



REQUEST FOR INFORMATION SUMMARY

Barriers and Opportunities for Factory-built
Housing in California

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1. Introduction

The California Strategic Growth Council (SGC) recognizes factory-built housing (FBH) – including volumetric, panelized, and other forms of industrialized construction – as an opportunity to accelerate progress toward California’s housing production and affordability goals while reducing the environmental impacts associated with conventional residential construction.

On Oct. 26, 2023, SGC adopted a resolution to support energy-efficient FBH as a strategy to advance California’s climate, housing, and equity goals. Building on this commitment, SGC issued a Request for Information (RFI) to gather insights from FBH manufacturers, housing developers, and other experts with experience in the field. The goal was to understand the current landscape and identify barriers and opportunities to expand FBH deployment across the state.

This document summarizes responses from 24 diverse participants in California’s FBH ecosystem—including manufacturers, developers, architects, nonprofits, financiers, and policy experts—highlighting key challenges and the potential for transformative growth. Respondents shared extensive experience with modular, panelized, and 3D-printed housing systems, highlighting innovations in sustainability, wildfire resilience, and cost-effective construction. Many are actively engaged in affordable housing, disaster recovery, and workforce housing initiatives, with several operating or planning factories in California. For additional context, see Appendix B to read the questions asked within the RFI.

The views and opinions expressed in this summary are those of the RFI respondents and do not necessarily reflect the opinions or position of SGC.

2. Challenges to factory-built housing (FBH) in California

Respondents described barriers across five key sectors: regulatory reform, capital and financing, market development, sustainability, and affordable housing. The RFI responses reveal a shared recognition of FBH’s potential to accelerate housing production, reduce costs, and improve quality. However, they also underscore persistent barriers—ranging from regulatory fragmentation and financing misalignment to limited factory capacity and market skepticism.

2.1 Regulatory & Policy Reform

- **Fragmented Permitting Processes:** Local jurisdictions often add six to 12 months to the permitting process, even for state-approved units.

- Duplicative Reviews: Both state and local agencies require plan checks, creating inefficiencies.
- Outdated Zoning Laws: Many cities restrict modular/FBH through outdated zoning and density rules.
- Prescriptive Building Codes: The strict building energy efficiency standards of Title 24 and other codes are not designed for off-site construction, limit innovation, and add costs.
- Lack of Modular-Specific Standards: There are no streamlined fire/seismic testing inter-module code standards.

2.2 Capital & Financing

- High Upfront Costs: Factories require large deposits (e.g., 20% of contract value six months in advance) before project financing is secured.
- Misaligned Financing Timelines: Factory production schedules don't align with traditional housing finance cycles.
- Limited Access to Construction Loans: FBH components are considered building materials until installed, making them poor collateral for loans.
- Investor Risk Aversion: Lenders and investors are wary of FBH due to perceived risks, lack of track record, and the lack of collateral if a project fails.
- Lack of Predevelopment Capital: Developers struggle to finance the high upfront costs for early-stage material and building design, factory line reservations, material deposits, and permitting.

2.3 Market Development & Industry Coordination

- Lack of Demonstration Projects: Without easily repeatable and scalable examples, stakeholders are hesitant to adopt FBH.
- Contractor Hesitancy: Builders are reluctant to use unfamiliar systems without proven performance.
- Fragmented Industry Knowledge: Siloed stakeholders (developers, architects, GCs, factories) lack shared knowledge and coordination.
- Demand/Supply Mismatch: Many FBH providers struggle to realize factory production's promised efficiencies, simply transferring traditional construction methods indoors without reimagining processes or materials. This approach fails to

deliver compelling time, cost, and labor savings advantages necessary to maintain consistent project pipelines.

2.4 Permits & Regulations

- Perception of Material Safety: Cross-Laminated Timber (CLT) and other innovative materials face skepticism from insurers and regulators. CLT, specifically, is highly fire-resistant, seismically safe, and has a reduced carbon footprint, yet is underutilized across all construction types.
- Code Compliance Complexity: Fire and seismic codes are outdated and not modular-friendly, slowing the adoption of resilient designs.
- Lack of Incentives: Few financial or regulatory incentives exist for sustainable FBH solutions.
- Wildfire Recovery Bottlenecks: Permitting and utility delays hinder rapid deployment in disaster zones.

2.5 Affordability

- Retailer Markups: Health & Safety Code 18062.9 allows contractors to purchase five or more factory-built homes directly from the factory rather than through a licensed retailer. This is a step in the right direction, but families still must buy single FBH units through licensed retailers, who add 40%–100% markups.
- Lack of Familiarity: Many affordable housing developers and local governments are unfamiliar with FBH processes and risks.
- Limited Factory Experience: Few California factories have experience with FBH.

3. Recommendations by sector

Respondents proposed a range of actionable solutions, from streamlining permitting and modernizing building codes to creating revolving predevelopment funds and incentivizing the use of sustainable materials.

3.1 Regulatory & Policy Reform

- Streamline Permitting & Plan Review
 - Support AB 557, which would allow approval of FBH units by serial number and authorize the approved plans or specifications to be used in subsequent developments unless building standards are modified.

- Mandate 30-day plan check timelines and parallel-track reviews among localities.
 - Exempt factory-built housing from local design overlays if state-approved.
- Zoning & Land Use
 - Standardize zoning approvals at the state level.
 - Expand by-right use of FBH in wildfire/disaster zones.
 - Prioritize FBH in the Surplus Land Act and FBH scoring incentives for public land requests for proposals.
- Building Code Modernization
 - Develop modular-specific fire/seismic testing standards.
 - Allow performance-based compliance for modular systems.
 - Align Title 24 with modular innovation (e.g., waive solar requirements for high-efficiency units).

