

NOT PROTECTED

PROTECTED FROM EMBERS

DEFENSIBLE SPACE AND FIRE
RESISTANT BUILDING MATERIALS.



**MEGAFIRE
ACTION**

WILDFIRE RESILIENCE LOAN FINANCING

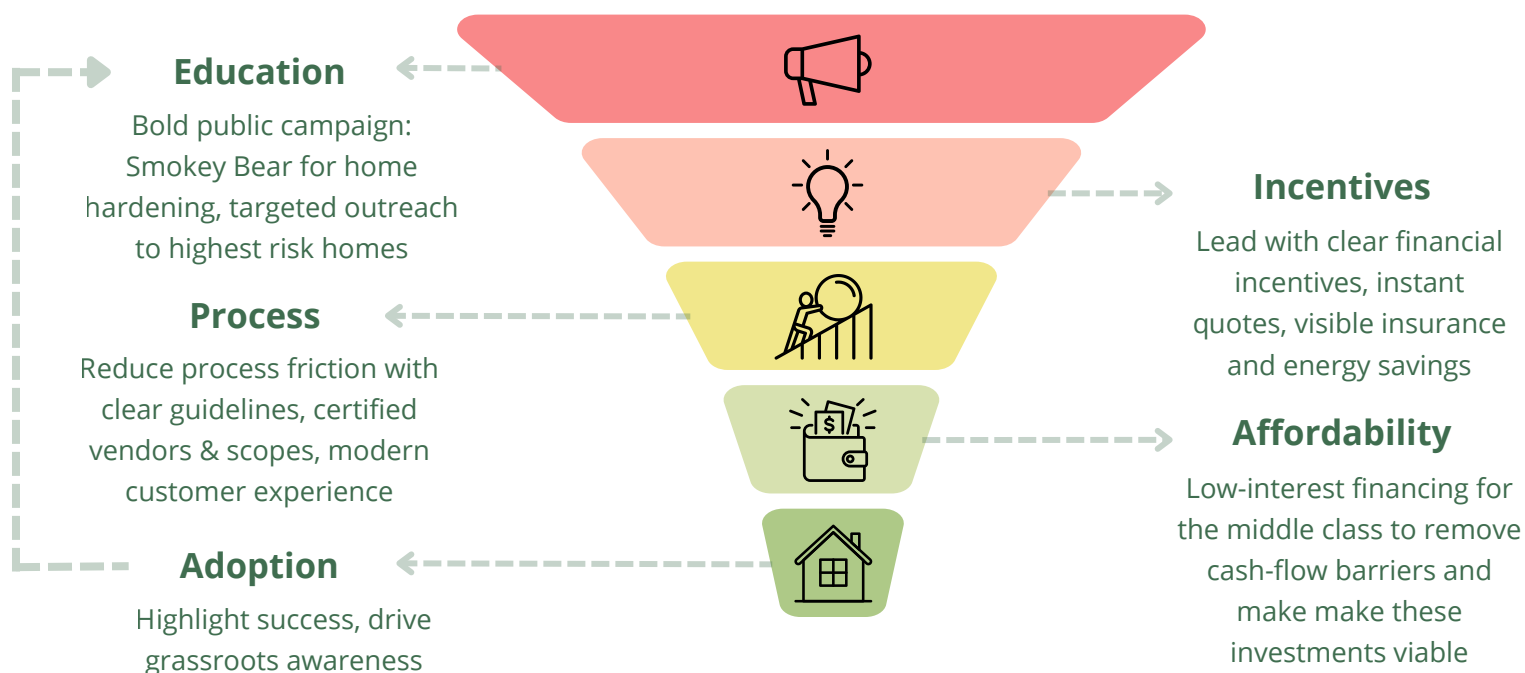


Image sources: ,<https://www.youtube.com/watch?v=M9sel3wcBLg>, <https://www.dspacestudio.com/palisades-fire-rebuild-casestudy-2-0>

Helping More Californians Save Their Homes By Fixing the Broken Customer Journey

Defensible space and home hardening can protect homes from burning, but few homeowners are taking these steps. The problem lies in a broken customer journey—people don't know enough about these measures, there aren't strong incentives, the process is confusing, and it's often unclear how to pay for it. Every stage of the process matters, but ultimately, money drives action; even motivated homeowners hesitate when costs outweigh the benefits. This memo focuses on addressing those barriers through stronger incentives and affordable financing to help Californians secure their homes.

