Measure twice, cut once: A state-level framework for effective wildfire risk mitigation

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Executive summary

Amid rising wildfire risk, western U.S. states face an urgent need to protect fire-exposed communities. With limited time and money to act, they must go beyond fire suppression activities and implement proven mitigation measures with verifiable outcomes.

This paper outlines a risk-based framework guiding states to focus their efforts where they are more likely to see results: the built environment, particularly existing structures and surrounding vegetation, and electricity infrastructure. The framework consists of six steps:

1. Inventory the universe at risk.
2. Establish metrics for quantifying risks and damages.
3. Determine the key physical risks to mitigate and the appropriate actions needed to address each of them.
4. Assess the cost of mitigations and potential funding sources.
5. Secure stakeholder buy-in.
6. Create an action plan prioritizing mitigation methods and targets.

State leaders are likely to face many obstacles when pursuing wildfire mitigation, including consumer resistance to change, misconceptions about risk, and concerns about funding. This framework helps stakeholders anticipate challenges and mobilize populations to adopt the necessary steps that will reduce wildfire risk, improve insurability, and lead to sustainable communities.

Introduction: Why fire-prone states must create a wildfire mitigation framework

Wildfire-caused losses in the built environment are a major and increasing driver of economic, social, and health impacts across western states. But fire is a permanent and necessary feature of the landscape in which many communities have been built. Further, while fire suppression is necessary to help protect communities in immediate danger, these efforts cannot go far enough to avoid devastating fires now or in the future; the firefighting agencies in Southern California are among the best-equipped in the world, yet they could not prevent the losses in the 2025 Los Angeles wildfires.

Amid limited budgets and a growing urgency to protect fire-exposed communities, states must go beyond fire suppression activities and implement proven mitigation measures that will yield the greatest return on investment.

Instead, communities—including cities and suburbs far from the wildland-urban interface (WUI)—must adapt to this natural phenomenon by implementing adaptation strategies as outlined in this document. In fact, hardening homes, creating defensible space, strategically reducing fuels adjacent to communities, and implementing other risk-reduction measures increases the effectiveness and cost-efficiency of fire suppression by reducing fuel loads and making structures more resistant to wildfire.

Previous mitigation initiatives have mostly failed to deliver resilience, for multiple reasons. Some did not insist on verifiable outcomes and simply celebrated activities that turned out to have little impact on community risk. Others neglected to educate stakeholders—including homeowners and utility ratepayers—about their role in funding solutions. Others targeted perfection in ways that limited scalability. Still other attempts have fallen short because states have, perhaps unintentionally, focused on risk-reduction activities in unpopulated areas, which is often a politically easier choice but one that has not proven effective at protecting homes and people from wildfire.

Amid limited budgets and a growing urgency to address this problem, states must direct their resources toward strategies that will yield the greatest return on investment. Based on the authors' expertise in utility wildfire risk management, firefighting, and risk modeling, this paper outlines a decision-making playbook to help states conduct risk-based mitigation planning and risk-targeted spending. It details how to create a mitigation framework that can be customized to local conditions to help protect communities from fire across the West and beyond.

Landscape management vs. community risk

This mitigation framework is focused on reducing wildfire risk to human life and property in the built environment. Although modifying vegetation adjacent to communities is a vital component of our recommendations, broader landscape management and forest health—a related and important topic—is distinctly different and requires a separate set of mitigation measures. Because most wildfire agencies are responsible for land management, these parallel concerns of forest health and community wildfire safety have historically been conflated, but that approach has often impeded progress in both areas.

Our framework outlines how to reduce wildfire risk in communities. Specifically, it focuses on measures to protect communities from fast fires, which are characterized by rapid, wind-dominated fire spread that outpaces the firefighting response to points of entry capable of initiating urban fires. Wildfire mitigation outside these locations is beyond the scope of this paper.

The state wildfire mitigation framework: A six-step process for reducing community wildfire risk

1. INVENTORY THE UNIVERSE AT RISK.

Begin with the two areas that contribute the most to wildfire-driven losses: communities and the electric grid.

First, assess the community.

Wildland-initiated urban fires are more likely to occur in dense urban and suburban areas in fire-dependent landscapes where fast-moving, wind-driven fires occur and the community is exposed to extremely dry vegetation. The risk associated with these conditions is often exacerbated by long-term drought, which increases the combustibility of vegetation.

