

Breaking Barriers – Energy Friendly Permitting



Regional Forum

August 9, 2023



3C-REN: Tri-County Regional Energy Network

- Three counties working together to improve energy efficiency in the region
- Services for –
 - **Building Professionals:** industry events, training, and energy code compliance support
 - **Households:** free and discounted home upgrades
- Funded by ratepayer dollars that 3C-REN returns to the region





ENERGY
CODE
CONNECT

- Serves all building professionals
- Three services –
 - **Energy Code Coach**
 - **Training and Support**
 - **Regional Forums**
- Makes the Energy Code easy to follow

Energy Code Coach:
3c-ren.org/codes

Event Registration:
3c-ren.org/events





Introduction

Mindy Craig, *BluePoint Planning*

Online Tools For Engagement

- Please be sure your full name is displayed
- Please **mute** upon joining
- Use **Chat** box to share questions or comments
- Under **Reactions** select **Raise Hand** to share a question or comment verbally
- The session may be **recorded** and posted to 3C-REN's on-demand page. Feel free to ask questions via the chat and keep video off if you want to remain anonymous in the recording.



Mute

Stop/Start Video

Chat

Reactions

Agenda

1. Introduction & Intro Breakout Rooms
2. Context Setting: Electrification & E-Permitting
3. Panel Discussion
4. Best Practices Case Study
5. How Can 3C-REN Help?
Proposals and Breakout Room discussion
6. What is coming Next for 3C-REN/Rural REN



Opening Discussion

- What does permitting accomplish? Why do we do it? What happens if we don't?
 - 5 minute breakout room discussion.
 - Be prepared to report back.





Electrification and e-Permitting

Gray Gautereaux, *3C-REN*

Why Permitting is Important

- Safety
 - Especially in areas vulnerable to natural disasters such as wildfires; aims to reduce property damage and loss of life
- Environment
 - GHG reductions to meet state and local climate goals
- Health
 - Minimizing pollutants
- Property value/reselling
 - Property loses resell value if projects were completed without permits
 - Insurance may not pay out if a problem occurs and a permit was never pulled
 - This includes damages that happen during the construction work and problems after its completion



What's the Deal with Heat Pumps?



California Goal:

- 6 million installed by 2030

Current Landscape:

- ~488,000 (4%) space heating units
- ~121,000 (1%) water heating units

- 2022 HPWH market in US valued at \$2.9 billion, expected to be \$7.6 billion by 2032, a 10.3% compound annual growth rate

Resources:

[TECH Clean California's Heat Pump Market Transformation Approach: Lessons Learned in Year 1](#)

[CPUC Heat Pump Market Study May 2022](#)

[CPUC Energy Evaluation Public Comment \(energydataweb.com\)](#)



Why Electrification?

- Heat pumps are more energy efficient than gas counterparts.
- No combustion of fossil fuels in homes is better for health, safety, & environment
- No gas pipes = lower build costs
- California is rapidly scaling electric infrastructure & goals
- Stackable federal, state, and local incentives make cost competitive