Defensible Space + Home Hardening Customer Journey



www.megafire.org



Eric Horne, California Director, eric@megafire.org



MEMO — Wildfire Resilience Loan Financing

To: Legislative and CA Government Partners

From: Megafire Action

Date: November 8th, 2025

Subject: Wildfire Resilience Loan Financing Program

Summary

California faces a primary crisis of homes burning down at unprecedented levels and a secondary crisis of insurance availability and affordability. CAL FIRE estimates that 2.12 million homes sit within Very High Fire Hazard Severity Zones (FHSZ), the vast majority of which were built before modern wildfire standards for construction and defensible space were adopted.¹

The most effective, scientifically proven measures to prevent homes from burning—defensible space and home hardening—can cut structure loss risk by more than 35%, yet adoption remains minimal among existing housing stock.² Financial barriers pose the biggest challenge:

- **Cost:** Upgrades range from \$2,000-\$35,000+, and affordable financing isn't widely available.
- **Incentives:** Insurance discounts are weak, offering little reward for major capital outlays.

The sustainable insurance strategy allows insurers to model risk in premium pricing increases, but insurers should also be required to accurately price risk reduction.

This memo outlines a practical solution to California's wildfire resilience gap: helping homeowners afford defensible space and home-hardening retrofits through low-interest loans paired with stronger insurance incentives to make the household costs/savings pencil out.

- **Wildfire Resilience Loans:** Modeled after Treasury's GoGreen energy finance program, establish a \$10 million state loan loss reserve pilot (using state or private capital) to de-risk private lending, lower interest rates, and attract over \$100 million in first year private capital for defensible-space and home-hardening retrofits—far exceeding what grants can reach.
- **FAIR Plan Reform:** Increase FAIR Plan mitigation premium discounts beyond the current 5% for defensible space and 14.5% for home hardening to reflect real risk reduction.

Recent polling commissioned by Megafire Action highlights potential public support: 83% of voters favor the government offering financial incentives for homeowners to add fire-resistant features to their homes (50% *very favorable*), while 81% favor giving certifications to homeowners who add fire-proofing materials to their homes that could lead to insurance discounts (47% *very favorable*).

¹ Zone 0 FAQs, <https://bof.fire.ca.gov/projects-and-programs/defensible-space-zones-0-1-and-2>

² Zamanialaei, et al. Fire risk to structures in California's Wildland-Urban Interface. *Nat Commun* 16, 8041 (2025).
<https://doi.org/10.1038/s41467-025-63386-2>

The Status Quo

Defensible space and home hardening can significantly reduce the risk of a home loss. A recent UC Berkeley-led study found that, compared with doing no mitigation, maintaining defensible space can lower wildfire risk by about 21%, and pairing it with home-hardening measures can cut risk by 35%.³

Despite these clear benefits, most homeowners remain unmotivated to act because the upfront costs are substantial. Defensible-space work typically costs \$2,000–\$15,000, while home hardening upgrades can range from \$10,000 to \$100,000 depending on scope.⁴ Retrofitting even half of the 2 million homes in very high fire hazard zones at an average cost of \$35,000/home would total roughly \$35 billion statewide.⁵ This is a serious financial burden for households, requiring the introduction of financing to spread the cost out over time and financial incentives to offset those costs.

One potential lever is insurance pricing, but current incentives are weak. Under the California Department of Insurance's (CDI) Sustainable Insurance Strategy, insurers must include mitigation factors in their rating plans and offer credits, yet actual reductions are often minimal.



The California FAIR Plan provides up to a 5% discount for defensible space and 14.5% for both defensible space and home hardening—insufficient to justify the large upfront costs homeowners face and a fraction of the reduction in risk to the insured assets. As CDI allows insurers to use forward-looking catastrophe models to more accurately price risk upward, it should ensure premiums discounts for mitigation are commensurate with the real risk reduction they offer.

