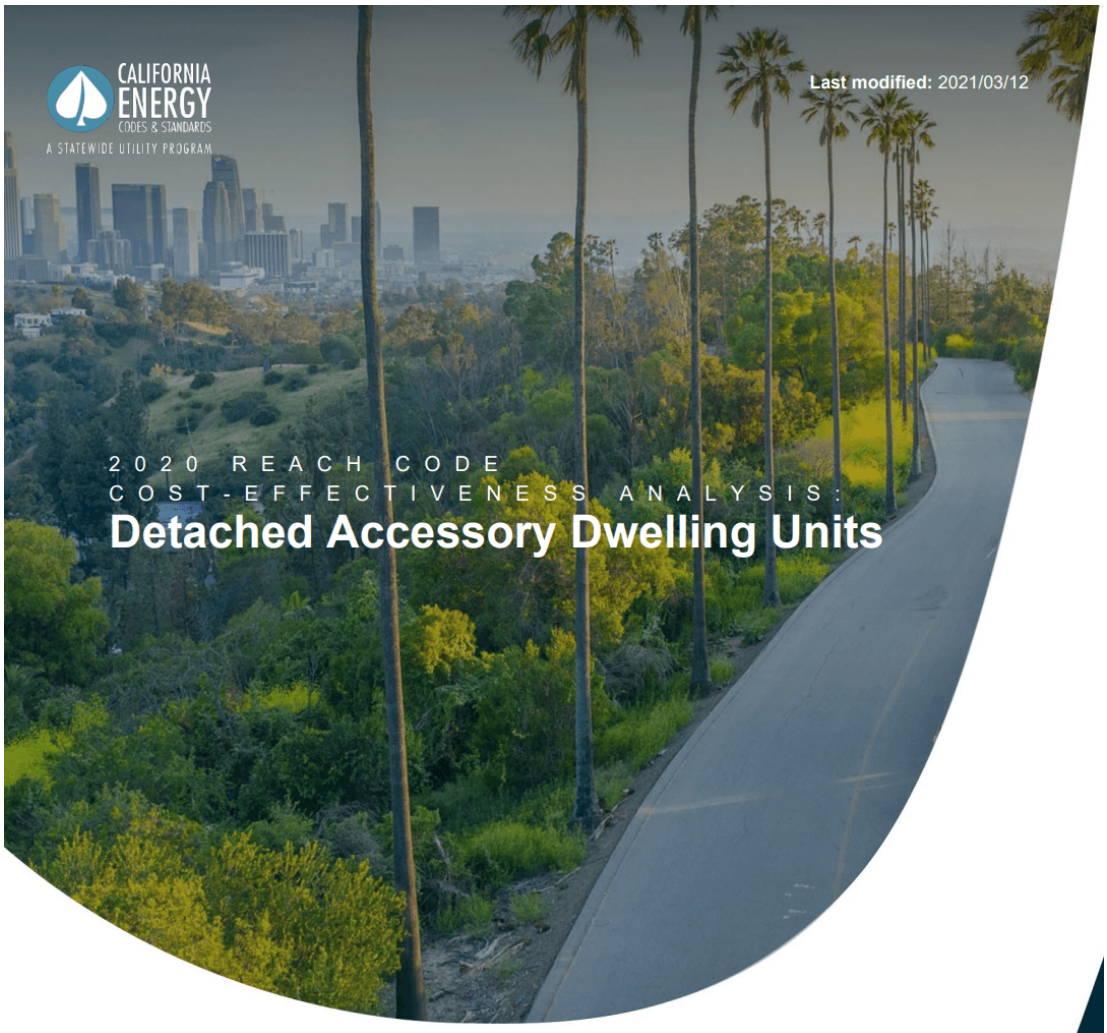
REACH CODE NEWS BRIEF: MARCH 2021

JUST PUBLISHED: NEW ADU COST-EFFECTIVENESS REPORT



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Prepared for:
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The statewide Reach Codes program has published a new cost-effectiveness study focusing on newly constructed detached Accessory Dwelling Unit (ADU) buildings. This study is an extension of the work previously conducted for residential new construction.

