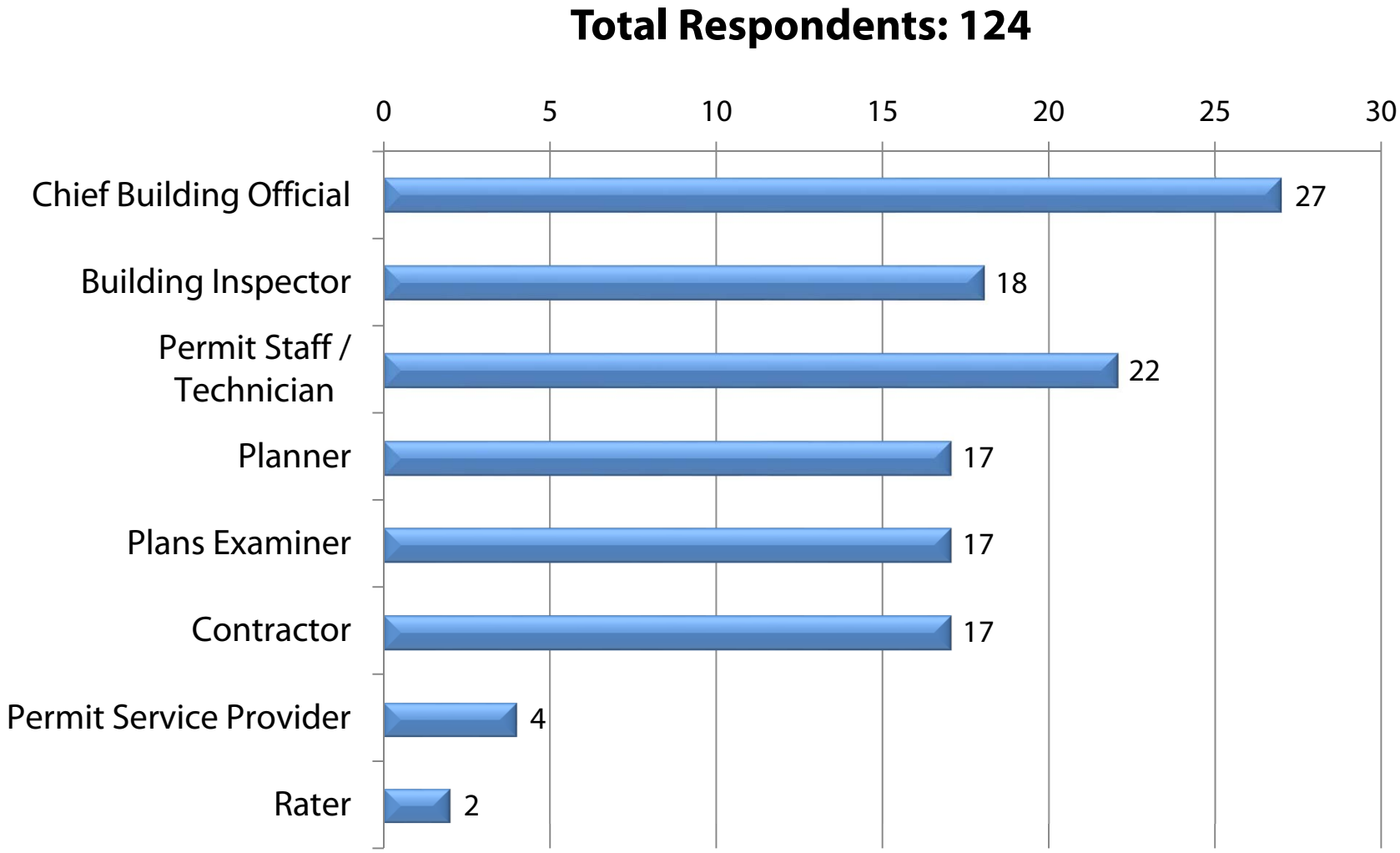
Respondents by Job Role



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Major Survey Takeaways

- Building departments feel equipped to 'implement' Title 24, Part 6, but ill-equipped to 'enforce'.
- Building departments' field staff resources are strained.
- Building departments feel that applicants need more education about the energy code and the permit process in general.
- Compliance forms are an opportunity to capture energy savings for jurisdictions, but the forms are too long and cumbersome for applicants.
- Checklists are not widely used
- 90% of building departments use permitting software to track permits internally, yet, on average only 32% allow applicants to track their own permits online.