Introducing a Wildfire Resilience Loan Program

Financing defensible space and home hardening through long-term, public-private loan programs offers a practical path to meet the scale of needed investment. These are long-term capital improvements, and financing—rather than paying upfront—aligns costs with multi-year benefits, making upgrades more affordable for homeowners. Financing also enables insurance savings to offset loan payments, creating a strong incentive to act. Unlike grants, which are costly to scale, loan programs allow the state to reach far more homeowners, creating leverage, with the same pool of funds. Before turning to program design, it's important to understand how this basic financing model can make wildfire resilience truly affordable.

³ The Berkeley-led modeling study predicted 80% of homes without mitigation would be destroyed due to WUI fires. Zone 0 defensible space increased survival from 20% to 37%—a 21 percent reduction in destruction risk. Combining home-hardening measures with defensible space raised survival to 48%, or a 35% risk reduction. Source: Zamanialaei, et al. (2025). Nat Commun. <https://doi.org/10.1038/s41467-025-63386-2>

⁴ https://headwaterseconomics.org/wp-content/uploads/2024/06/Wildfire_Retrofit_Report_R5.pdf

⁵ Though a [previous study](#) identified \$50,000 as the average cost of home-hardening, [other sources](#) suggest lower costs for key components and with scale, costs may decline.

For defensible space, the following matrix models annual net costs or savings—insurance discounts minus loan payments—based on a \$6,000, 10-year loan and a FAIR Plan premium of \$9,384, varying by interest rate and premium discount.⁶ At the current 5% discount, homeowners would see modest added annual costs, but if discounts rose to 9% or more—still only a fraction of the 21% risk reduction that insurers benefit from—most scenarios would generate considerable annual savings.

Defensible Space Financing: Annual Net Savings Matrix (\$6,000 loan, 10 yrs, \$9,384 Insurance premium)

| Discount ↓ / Interest → | 4% / \$740 | 5% / \$777 | 6% / \$815 | 7% / \$854 | 8% / \$894 |
|-------------------------|------------|------------|------------|------------|------------|
| 5% / \$469 | -\$271 | -\$309 | -\$347 | -\$386 | -\$426 |
| 7% / \$656 | -\$84 | -\$121 | -\$159 | -\$198 | -\$238 |
| 9% / \$843 | \$104 | \$66 | \$28 | -\$11 | -\$51 |
| 11% / \$1,031 | \$291 | \$254 | \$216 | \$176 | \$137 |
| 13% / \$1,218 | \$478 | \$441 | \$403 | \$364 | \$324 |

● Green = homeowner is saving money annually (loan payment < insurance discount)

● Red = homeowner is losing money annually (loan payment > discount)

While defensible space upgrades are relatively low-cost, adding home hardening requires more capital but offers greater protection and insurance savings potential. The analysis models a \$35,000, 20-year loan. At the current 14.5% FAIR Plan discount, homeowners would see net costs, but once discounts approach 30%—still lower than the 35% risk reduction that insurers benefit from—the economics improve sharply. At 35% many scenarios become cash-flow positive, showing how stronger premium incentives can make resilience upgrades financially viable.

Home Hardening Financing: Annual Net Savings Matrix (\$35,000 loan, 20 yrs, \$9,384 Insurance premium)

| Discount ↓ / Interest → | 4% / \$2,575 | 5% / \$2,808 | 6% / \$3,051 | 7% / \$3,304 | 8% / \$3,565 |
|-------------------------|--------------|--------------|--------------|--------------|--------------|
| 15% / \$1,406 | -\$1,170 | -\$1,403 | -\$1,646 | -\$1,898 | -\$2,159 |
| 20% / \$1,874 | -\$701 | -\$934 | -\$1,177 | -\$1,430 | -\$1,691 |
| 25% / \$2,343 | -\$233 | -\$466 | -\$709 | -\$961 | -\$1,222 |
| 30% / \$2,811 | \$236 | \$3 | -\$240 | -\$493 | -\$754 |
| 35% / \$3,280 | \$704 | \$471 | \$228 | -\$24 | -\$285 |

● Green = homeowner is saving money annually (insurance discount > loan payment).

● Red = homeowner is losing money annually (loan payment > discount).