ADUs are additional dwelling units typically built on the property of an existing single-family parcel. ADUs are defined as new construction in the energy code when they are ground-up developments, do not convert an existing space to livable space, and are not attached to the primary dwelling. After conducting extensive research across major metropolitan areas throughout the state, the team created a 750ft^2 customized detached ADU prototype reflecting typical California construction.

The ADU measures evaluated fell into two categories: those associated with all-electric construction, and those associated with general efficiency and demand flexibility. Several measure packages were also evaluated. Analyses are provided for all 16 climate zones.

The new report is available at no cost here.

UPCOMING EVENTS

April

April 2: Communities, Climate Action, and New U.S. Leadership: A conversation with David Hayes, Special Assistant to President Biden for Climate Policy co-hosted by the American Society of Adaptation Professionals, the Tribal Climate Health Project, and the Local Government Commission

April 14: Energy Commission Business Meeting

April 21: Residential Additions, BayREN training

May

May 12: Energy Commission Business Meeting

May 21-22: Municipal Green Building Conference & Expo, USGBC-LA Chapter

Be sure to follow us on Twitter for the latest news and information!

NEW THIS MONTH!

Bill Dakin is Director of Engineering at Frontier Energy, where he oversees codes and standards, design consulting and building energy analysis services. With over 25 years of experience, Bill has a broad understanding of building science and energy efficient strategies for buildings. His experience in the energy field includes work in both the wind and solar energy before moving to energy efficiency.

Farhad Farahmand is a Senior Project Manager at TRC, where he is a specialist in codes and standards, and enjoys bridging gaps between technical feasibility and real-world application. At TRC Farhad has had the pleasure of meeting diverse peoples to understand how we can achieve our common energy and climate goals. Farhad has been educated in mechanical design and public policy, and is a registered Professional Engineer.

Q: One of the cornerstones of the reach code development and adoption process is the cost-effectiveness study. Why is that, Bill and Farhad?

A: California is unique in that the state requires a finding of cost-effectiveness before a reach code can become effective. While other jurisdictions encourage the use of cost-effectiveness findings, here in the state it is mandatory. Nonetheless, regardless of the mandate, cost-effectiveness studies are crucial to inform public discourse and drive policymaking.

Q: Walk us through the process of developing a cost-effectiveness study.

A: Typically, we will try to leverage existing data and studies whenever possible, even though each study must be new to ensure the cost-effectiveness results and data are as accurate and current as possible. We will gather existing studies done for previous code cycles, CASE reports on code change proposals, also third-party research. We will usually conduct a significant amount of outreach, depending on the study topic, to obtain accurate market cost data. For instance, we might reach out to builders and developers to obtain material costs or current labor costs.

Once we have gathered all the primary cost information, we'll conduct our modeling and cost analyses to identify cost-effective measures or measure packages for each of California's 16 climate zones. Often, work done on one topic can be leveraged for another study. An example of this is the work being done on battery storage measures. This work can inform both the stand-alone study and studies that focus on specific building types, such as single-family or multi-family residential construction.

Q: What are some of the most challenging measures or topics you've encountered?

Bill: Some of the most complicated are the measures related to natural gas infrastructure. These usually involve a great deal of data but also a lot of cost variation, depending on the location and whether the infrastructure is existing or new.

Farhad: We've had to do a significant amount of research for process loads that are pretty common but not well documented, such as restaurant cooking and on-premises laundry. Energy intensive loads like these can be particularly challenging for cost effectiveness.

Q: What are some of the measures you are currently doing cost-effectiveness analyses on?

Bill: Our team is working on a stand-alone battery storage measure report right now, focusing on single-family residential to begin with and later we will expand that focus to multi-family and nonresidential.

Farhad: Right now we're examining efficiency and electrification as part of alterations to existing buildings. Because there are a variety of potential existing situations, we've had to consider a wide range of solutions in seeking optimal solution.