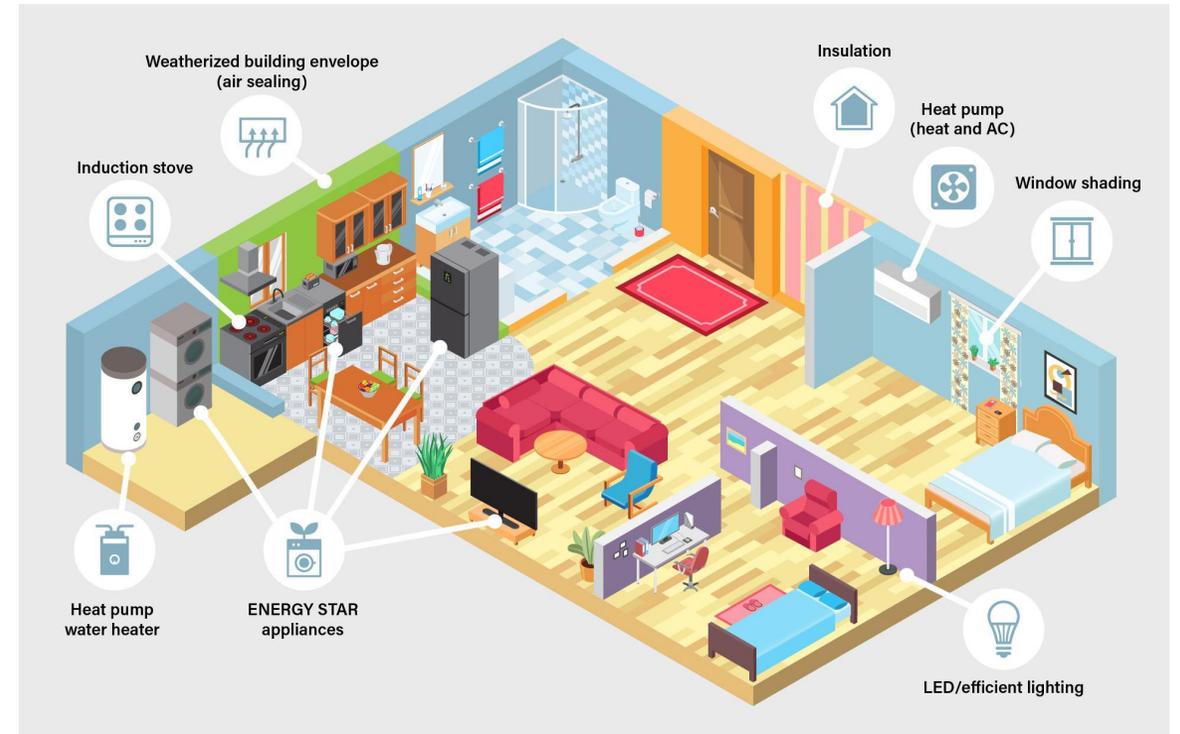
Preparing for the Inevitable

- Nearly 50% of California's natural gas and electric space heaters are 14+ years old and can be replaced by heat pump space heating
- Air conditioning will be more in demand as average temperatures rise (see the Bay Area)
- Ensuring building department staff are knowledgeable and prepared for increased demand for all-electric plans will help create a streamlined process with less administrative burden and higher confidence when issuing permits.



Why E-Permitting?

- Creating a regional standard
- Easier & faster to adapt to changes in code landscape
- Less physical paper means easier to scale up
- Savings on paper, ink, and printing
- Streamlining and potentially automating parts of the process



Credit: American Council for an Energy-Efficient Economy (ACEEE)





Panel Discussion

Moderated by Mindy Craig



Ian Livingston
Chief Building Official
City of Pismo Beach



Sylvia Aldana
Building Division
Supervisor
County of San Luis Obispo



Tim Fiske
Building Division
Supervisor
City of Ventura



5 MINUTE BREAK

Electrification Permitting Best Practices

Previous Research Findings

August 9, 2023

INTEGRATED

[RESILIENT]

SUSTAINABLE

Previous Permitting Studies

- PCE / SVCE Baseline (2023)
 - Review of published resources and data request to building departments
 - **Key output:** comparison of permit fees and application review timelines across jurisdictions
- Silicon Valley Clean Energy (SVCE) Phase 1 (2021-2022)
 - Review of permitting practices at member building departments, interviews with building depts.
 - **Key output:** Best Practices Guide
- SVCE Phase 2 (2022-2023)
 - Updated review and additional interviews with building depts.
 - **Key output:** permitting process successes to date
 - **Key output:** recommendations for additional support to building depts.
- Peninsula Clean Energy (PCE) Contractor Interviews (2023)
 - **Key output:** building dept. best practices and wish list from contractor perspective