The savings picture improves considerably when an additional factor is considered: energy savings. Class A fire-rated roofs can also qualify as energy efficient cool roofs that reflect more sunlight and absorb less heat than standard roofs, reducing indoor temperatures and lowering air-conditioning usage. Upgrading to an energy efficient Class A fire-rated roof can save homeowners an additional \$30-\$160 per year off of their energy bills depending on where the home is located (savings will be greater in hotter regions) and when the home was built (older, less energy-efficient homes will save

⁶ Napa County's [grant program](#), which offers up to \$3,500 and covers 100% of costs for income-qualified residents or 50% for others, suggests typical projects cost \$3,500–\$7,000. The \$ 9,384 FAIR Plan premium reflects the \$6,900 Los Angeles FAIR Plan average plus a 36% increase—the recent rate hike filed with CDI.

more).⁷ Additionally, upgrading from single-pane to the dual-pane windows as required under the IBHS Wildfire Prepared Home standards can reduce heating and cooling costs by \$540-\$1070 per year on average statewide.⁸ Cumulatively, these measures can yield ~\$900 in average annual energy saving. When these savings are factored into retrofit financing, they meaningfully shift the economics for homeowners, as shown in the revised matrix below.

Home Hardening Financing: Annual Net Savings Matrix (\$35k loan, 20 yrs, \$9,384 premium, \$900 energy savings)

| Discount ↓ / Interest → | 4% / \$2,575 | 5% / \$2,808 | 6% / \$3,051 | 7% / \$3,304 | 8% / \$3,565 |
|-------------------------|--------------|--------------|--------------|--------------|--------------|
| 15% / \$2,306 | -\$270 | -\$503 | -\$746 | -\$998 | -\$1,259 |
| 20% / \$2,774 | \$199 | -\$34 | -\$277 | -\$530 | -\$791 |
| 25% / \$3,243 | \$667 | \$434 | \$191 | -\$61 | -\$322 |
| 30% / \$3,711 | \$1,136 | \$903 | \$660 | \$407 | \$146 |
| 35% / \$4,180 | \$1,604 | \$1,371 | \$1,128 | \$876 | \$615 |

● Green = homeowner is saving money annually (loan payment < insurance discount)

● Red = homeowner is losing money annually (loan payment > discount)

How a state-organized loan program functions and scales

California can make wildfire resilience affordable for homeowners by organizing a state-backed loan program modeled structurally on the GoGreen Home Energy Financing Program. In this structure, the state establishes a revolving loan loss reserve—a public fund that covers a portion of lender losses in case of default—allowing private lenders to offer lower interest rates that make the household economics pencil out (net savings). Every \$1 in public funds could unlock roughly \$10 in private wildfire resilience loans, dramatically expanding access while minimizing fiscal risk. Importantly: just as GoGreen’s loan loss reserve is funded by both government and utilities, the wildfire loan loss reserve program can be funded by a mix of public, utility, and insurer capital.

The GoGreen Program—Administered by the State Treasurer’s California Alternative Energy and Advanced Transportation Financing Authority—has helped thousands of households statewide finance upgrades like solar panels, HVAC systems, and water heaters. Funded by investor-owned utility ratepayers and the CA Energy Commission, the program’s loan loss reserve enables lenders to offer better terms (interest rates up to 8% lower than market rates).⁹

In FY 23–24, GoGreen supported more than \$53.8 million in residential loans with \$6.58 million in credit enhancement funding, leveraging public dollars at over an 8:1 ratio.¹⁰ After restructuring credit enhancement, GoGreen reached a 10.34:1 ratio in July 2025.¹¹

⁷ Estimates from the Cool Surface Savings Explorer, as described in Appendix P, Section 4 of Levinson, et. al., (2019). Solar-Reflective “Cool” Walls: Benefits, Technologies, and Implementation (No. CEC-500-2019-040; also LBNL-2001296). California Energy Commission. <https://doi.org/10.20357/B7SP4H>

⁸ EPA & DOE ENERGY STAR, *Residential Windows, Doors, and Skylights Savings by Climate Zone* (2023), https://www.energystar.gov/products/res_windows_doors_skylights

⁹ <https://www.treasurer.ca.gov/caeatfa/cheef/fiscal-year-summary/fy-23-24.pdf>

¹⁰ <https://www.treasurer.ca.gov/caeatfa/cheef/fiscal-year-summary/fy-23-24.pdf>

¹¹ <https://www.treasurer.ca.gov/caeatfa/cheef/monthlyreel/2025/07.pdf>

Not every homeowner needs to retrofit, and not all who do will need or want financing. We estimate the max scale of this program at roughly 500,000 homes.¹² The strength of this model lies in its scalability: private lenders can process demand efficiently and at scale, while grants require ever more government oversight and administrative cost without providing scaled private capital.