Identify densely populated areas.

We define "density" in terms of structure separation distance (SSD). For example, consider where properties are close enough together that radiant heat and direct flame contact under high winds can cause structure-to-structure fire spread. Note that "density" may be subjective and often correlates with home values, as more expensive properties tend to have more land around them. It is also important to look beyond the traditional WUI; recent fires such as the 2025 urban conflagrations in Los Angeles and the 2021 Marshall Fire in Colorado show that suburbs and cities may face as much risk as rural areas.

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Considerations for new construction vs. retrofitting existing communities

For those jurisdictions that have adopted modern WUI building codes, wildfire-informed approaches to community design, and associated hazard maps to guide the application of these code requirements, new communities are relatively well-prepared for wildfire exposure. The much larger and more challenging problem is the millions of existing homes built without consideration for wildfire, which require prioritized retrofits at meaningful scale to achieve a degree of wildfire adaptation.

This framework focuses on the steps needed to undertake large-scale, prioritized mitigations to achieve neighborhood-scale adaptation of existing structures. These same steps should be followed when rebuilding a community after a catastrophic wildfire.

Tally the properties at risk.

Focus on the number of dwelling units rather than storage sheds, isolated cabins, and other buildings not inhabited full time. Structures built before 2008 building code upgrades in California (or WUI code adoption in other states) will face higher wildfire risk than new developments, as will new structures not built to WUI code standards. However, even for properties built to the WUI code, yards and attached wooden structures such as fences and decks can be important ignition sources and create substantial vulnerability in urban fires.

Assess nearby vegetation.

Assess fuel loads, both within and immediately outside communities, that are capable of igniting and carrying fast fires into residential areas. Note that fast fires occur more frequently and spread more rapidly in grasslands or shrubs/brush, not forests.

Determine travel routes.

Communities with fewer roads in and out have reduced opportunities for people to evacuate and for firefighting crews to enter via vehicle. Evaluate the capacity of these road networks to handle simultaneous evacuation (egress) and fire response (ingress).

Calculate the probability of high-risk weather conditions.

Dry days with low humidity and wind speeds exceeding 55 miles per hour create the most dangerous conditions for fires to spread rapidly. While these weather conditions may be most common in the West, they can also occur in other parts of the country at any time of year. The number of areas experiencing at least a few days a year with these extreme conditions appears to be rising.

Evaluate the electricity grid.

Although utility companies are actively upgrading infrastructure and implementing other protective measures, such as public safety power shutoffs (PSPS) on days at high risk for fire, the grid remains the most likely current cause of ignitions under dangerous conditions. About half of all structure loss in California in the past decade has been associated with ignitions related to the electric system.

Assess the operational practices of electric utilities.

Best practices of electric utilities require situational awareness of wind speeds at pole height as well as weather forecasting sufficient to prepare for operational interventions to reduce risk. Best practices also require developing a nuanced understanding of ignition risk at the circuit or sub-circuit level, so that utilities know both where and when to focus risk-reduction efforts.

Utilities should be prepared—and have prepared their customers—for three types of interventions:

1. Disabling reclosers—systems that reenergize distribution circuits after a fault.
2. Enabling “fast-trip” settings on high-risk distribution circuits. These settings turn off circuits quickly enough to prevent ignitions but significantly compromise reliability.
3. PSPS for conditions in which the grid is simply unsafe to operate. Practicing for these conditions is essential.

Assess the condition of local distribution and transmission infrastructure.

To date, most effective mitigation efforts have addressed the electric utility distribution system, which connects substations to homes. Typical hardening involves (1) installing advanced controls that allow for the operational changes previously described; (2) sectioning distribution circuits to allow more targeted use of fast-trip and PSPS processes; and (3) hardening these circuits using covered conductors (insulated wires), undergrounding, and other technologies.

Utility risk reduction in the electric transmission system works very differently than for electric distribution. Transmission lines, because they provide bulk power system reliability, are very rarely deenergized during very high winds, when the rate of wildfire spread is very difficult for firefighters to manage and fire aviation assets are generally ineffective if not grounded. Instead, transmission system hardening consists of enhanced inspection and maintenance of towers and conductors to spot mechanical wear and tear that can lead to component failure. This approach depends critically on the ability to spot problems before they occur in equipment that is often 50 and sometimes as much as 100 years old.

Consider other high-value assets at risk.