Research Goals

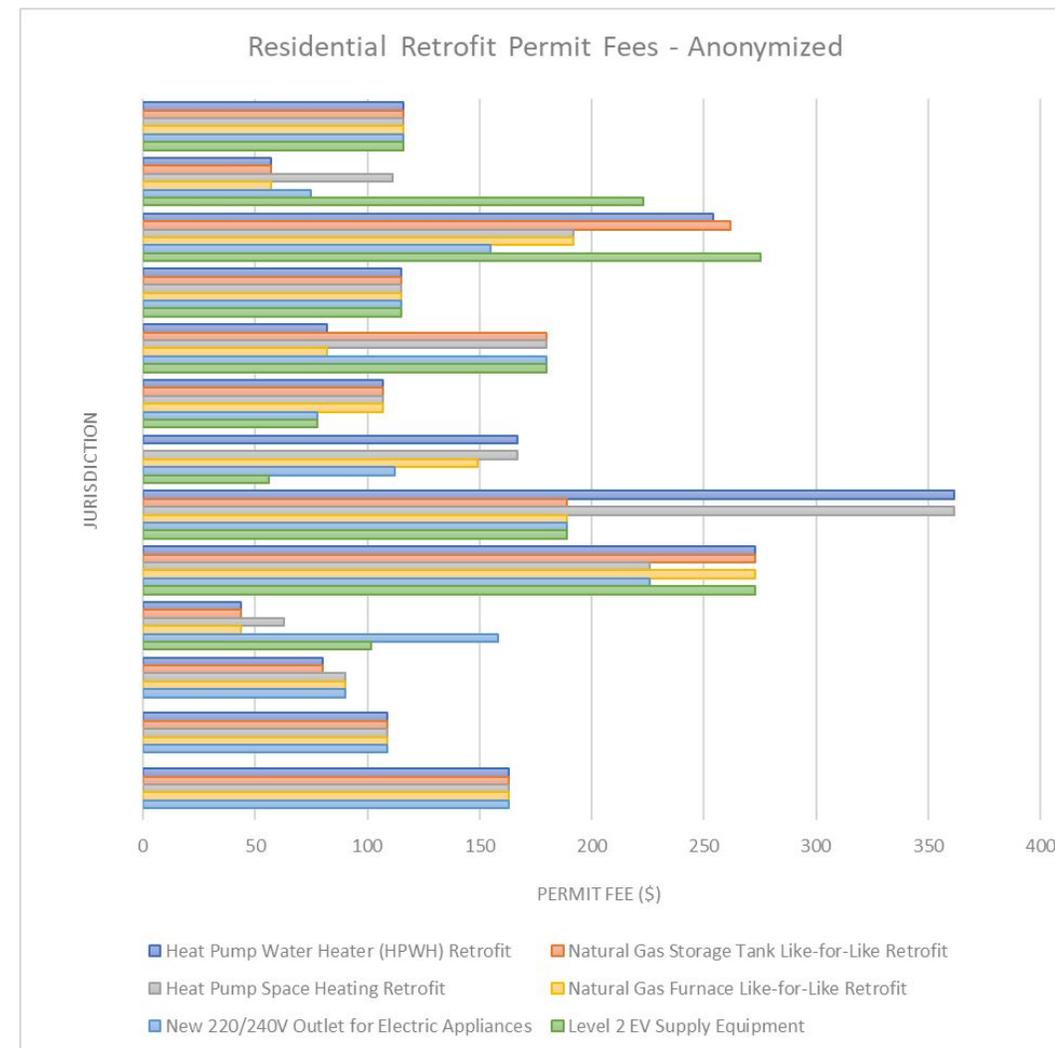
- **Goal:** Identify opportunities and barriers with the permitting process
- **Goal:** Inform streamlining efforts and opportunities to support jurisdictions

- Focused primarily on residential electrification retrofits
 - Heat pump water heating and space heating, solar PV, EV charging, battery storage, etc.

- Assess and analyze permitting and inspection processes in each jurisdiction
 - Review of building department documentation: applications, resources, fees, etc.
 - Interviews with building officials
 - Interviews with local contractors

PCE / SVCE Baseline

- Fees and timelines vary by jurisdiction
- Fees typically based on cost recovery
 - Depends on permit type and local conditions
- Application review timeline variation:
 - Instant online permits in some jurisdictions
 - Up to 20 business days in others
 - Varies by permit type



SVCE Phase 1 – Best Practices Recommendations



Jurisdiction Best Practices

1. Identify an internal “champion” for streamlining
2. Leverage state-mandated requirements
3. Seek out training resources
4. Identify electrification projects at the outset
5. Evaluate fee structures
6. Develop dedicated electrification processes
7. Track electrification permit trends
8. Track application and inspection errors
9. Implement web-based application systems
10. Align processes with neighboring jurisdictions