Modest public investment can unlock substantial private lending. On the lowest end, investing \$10 million annually over 10 years in a loan loss reserve could support \$1 billion in financing—enough to reach ~172,000 homes cumulatively over 10 years for defensible space retrofits or nearly 30,000 homes for defensible space plus home hardening. At full scale, \$170 million annual investments over 10 years could support \$17.5 billion in lending capacity—financing defensible space work for every at-risk home in the state or ~500,000 full defensible space/home-hardening retrofits.¹³

| Annual state investment over 10 year "fund" | Defensible space | | Defensible Space +Home hardening | |
|---|---|----------------------------------|---|----------------------------------|
| | Total # of homes reached with loans over 10 yrs | Equivalent # reached with grants | Total # of homes reached with loans over 10 yrs | Equivalent # reached with grants |
| \$10,000,000 | 172,333 | 16,667 | 29,543 | 2,857 |
| \$50,000,000 | 861,667 | 83,333 | 147,714 | 14,286 |
| \$100,000,000 | 1,723,333 | 166,667 | 295,429 | 28,571 |
| \$170,000,000 | 2,929,667 | 283,333 | 502,229 | 48,571 |

In practice, the program could start small and ramp up based on demand and available funding. And unlike grants of equivalent size, which reach 1/10th as many households, a revolving loan fund recycles capital—recovering over 98% of public dollars as loans are repaid.

Adoption will hinge as much on usability and trust as on financing. Homeowners need a simple, intuitive interface—[like GoGreen's](#)—that makes wildfire retrofitting as easy as applying for solar: clear insurance savings estimates, instant loan prequalification, and connections to certified contractors. The goal is a platform where homeowners can learn and act in one place (concept mockup below for illustrative purposes):

¹² We estimate a fully scaled program would target 75% of ~2 million estimated VHFHSZ homes (discounted from 2.12 to account for those built after Chapter 7a codes) as a target. [58% of solar installations](#) used financing in 2023, which we use as an upper bound comp for loan financing demand.

¹³ Start with 2.12M homes in VHFHSZ. Using the ~23,000/year figure for [new VHFHSZ homes in 2024](#) and generalizing it back to 2009 (post-Chapter 7A), we estimate ~370,000 post-7A homes that likely don't need retrofits. That leaves ~1.75M pre-code homes. If "herd immunity" is achieved by hardening ~50% (estimates vary widely), the treatment target is ~875,000 homes. Assuming 58% of those would use financing ([solar analog](#)), financeable demand is ~508,000.



In terms of driving awareness and adoption, every FAIR Plan policy holder should receive clear monthly literature showing modeled net savings from financed upgrades, with a side-by-side comparison of insurance discounts and loan payments. Building on AB 38 (Wood, 2019)—which requires wildfire-hardening disclosures at point of sale and mandates a statewide low-cost retrofit assistance program—the state could launch a marketing campaign that normalizes wildfire retrofits, with plain-language ads, local demonstrations, and builds on AB 38 so homeowners learn about financing when completing defensible-space disclosures. Other implementation levers may include:

- Convene a symposium with major lenders, insurers, and mortgage servicers.
- Integrate loan enrollment and savings calculators into the FAIR Plan portal.
- Offer continuing-education credits for realtors on wildfire resilience.
- Dedicate a \$5 million annual marketing pool for statewide outreach.
- Partner with lenders to co-brand wildfire financing as a public-benefit initiative.

Next steps

The next step is to introduce legislation directing the State Treasurer's Office, through CAEATFA, to develop and implement a Wildfire Resilience Loan Pilot Program. The bill should authorize the use of \$10 million or more in public, utility, or insurance funds for a revolving loan reserve.

In parallel, we should work with CDI and the FAIR Plan to ensure future rate filings and "Safer from Wildfires" regulations incorporate stronger mitigation discounts that accurately reflect real risk reduction. These coordinated efforts will make resilience financing affordable and impactful for homeowners—launching a modest, high-leverage pilot that proves the concept, builds administrative capacity, and positions California to scale wildfire resilience statewide.