

DOCKETED

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Additional submitted attachment is included below.

Public Comment

Docket No. 25-EPIC-01

Electric Program Investment Charge 2026–2030 Investment Plan (EPIC 5)

Submitted to the California Energy Commission, Energy Research and Development Division

Re: Recommendation to dedicate EPIC 5 funding to zero-carbon, zero-energy factory-built (modular) housing as a clean-energy deployment platform

Dear Commissioners and Energy Research and Development Division staff:

Thank you for the opportunity to comment on the EPIC 5 Investment Plan covering 2026 through 2030. The Electric Program Investment Charge program exists to fund research that accelerates the transformation of California's electricity sector toward the state's energy and climate goals. We write to urge the Commission to set aside dedicated EPIC 5 funding for the research, demonstration, and deployment of zero-carbon and zero-energy factory-built (modular) housing. Treated as an integrated clean-energy platform rather than a building type, this approach can advance several of EPIC's core objectives at once: ratepayer benefit, grid reliability and resilience, decarbonization, and equitable access to clean energy.

The problem

California faces two pressures simultaneously, and they are usually addressed in isolation. The first is a severe shortage of affordable housing, which conventional, site-built construction has not been able to close at the pace or cost the state needs. The second is the need to decarbonize the building sector while strengthening a grid that is increasingly stressed by extreme heat, wildfire-driven outages, and growing electrical loads.

Buildings are among the largest sources of electricity demand and emissions in the state, and the existing approach to constructing them is slow, costly, and inconsistent in energy performance. Site-built homes vary widely in envelope quality and air-tightness, are difficult to commission to a verified energy target, and rarely arrive grid-ready. Clean-energy technologies that California is counting on — rooftop and community solar, battery storage, heat pumps for space and water heating, and fully electric appliances — are typically added one home and one contractor at a time, with uneven quality and high soft costs. The result is that the very technologies central to the state's climate strategy are deployed slowly and expensively, precisely where new housing supply could be deploying them at scale.

The opportunity: factory-built housing as a clean-energy deployment platform

Factory-built construction reframes the home from a one-off product into a repeatable manufacturing process. Building in a controlled environment makes it possible to engineer energy performance and clean-energy integration directly into a standardized, quality-controlled product, then replicate it across many units. This is what makes modular housing relevant to EPIC: it is a deployment mechanism for clean-energy technologies, not merely a way to build faster.

A zero-carbon or zero-energy factory-built home can integrate, by design and at the production line, the full clean-energy stack:

- High-performance, air-tight building envelopes that sharply reduce heating and cooling loads, verified to a consistent energy target rather than inspected unit by unit in the field.
- All-electric systems with heat-pump space and water heating, eliminating on-site combustion and the associated emissions.
- Integrated solar generation and battery storage, pre-engineered and pre-wired so that homes arrive grid-interactive and capable of islanding during outages.
- Smart panels, controls, and load-management capability that allow homes to participate in demand response, time-of-use optimization, and virtual power plant programs.

Because these elements are standardized in the factory, they can be commissioned to a known performance level, repeated reliably, and improved iteratively — exactly the conditions under which research investment compounds. Soft costs that plague field installation (permitting variability, labor scarcity, rework) fall, and the clean-energy value delivered per dollar rises.

Why this fits EPIC's mandate and benefits ratepayers

EPIC funds research and demonstration that delivers benefits to electricity ratepayers and helps meet state energy and climate goals. Zero-carbon, zero-energy modular housing maps directly onto those criteria:

- Grid reliability and resilience. Homes that combine efficiency, on-site generation, and storage reduce peak demand, can ride through outages, and — aggregated — can serve as distributed resources that support the grid during stress events, including heat waves and wildfire-related shutoffs.
- Decarbonization at scale. Building clean-energy capability into a replicable product accelerates the deployment of solar, storage, heat pumps, and all-electric systems faster and more cheaply than retrofitting or site-by-site new construction.
- Ratepayer benefit and affordability. Lower and more predictable energy bills for occupants, reduced peak-load costs borne across the system, and lower delivered cost of clean-energy capacity per home.
- Equity. Standardized, lower-cost zero-energy homes extend the benefits of clean energy — resilience, lower bills, healthy indoor environments — to households and communities that have historically been left out of the clean-energy transition.

Recommended EPIC 5 actions

We respectfully recommend that the EPIC 5 Investment Plan include a dedicated funding allocation and research initiative for zero-carbon and zero-energy factory-built housing as a clean-energy platform. Specifically, EPIC 5 could support:

- Research and development on integrating solar, storage, heat pumps, all-electric systems, and grid-interactive controls into standardized factory-built housing, with verified, repeatable energy and emissions performance.
- Demonstration and deployment projects that field-validate zero-energy modular housing as distributed energy resources, including their performance in demand response, resilience during outages, and aggregation into virtual power plants.
- Measurement, verification, and open data on real-world energy performance, grid services, and ratepayer cost outcomes, so that results inform building standards, utility programs, and future deployment.
- Cost-reduction and workforce research that lowers the delivered cost of clean-energy-ready homes and builds the manufacturing and installation capacity California needs to scale.

These investments are technology-neutral and platform-focused. They are intended to advance the broader category of factory-built, clean-energy-integrated housing and the public benefits it can deliver, rather than any single company or proprietary product. The aim is to give California a faster, cheaper, and more reliable channel for putting clean-energy technologies into the field — one that simultaneously helps address the state's housing needs.

Conclusion

California's clean-energy and housing challenges are usually treated separately. Zero-carbon, zero-energy factory-built housing lets the state address both at once, turning each new home into a unit of clean-energy deployment, grid resilience, and ratepayer benefit. We urge the Commission to dedicate EPIC 5 funding to advancing this platform and respectfully thank you for considering these comments.

Respectfully submitted,

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