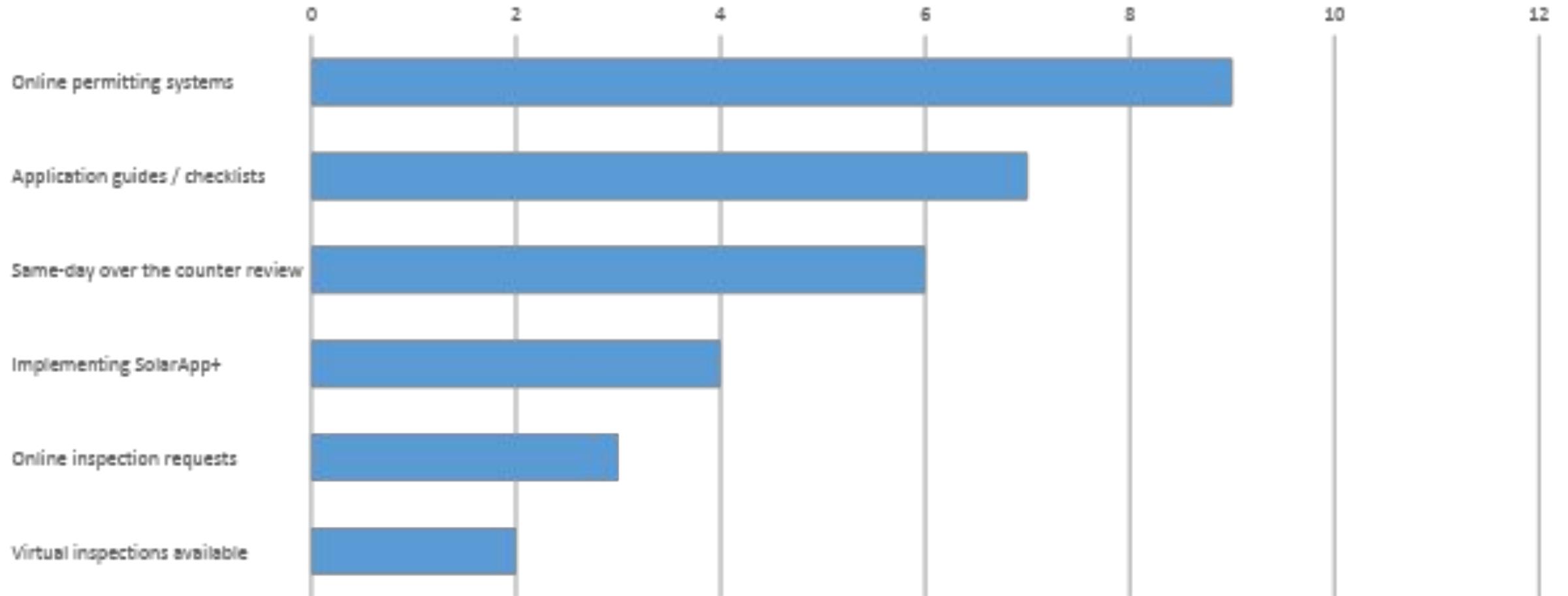


Third-party support recommendations SVCE Best Practices Guide for Streamlining Electrification Permitting