3.2 Capital & Financing

- Factory & Project Financing
 - Provide low-interest loans and grants for factory expansion/startup.
 - Offer first-loss guarantees and bridge financing for FBH projects.
 - Create a revolving predevelopment fund for deposits and early-stage costs.
- Consumer Incentives
 - Launch a rebate program for FBH buyers (modeled after electric vehicle rebates).
 - Offer sales tax waivers and property tax exemptions for FBH units.
 - Provide mortgage incentives for FBH affordable housing.
- Developer Support
 - Fund demonstration projects to de-risk innovation.
 - Support early-stage capital for design, permitting, and factory deposits.

3.3 Market Development & Industry Coordination

- Demonstration & Education
 - Fund pilot projects in underserved areas and disaster recovery zones.
 - Launch public education campaigns to improve perception of FBH.
- Workforce & Supply Chain
 - Invest in workforce training for modular construction.
 - Support component specialization to reduce factory overhead.
 - Encourage vertical integration alternatives (e.g., Make-to-Assemble models).
- Procurement & Demand Aggregation
 - Use public procurement to stabilize demand.
 - Encourage multi-project developer-factory partnerships.
 - Incentivize use of standardized modules across projects.

3.4 Sustainability & Resilience

- Climate-Aligned Construction
 - Promote the use of cross-laminated timber, recycled materials, and net-zero designs.
 - Fund research and development for wildfire- and earthquake-resilient FBH.
- Disaster Recovery
 - Fast-track FBH for wildfire rebuilding and interim housing.
 - Waive or offer pre-approval permitting processes for temporary FBH in disaster zones.

3.5 Affordable & Workforce Housing

- Targeted Deployment
 - FBH could be especially effective when utilized as accessory dwelling units, missing middle housing, and student/workforce housing because it can be adapted to any environment and use.
 - Modify Opportunity Zones and Low-Income Housing Tax Credit scoring to favor FBH.

- Support nonprofit and mission-driven developers with predevelopment grants to build regional capacity.

4. Conclusion

Respondents from across the public, private, and nonprofit sectors have identified both the immense potential and the persistent barriers facing FBH deployment in the state. Despite the diversity of perspectives, a clear consensus emerges: Factory-built housing can play a transformative role in addressing California’s housing crisis, climate goals, and disaster recovery needs. However, realizing this potential requires coordinated action across regulatory reform, capital and financing, market development, sustainability, and affordable housing.

Appendix A: Summary of the main challenges in each sector and the corresponding solutions:

1. Regulatory & Policy Reform

Challenge	Proposed Solution
Fragmented permitting and duplicative reviews	Support AB 557 (McKinnor) to allow licensed architects/engineers to approve both modules and site plans; streamline a single review process.
Local zoning restrictions	Standardize zoning approvals at the state level; allow by-right use of temporary FBH in disaster zones.
Title 24 and other prescriptive codes limit innovation.	Allow performance-based compliance; waive solar requirements for high-efficiency FBH.
No modular-specific fire/seismic standards	Develop modular-specific testing and compliance pathways through the Department of General Services and the Department of Housing & Community Development.
Local design overlays negate standardization.	Exempt state-approved FBH from local design overlays and plan requirements

2. Capital & Financing

Challenge	Proposed Solution
High upfront deposits for materials	Create a revolving predevelopment fund to cover deposits and early-stage costs.
Misaligned financing timelines	Offer bridge financing and first-loss guarantees to de-risk early capital.
FBH components are poor loan collateral	Provide state-backed guarantees or insurance to improve loan security.

Challenge	Proposed Solution
Investor and lender risk aversion	Fund demonstration projects to build confidence and track record.
Lack of predevelopment capital	Offer grants or low-interest loans for design, permitting, and factory deposits.

3. Market Development & Industry Coordination

Challenge	Proposed Solution
Lack of demonstration projects	Fund pilot projects, especially in wildfire zones and underserved areas.
Fragmented industry knowledge	Launch public education campaigns and technical assistance programs.
Limited standardization	Encourage use of pre-approved modules and repeatable designs.
Boom-bust cycles in demand	Use public procurement and developer-factory partnerships to stabilize the pipeline.

4. Permits & Regulations

Challenge	Proposed Solution
Skepticism of new materials (e.g., CLT)	Fund research, development, and certification for fire- and seismic-resilient materials.
Complex code compliance for resilient designs	Streamline compliance pathways for high-performance FBH.
Lack of incentives for sustainable FBH	Offer carbon credits, tax incentives, and rebates for sustainable materials and building practices.

Challenge	Proposed Solution
Delays in disaster recovery	Expedite permitting for temporary FBH in disaster zones; fast-track approvals.

5. Affordable & Workforce Housing

Challenge	Proposed Solution
Developer unfamiliarity with FBH	Provide technical assistance and capacity-building grants.
Limited factory experience with multifamily affordable housing	Fund factory upgrades and training to support affordable housing production.

Appendix B: Request For Information Questions

- 1) Please describe your experience or expertise as it relates to factory-built housing in California.
- 2) Please describe your existing relationships with other FBH market participants in California.
- 3) In your experience, what have been the most significant barriers to factory-built housing supply in California?
- 4) In your experience, what have been the most significant barriers to factory-built housing deployment in California?
- 5) What do you see as the most significant opportunities for factory-built housing deployment in California?
- 6) What specific forms of support (capital, financing, market development, regulatory, etc.) and other interventions could enable greater deployment of factory-built housing in California?
- 7) Do you have recommendations for how \$1-3M in grant funds could enable greater deployment of factory-built housing? Please share.
- 8) Please provide any additional information relevant to this Request for Information. Please include links or references to where possible (e.g., published research, reports, case studies, example projects)