



MEMO — Estimating the Cost of Retrofitting

To: Interested Parties

From: Megafire Action

Date: May 1st, 2026

Subject: Estimating the Cost of Retrofitting

Overview

Proven "home hardening" renovations—upgrading vents to block embers, installing multi-pane windows and fire-resistant gutters, eaves, and landscaping—can more than double the odds¹ of a home surviving a wildfire and disrupt the structure-to-structure ignition chain that results in urban conflagrations like in Los Angeles. Yet, adoption remains dangerously low because the process is confusing and the upfront costs are high.

Better understanding the expected costs of a realistic, impactful home hardening standard is key to understanding costs and reach of potential new programs like those laid out in SB-894.² While various estimates exist on bespoke home hardening features, this memo seeks to use that existing information, and new real-world defensible space cost data to provide a simple, expected cost band of retrofitting to the IBHS Wildfire Prepared Standard.

Though the state Fire Marshal and Board of Forestry are in the process of developing a voluntary home hardening certification program and mandatory Zone 0 defensible space standards, respectively, the IBHS base standard will likely prove substantively similar to the ultimate voluntary standards adopted by the State Fire Marshal

While IBHS Wildfire Prepared Standard consists of two levels—Base and Plus—the Base standard consists of much more realistic, affordable retrofits and “offers a set of fundamental wildfire mitigation measures to protect homes from wind-driven embers, the leading cause of home ignitions, and to reduce the risk of fire spreading to the structure.”³

The Bottom Line: California homeowners can expect to spend between \$15,000 and \$22,000 to retrofit a fully noncompliant home to the IBHS Wildfire Prepared Base standard and landscape the space around it within five feet, depending on if they need a new Class A roof or not. These values represent high-range estimates; it is likely many Californians will find that their home meets some or all of the requirements already.

¹ <https://www.nature.com/articles/s41467-025-63386-2>

² https://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=202520260SB894

³ <https://ibhs.org/ibhs-news-releases/ibhs-releases-updated-wildfire-prepared-home-standard/>

Existing Home Hardening Cost Estimates

California's diverse housing makes estimating average retrofit costs difficult. While Class A roofs are standard in fire hazard zones,⁴ practices like "Zone 0" landscaping still lack a consistent statewide definition.

Estimates in this memo are based on research from the Insurance Institute for Building and Home Safety (IBHS) and Headwaters Economics.⁵

IBHS Wildfire Prepared Base Standard and Per-Intervention Cost Estimates

The key components of IBHS Wildfire Prepared Base are shown below in Table 1.

Table 1: IBHS Wildfire Prepared Base Summary	
Base Requirement	Summary of Requirement Components
Defensible Space Requirements	
0-5 Foot Noncombustible Zone	This zone must be entirely noncombustible. This differs from the California Board of Forestry Zone 0 plea as of May 1, 2026.
5-30 Foot Defensible Space	This zone must be curated and maintained to prevent fire spread
Building Feature Requirements	
Roof Cover	Class-A fire-rated roof
Gutters	If present, must be noncombustible
Vents	Must be either flame- and ember-resistant or covered with ⅛-inch or finer metal mesh (plumbing vents excluded)
6-Inch Vertical Noncombustible Wall Covering Clearance	Exterior walls must have noncombustible siding extending at least 6 inches up from the ground
Attached Patios, Decks, and Overhead Structures	Attached patios, decks, and overhead structures within 30 feet must meet a series of requirements, including maintaining their own 0-5 foot noncombustible zones, various requirements on the combustibility of building materials, and the enclosure of undersides under 4 feet in height

Building feature retrofit costs for a home's core structure can be estimated by cross-referencing IBHS Wildfire Prepared Base standards with a 2022 Headwaters Economics California cost report.⁶ Table 2 displays these estimates, extrapolated across an entire home based on several stated assumptions.

⁴ https://codes.iccsafe.org/content/CARC2022P1/chapter-9-roof-assemblies#CARC2022P1_Pt03_Ch09_SecR902

⁵ https://headwaterseconomics.org/wp-content/uploads/2024/06/Wildfire_Retrofit_Report_R5.pdf

⁶ https://headwaterseconomics.org/wp-content/uploads/2024/06/Wildfire_Retrofit_Report_R5.pdf

Table 2: Crossreferencing Headwaters Economics Cost Estimates and IBHS Base Requirements to Estimate Retrofit Cost