Q: What advice would you both give to jurisdictions considering reach code development?

Bill: Advice I would give includes:

1. Researching and leveraging the information and tools that exist to support local jurisdictions at localenergycodes.com, including cost-effectiveness studies, the Cost-Effectiveness Explorer, and model code language.
2. Reach out to other jurisdictions that have already adopted reach codes so you don't have to re-invent the wheel.
3. Conduct outreach to stakeholders in your jurisdiction to identify allies and advocates, as well as potential opposition.
4. Prior to adoption, train city/county staff so that the information is properly communicated to builders, designers and developers in your area.

Farhad: To expand on Bill's item #3, identify a local Councilmember, committee/ commission, and/or advocacy organization who will champion your code through adoption. And when in doubt . . . contact the statewide reach codes program and its coordinator, Misti Bruceri! She'll walk you through your options and key steps. If there's not an existing study for your measure, she can help set it in motion.

CALGREEN 2022: RECOMMENDATIONS FROM THE CASE TEAM

This article is a summary of a presentation from Heidi Werner, Energy Solutions, on behalf of the Codes and Standards Enhancement (CASE) team, summarizing proposed code changes to the voluntary energy efficiency requirements in the California Green Building Standards Code (Title 24, Part 11 or CALGreen) for the 2022 cycle.

With the three-year continuous maintenance code cycle well underway, code change proposals are being developed and presented to the California Energy Commission for consideration. Among these are change proposals to the voluntary energy efficiency requirements in CALGreen, an area of particular interest for local jurisdictions evaluating reach code policies.

Mandatory energy provisions are incorporated in Part 6 of the Building Standards. The proposed recommendations for 2022 CALGreen focus on the voluntary provisions (Tiers) in Part 11. The voluntary tiers include energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and more, any of which local jurisdictions may adopt as local reach codes. If adopting energy efficiency provisions, however, the local jurisdiction must still satisfy the cost-effectiveness requirements to receive Commission approval.

The intent behind the 2022 CALGreen recommendations is to provide a useful resource to local jurisdictions by:

- Developing realistic Tier 1 and Tier 2 energy targets

- Supporting local energy and climate policies
- Including savings calculations for proposed code changes

If adopted, compliance with the Tiers for all occupancies will require installing certain prerequisite measures in addition to meeting minimum performance specifications. For single-family homes, the recommendations include prerequisite measures selected from an expanded menu of nine options. Requirements for multifamily projects have been unified across low- and high-rise residential designs, consistent with changes proposed for Part 6. In nonresidential occupancies, the team proposes to add six new options to the existing list of three measures.

The proposed Voluntary Tier 1 requirements for single family and nonresidential occupancies use an electric-preferred structure, while multifamily occupancies allow only all-electric designs. The electric-preferred structure retains minimum state requirements for all-electric designs but requires mixed-fuel projects to exceed the state requirements by a specified margin, and to pre-wire for the anticipated future installation of electric equipment. The proposed Tier 2 requirements for all occupancies require only all-electric designs that exceed minimum state requirements.

A complete report outlining these recommendations is available on the CASE website. The presentation is available here.

Sidebar: Code Development Cycle

The three-year code development and adoption cycle includes several rounds of stakeholder engagement to identify the scope of the upcoming code; for instance, these public meetings and workshops have been taking place since Q4 2018-Q1 2019 for the 2022 code. Following that period, draft CASE reports are developed and published for public comment and review. For 2022, this took place during Q2-Q3 of 2020 and draft reports were published accordingly. For the second half of 2020, the Energy Commission undertook its pre-rulemaking while the CASE team finalized and published its reports. Currently, the Commission is moving through its rulemaking process. Final approval of the 2022 Code is expected in mid-2021 with an effective date of January 1, 2023. Information on the process and related workshops, meetings and public comment is available here.

This program is funded by California utility customers and administered by Pacific Gas and Electric Company (PG&E), San Diego Gas & Electric Company (SDG&E®), and Southern California Edison Company (SCE) under the auspices of the California Public Utilities Commission.

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