1. Develop and support training resources

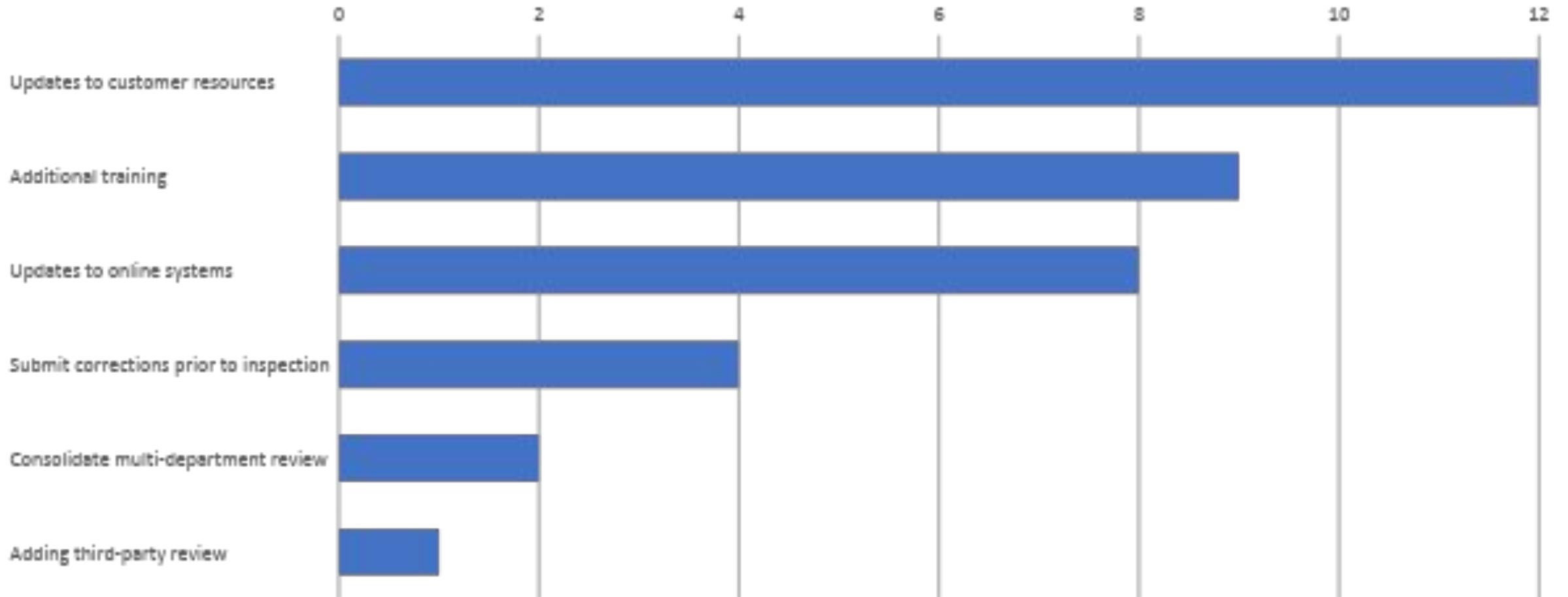
SVCE Phase 2 – Bldg Dept Successes

Successes Reported by Building Officials



SVCE Phase 2 – Bldg Dept Support Needs

Support Needs Reported by Building Officials



Contractors – What's Working Well



Online application portals



Combined MEP or dedicated electrification applications



Clear, consistent, and fast application review



Short time windows for inspection appointments, and/or real-time updates

Contractors' wish list - Process



Consistent Reviewers /
Inspectors per Project



Access to Speak to
Reviewers / Inspectors



Streamlined and
Transparent Process

Contractors' wish list - Inspection



Reduce inspection
lead times



Shorter inspection
appointment windows



Real-time arrival
updates

Interview comment:

"With online portals some jurisdictions are able to provide a two-hour [appointment] window for inspections."

Contractors' wish list - Resources



Permit Fees

- clear and streamlined fee schedules
- reduced costs for electrification permits

Application Resources

- step-by-step application guides
- clear and concise permit checklists and document requirements
- clear and concise inspection checklists



Thank You



Pathways for Support: How can 3C-REN Help?

Proposal #1: Discount Fees for Energy Friendly Permits

- **CASE STUDY: City of St. Helena Energy Friendly Permit Sales**
 - St. Helena: ~5,500 population, high density, most housing owner-occupied
 - Offering 75% off permit fees for energy savings permits such as:
 - solar PV, EV charging stations, heat pump heating and cooling, window and door replacements, and gray water systems.
 - Incentivize building owners to consider more efficient and climate-friendly systems to address their outdated and inefficient existing building stock.
- **Proposal:** 3C-REN offers/matches funds for homeowner, contractor, or building department to cover a portion of fees for energy-saving permits.



Proposal #2: Professional Support for Plan Checking

- 2A) Require/incentivize CEA sign-off on Title 24 Compliance forms
 - CEA sign off on Title 24 Compliance forms means permit staff can spend less time on review with higher confidence on compliance. Permit staff are generally not as versed in the modeling required for energy compliance calculations.