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Best Practice: Clear Website Information

Building Depts. can use their websites to educate applicants:

- Communicate permit process steps
- How to apply for a permit
- Compliance form (CF-1R) completion and submittal instructions
- Provide fillable forms that can be submitted online
- Direct points of contact for permit Qs
- Fee schedule
- Application & inspection timelines
- Inspection requirements, what to expect

Best Practice: Permit Checklists

Bldg. Depts. can encourage/require the use of checklists:

- Permit technicians
  - Can use checklists to review permit applications and CF-1R for correctness and completion, and potentially minimizes approval delays.
- Building inspectors
  - Can use checklists in the field to ensure projects meet minimum energy code specifications and CF-2R and 3R-ALTS completeness.
- Applicants
  - Can use checklists to ensure applications and compliance documents are completed correctly the first time.

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Best Practice: HERS Raters as Special Inspectors

- **33%** of the responding CBOs would be willing to forego or limit building inspections for projects receiving mandatory third-party quality assurance
  - The HERS FV/DT process can provide that assurance
  - But, health/safety concerns may not be addressed

- Allow HERS raters to acquire bldg. dept.-recognized credentials (ICC or equiv.) and become "special inspector" for building departments

- Building depts. could hire HERS raters for specific projects (e.g., HVAC alts.)
  - Perform all the regular duties of the bldg. inspector
  - Provide verification that the project complies with all codes, not just Title 24, Part 6

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Best Practice: Virtual Inspections

- Perform final bldg. inspection remotely with the assistance of audio-visual tools and geolocation.
  - This solution requires relatively inexpensive technologies such as tablets with video calling capability (e.g. Skype or FaceTime) and a geolocator application.

- Bldg. inspectors arrange to "video chat" with HERS raters or the homeowner toward the end of a scheduled FV/DT.
  - Facilitate a tour around the attic, complete with gentle tugs on critical connections and a closer look at life-safety concerns.

- Virtual inspections save both inspector and travel time which can be especially advantageous in large jurisdictions with remote locales.
  - Reduced trips result in GHG reductions and a boon for CAP goals.

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Best Practice: Energy Code Coach

- Energy code coach is an expert in Title 24, Part 6 (and ideally Part 11/CALGreen) with experience in plan checking and working with building department staff.

- The coach spends 1 - 2 days a week working inside the building dept. to:
  - Continuously assess the current level of understanding of Title 24, Parts 6 and 11 (CALGreen) among building department staff and the local development community.
  - Work collaboratively with staff to identify opportunities for learning and barriers to code implementation and enforcement.
  - Provide tailored, direct, hands-on assistance and training to increase capacity for code enforcement.
  - Develop customized tools and resources (e.g., checklists, corrections lists, website content, etc.) that address the needs of staff and the development community to better implement and enforce code.

Best Practices: Statewide Permit Platform

- Promote the adoption of a statewide, state-subsidized, hosted and implemented online permitting platform for res. HVAC alts.
- This is a more feasible option for many jurisdictions and will encourage consistency in the permitting process.
  - No-cost to jurisdictions
- One system adopted by multiple jurisdictions would be attractive to HVAC installers who work across jurisdictional boundaries.
  - Contractors reported inconsistent processes as a barrier in the survey.
  - A consistent permit application process would reduce confusion and the need for applicants to familiarize themselves with different processes from city to city.

Best Practice: Statewide Permit Platform

- Vision
  - Jurisdictions create a login and access permits through online platform

OR

  - The platform connects to a jurisdiction's existing software system through an application program interface (API). Information from the platform populates existing software like any other project, eliminating the need for staff to learn or adopt a new system
    - System communicates with HERS registries.
    - HERS providers participate in design and development

- Adoption
  - Voluntary and 'opt-in'
  - Geared towards jurisdictions that do not have the resources to procure, develop or maintain costly software

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Next Steps

For CSE

1. CEC currently reviewing Best Practices Guide

2. CSE develops statewide online permit platform cost estimate (**August 2015**).

3. CSE develops *Best Practices Toolkit* (**September 2015**) for local building departments and disseminates via webinars and presentations at ICC & CALBO chapters & industry forums: **now – December 2015**.

For YOU!

1. Get on the Best Practices Guide distribution list
   - Email marissa.spata@energycenter.org

2. Review our survey results presentation
   - Visit http://energycenter.org/programs/hvac_pilots

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Best Practice Implementation

- Building departments put these best practices into action!

- Funding opportunities
  - AB 758 Action Plan Local Government Challenge (Q1 2016)
  - Local government energy efficiency partnership programs
    - SDG&E, SCE, SoCal Gas & PG&E
    - Regional governments or councils

City of Chula Vista – CSE Energy Code Coach

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Questions?

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Marissa Spata, Project Manager
(858) 737-1584
marissa.spata@energycenter.org

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