

As wildfire risk increases in Bay Area, communities are building back better with new technology

ABC 7

For many people in California, memories of recent wildfires are vivid and painful. The same can be said for construction consultant Ed Nessinger, who can recreate the terrifying moments from recent wildfires in Sonoma County in chilling detail.

“So the last Tubbs fire, I was here at home. The glow got brighter. And then the wind kicked up slightly,” Nessinger said. “And then I started taking a sequence of pictures and within, let’s say, a two, two-and-a-half-hour timeframe — it virtually came from Calistoga, all the way in through Santa Rosa down into downtown in the Coffey Park.”

His family lost multiple homes in the fire.

In the next 30 years, one out of every seven properties in the U.S. will be at a major risk for wildfires, according to an ABC7 data team analysis of data from the First Street Foundation, a nonprofit science and research group that studies climate risk data. And with wildfires increasing across the country, so is the number of homes built in high-fire-risk areas.

In the Bay Area, several counties are home to a large percentage of fire-risk areas. The Wildland Urban Interface, otherwise known as WUI, are fire-prone areas on the fringe of forests and similar landscapes. It has some of the highest wildfire threats to people and homes.

Homebuilding in the WUI has increased by 25% in Sonoma County, 28% in Napa County, and 41% in Solano County from 1990 to 2020. Statewide, there has been a 40% increase during that same time period.

Nessinger is helping build a new generation of homes designed to survive future wildfires, which will prevent homeowners from experiencing what his family did.

“What I’m going to show you is a conventional style home that’s built unconventionally,” Nessinger said, while giving us a tour of a development in Windsor, near Santa Rosa.

It’s a hilly terrain, where luxury homes dot the same ridges that have recently burned. But the new homes are constructed with a new array of technologies, ranging from steel framing, fire-resistant roofs and venting systems designed to keep flaming embers from being sucked into the structure.

“There’s nowhere for the ember to get cast into,” Nessinger said while showing us a home with the innovative mitigation listed above. “It would touch this larger re-sawn cedar material and not ignite.”

While areas like Lake Tahoe and the wine country continue to attract high-end development, experts say the pressure to live or build in fire prone areas is often more complicated.

Kimiko Barrett, a wildfire researcher with Headwaters Economics, said there are several reasons people live — and are moving to — these locations, including out of necessity.

“For some folks, these are homes that they inherited, that they’ve lived in for quite a while they’re multi-generational at that point,” Barrett said. “Or alternatively, there’s simply no other place to move into. And we know places like California, for example, do have a significant housing crunch.”

But after increasingly destructive cycles of wildfires linked in part to drought, forest management and climate change, the insurance market in California is unstable.

From 2015 to 2021, over 600,000 policies within areas of California with a 50% or more major fire risk were not renewed by insurance companies. And several insurance companies paused writing new policies within the state this year, making affordable policies even tougher to find.

The insurance market in all areas, not just the WUI, “is as unhealthy as it’s ever been, certainly in my 32-year career here in California,” according to Amy Bach, co-founder and executive director for United Policyholders, a nonprofit insurance consumer advocacy group. “And if you ask any agent that’s been around, they’ll say, I’ve never seen the market conditions this bad.”

Gov. Gavin Newsom issued an executive order in September for “prompt regulatory action to strengthen and stabilize California’s marketplace for homeowners’ insurance.” This led Insurance Commissioner Ricardo Lara to announce several changes to the current statewide system, the largest insurance reform in California in 35 years.

Bach believes changes currently being considered by state insurance regulators, while potentially helpful for enticing some insurance companies to start writing new policies in California again, could result in rising premiums in wildfire-prone areas. Her group supports legislation to provide coverage guarantees to homeowners who build or retrofit their homes to one of two wildfire-resistant standards, including the Institute for Business & Home Safety’s Wildfire Prepared Home system.

IBHS runs a testing center in South Carolina, which includes powerful fans that blast burning embers toward a variety of homebuilding materials to judge their effectiveness. One test conducted saw how a common wooden fence helped flames reach the home on the left, while a metal fence gap on the right prevented it.

The Wildfire Prepared Home standard lists noncombustible fencing — so no wooden fences. It also includes specific roof types, a five-foot area around the perimeter of the home without any vegetation, ember-resistant vents, among other innovations.

Back in Sonoma County, Nessinger pointed out another home with steel construction and fire-resistant materials used from top to bottom. It’s a double survivor of wildfire.

“This was in construction during the Tubbs fire and then in 2019 when the Kincadee fire came through, it hadn’t been landscaped yet, but the fire burnt all the way around,” Nessinger said. “And we suffered no smoke damage inside the house and no exterior damage to the outside of the house.”

As companies race to introduce similar technologies quickly enough to protect more fire-prone areas and California is pushing policies to bring insurance companies back to the state, our future ability to live side by side with wildfire could ultimately depend not only on where we build but how.