- 2B) Integrate “Energy Feature Summary” into plan review

Energy Features Summary		
Project: Project Name		Status: Complies (EDRe: 0.6, EDRt: 0.5)
Building Envelope		Requirement
		HERS Verification
Slab Floors		No slab edge insulation
Raised Floors		None
Walls	Exterior Walls	R-21 insulation (2x6 16" o/c) stucco siding
	Demising Walls	R-21 insulation (2x6 16" o/c)
	Knee Walls	R-15 insulation (2x4 16" o/c) adjacent to attic
Attic Roofs	Roof	R-19 Insulation (below roof deck)
	Ceiling	R-38 insulation
Radiant Barrier		None
Cool Roof (CRRC Rated)		None
Demising Ceilings		None
Cool Roof		None
Fenestration	Windows	NFRC 0.30 U-factor, 0.23 SHGC
	Sliding Glass Doors	NFRC 0.30 U-factor, 0.23 SHGC
	Glazed Doors	Default 0.53 U-factor, 0.65 SHGC
	1/2 Light Doors	Default 0.53 U-factor, 0.65 SHGC
	Skylights	NFRC 0.37 U-factor, 0.29 SHGC
Solar PV System		Standard Design PV Capacity: min. 1.71 kWdc
Additional Measures		Quality Insulation Installation
Mechanical System		
Heating	Gas Furnace	92% AFUE
Cooling	Split AC	14 SEER, 11.7 EER
		Airflow, Fan Efficacy, Refrigerant charge
Ducts		R-8 ducts (attic)
WHF		Specified WHF: Quiet Cool STL Pro 4.8X (2737 CFM, 490 Watts)
IAQ Fan		49 CFM (default exhaust)
Kitchen Range Hood		HVI certified
DHW		Tankless Gas 0.95 UEF
Pipe Insulation		All pipes insulated

Existing Resource
[What to Check on a CF1R-PRF-01 for Building Departments](#) 

Proposal #3: Support for Transition to e-Permitting

- Develop an "Options for Online Permit Center Software" to help jurisdictions choose a program best suited to their needs
- Offer technical support and training to transition from paper to e-permitting
- Provide funds for departments to purchase/train in software of their choice



Ask: Participate in 3C-REN Permitting Study

- Building on previous research findings and best practices
- Recognizing the unique needs of conditions for each jurisdiction
- **Goal:** Align 3C-REN municipal support opportunities with jurisdictions' needs
- **Result:** Jurisdiction-specific needs assessments to inform next steps, potentially including:
 - Opportunities for direct funding or incentives
 - Sample scopes of work for future RFPs
 - Specific to each jurisdiction

3C-REN Permitting Study - Scope

- **Sample of 6 jurisdictions**

- Intended to reflect variety of conditions in 3C-REN territory

- **Interested in participating?**

- Please contact Gray Gautereaux:
ggautereaux@co.slo.ca.us



Literature Review

- Process documents, resources
- Recent permit data



Building Dept. Interviews

- Permitting processes
- Challenges and support needs



Contractor Interviews

- Permit / inspection experiences
- Best practices and challenges



Recap & Breakouts

Mindy Craig

Breakout Rooms (20 mins)

- Proposal #1: Discounted Fees for Energy Friendly Permits
- Proposal #2: Professional Support for Plan Checking
- Proposal #3: Support for Transition to E-Permitting
- Ask: Participate in Region-Specific Permitting Research





3C-REN and Rural REN

Jordan Garbayo

History of RENs

2013

- Bay Area Regional Energy Network (BayREN)
- Southern California Regional Energy Network (SoCalREN)

2017

- Tri-County Regional Energy Network (3C-REN)

2021

- Inland Regional Energy Network (IREN)

2024

- Rural Regional Energy Network (Rural REN) (Pending Approval by CPUC)



3C-REN Vision & Mission

Vision: To create a sustainable, equitable and economically vibrant Central Coast for all

Mission: 3C-REN supports local climate goals through the delivery of energy saving programs that empower a sustainable local economy and reduce social disparities in the Central Coast.





ENERGY
CODE
CONNECT



BUILDING
PERFORMANCE
TRAINING



HOME
ENERGY
SAVINGS



Future 3C-REN Energy Programs Starting in 2024

Agricultural Technical Assistance

- Supports hard-to-reach, disadvantaged, and cannabis growers with technical assistance/assessments

Commercial Marketplace

- Supports local, small, and hard-to-reach businesses (less than 10 employees)

Energy Assurance Service

- Expands existing program to identify public and community facilities requiring resiliency in the face of future weather events and pandemics

Future Rural REN Energy Programs Starting in 2024

Financing

- Provides financial assistance to Public and Commercial sector customers for energy efficiency measure installation

Codes and Standards (Rural REN Territory-wide)

- Replication of 3C-REN's Energy Code/CalGreen Building Standards support programming across the Rural REN territory.
 - Energy Code Coach
 - Education
 - Forums
 - Reach Code Support



Thank you!

For more info:
3c-ren.org

For questions:
info@3c-ren.org



TRI-COUNTY REGIONAL ENERGY NETWORK
SAN LUIS OBISPO • SANTA BARBARA • VENTURA