Element	Headwaters Econ. Cost (in 2022 dollars) IBHS Base Retrofit Cost with inflation adjustment⁷	Retrofit Assumption Notes
Noncombustible flame- and ember- resistant vents in foundation	\$268.30 Ea \$1,878.13	Assuming 1 vent per 150 SF of crawlspace; 7 vents given a footprint of 1000 SF
Noncombustible material to replace first 6-12" vertical siding	\$7.80 SF \$493.55	Assuming 126.49 LF for a square house with 1000 SF footprint; 63.245 SF
Noncombustible flame- and ember-resistant vents in gable ends	\$492.34 Ea \$984.67	Assuming two gable end vents
Metal dryer vents	\$80.38 Ea \$80.38	Assuming one dryer per home
Class A roof covering, e.g., asphalt fiberglass composition shingles, incl. fire-resistant synthetic underlayment	\$7.36 SF \$7,359.30	1000 SF roof
For open eave design: circular noncombustible flame- and ember-resistant vents	\$62.03 Ea \$248.13	Assuming 1 vent for every 300 SF of attic; 4 vents when rounding up
Metal gutter systems	\$21.97 LF \$1,891.35	Assuming 126.49' perimeter around 1000 SF roof
10' of noncombustible fencing	\$70.71 \$4,242.89	Base requires noncombustible fencing within 5' of dwellings and attachments; assume one 5' section of 6'-tall fence on each side of house
Total with roof replacement: \$17,178.41		
Total without roof replacement: \$9,819.11		

These high-range estimates of about **\$10,000** to **\$17,000** cover necessary building interventions but exclude landscaping. Achieving the IBHS Wildfire Prepared Base standard also necessitates Zone 0 landscaping. To estimate these costs, we used an October 2025

⁷ Total inflation of 17 percent per U.S. Bureau of Labor Statistics CPI Inflation Calculator, assuming January 2022 dollars and March 2026 dollars. https://www.bls.gov/data/inflation_calculator.htm

[HelpBerkeley.org](#) study of Berkeley, CA properties, which accounts for expenses like tree trimming omitted by Headwaters Economics.⁸

With an average landscaping cost of \$4,600, drawn from this report,⁹ total homeowner expenses reach approximately **\$15,000** without a roof replacement and **\$22,000** with one.

Zone 1 landscaping is excluded as it is already mandatory in California's high-risk zones.

A Note on Wood Roofs

Replacing combustible wood roofs is the costliest retrofit for the IBHS Wildfire Prepared Base standard. While Class A roofs are common, a 2022 Headwaters Economics analysis of ZTRAX data indicates about 22% of California homes still have wood roofs, suggesting nearly 2.85 million homes statewide.¹⁰

Strict state requirements and local rules for fire hazard zones¹¹ make it unlikely most of these homes face high wildfire risk. With the LAO estimating 5.1 million homes in the WUI, perhaps 950,000 WUI homes have wood roofs requiring replacement,¹² though the actual figure is likely much lower.

Economic Impact and Return on Investment

Retrofit spending extends benefits beyond resilient homes. A 2025 Earth Economics analysis found that every dollar invested in California wildfire retrofits generates \$1.70 in economic activity, supporting local jobs and tax revenue.¹³

Disaster prevention offers further returns. A 2024 report by Allstate and the U.S. Chamber of Commerce indicates that every \$1 spent on climate resilience saves communities \$13 in damages and economic impacts.¹⁴

⁸ [HelpBerkeley.org](#) analysis

⁹ Ibid

¹⁰

https://headwaterseconomics.org/natural-hazards/wood-roofs-wildfire/#:~:text=According%20to%20a%20study%20analyzing%20roofing%20data,composition%20shingles**%20**Class%20A%20fire%20rating

¹¹ Los Angeles' municipal code has restricted citywide the installation of new wooden roofs and required their replacement when repaired area reaches just 10 percent, for example.

<https://lafd.org/fire-prevention/fire-development-services/wood-roof-guidelines#:~:text=The%20Los%20Angeles%20Municipa%20Code,since%20they%20both%20support%20combustion.>

¹²

[https://lao.ca.gov/Publications/Report/4952#:~:text=Increased%20Development%20in%20Fire%2DProne,\(a%2042%20percent%20increase\).](https://lao.ca.gov/Publications/Report/4952#:~:text=Increased%20Development%20in%20Fire%2DProne,(a%2042%20percent%20increase).)

¹³ <https://www.earthconomics.org/news/californias-home-hardening-economy>

¹⁴ <https://www.uschamber.com/security/being-prepared-for-the-next-disaster-pays-off-new-study-shows>