States may also factor in potential fire-caused harm to the local water supply, business supply chains, and other assets. In addition, they should consider and prepare for the impact of electric infrastructure operational safety practices (PSPS and fast trip) on the operation of critical infrastructure and emergency response.

2. ESTABLISH METRICS FOR QUANTIFYING RISKS AND DAMAGES.

Amid limited budgets, states should direct spending to areas with the greatest amount of value at risk, where mitigation efforts will yield the highest return. However, this valuation step is complicated, as some measurements are currently uncertain, the various vulnerabilities may equate to comparing apples and oranges, and the absence of a large-loss fire in any given year does not amount to success. Success can really only be judged by estimating changes in the underlying risk and associated damages.

States should direct spending to areas with the greatest amount of value at risk, where mitigation efforts will yield the highest return.

Stakeholders should consider the following factors and keep equity top of mind, as different segments of the population may be impacted more or less severely by the same events.

Decide which damages to consider.

These may include human health and safety (in terms of lives lost and increased morbidity); property and infrastructure; community impact; and other economic and social impacts.

Determine how to value these damages.

Note that some losses may be difficult to quantify in terms of dollars. Likewise, it may be challenging to find a valuation metric that applies across all categories.

Consider loss of life.

This may be particularly fraught and challenging. Evacuation routes can be used as a surrogate, as a community with compromised or limited evacuation routes is more likely to experience higher fatalities during a wildfire than an area with more or better evacuation options. Likewise, communities with high concentrations of older adults—who are significantly more likely to die in a wildfire—face disproportionate risk.

The effects of wildfire and toxic smoke on community health, especially over the long term, are equally significant and concerning and even less certain.

Count the number of structures at risk of damage or loss.

This is preferable to estimating replacement costs, which will over-index wealthy communities. Note that remediating smoke damage to structures not destroyed by fire has emerged as a particularly challenging type of damage to evaluate, as seen in the aftermath of the Los Angeles wildfires.

Consider additional impacts.

These may include number of PSPS days, insurability, economic interruption on various timescales, and economic disruption to local government, particularly through loss of parcel tax revenue. Although states can factor in the known economic repercussions beyond property loss, quantifying each individual impact may not be necessary.

Determine modeling requirements.

A modeling framework will need to be created in tandem with the mitigation framework. When specifying modeling requirements, states must strike a pragmatic balance between complexity and cost. More extensive modeling does not always result in better guidance. Developing and maintaining an elaborate system may not be feasible for states with smaller budgets, but less expensive, high-level models may be sufficient. If we know where the risk of structure loss is high and which interventions are most likely to reduce that risk, we do not need to model every structure's risk to know which set of interventions will be optimal. However, we do need to model the network effects through which unmitigated structures threaten other structures.

Different models may be more suitable for different aspects of mitigation management. For example, fully probabilistic models may be more suitable for quantifying dollars of expected property loss under a range of ignition and weather scenarios. Other models might be appropriate for evaluating the effectiveness of utility investments to reduce ignitions. Still other models may be more useful to assess how rapidly fire might spread within a community under various mitigation scenarios, given an ignition in high-wind conditions. Note that model choices should be periodically reevaluated because the field is rapidly advancing.

Once models are selected/established at the statewide level, communities should be given access to the necessary tools and training to perform cost–benefit analyses that comport with the metrics promulgated within the state mitigation framework.

3. DETERMINE THE KEY PHYSICAL RISKS TO MITIGATE AND THE APPROPRIATE ACTIONS NEEDED TO ADDRESS EACH OF THEM.

In fire-dependent landscapes, fires are valuable and unavoidable. Further, in populated areas, ignitions of various types are inevitable. Rather than solely attempting to prevent all fires, states should also focus on reducing the negative consequences of these fires and consider mitigations that reduce their damage once they approach or enter communities. Cost-efficient, effective wildfire mitigation requires matching the mitigation to the mechanism of ignition.

Review utility-caused ignition risks.

Consider how to trade off ignition risk versus the consequences of ignition. Utilities are currently spending tens of billions of dollars of their customers’ money to reduce utility-sparked wildfire ignitions to zero or near-zero, but attempting to reach this goal may be futile and not yield the most effective use of limited societal mitigation resources.

In populated areas, ignitions of various types are inevitable. Rather than solely attempting to prevent all fires, states should also focus on reducing the consequences of these fires and consider mitigations that reduce their damage.

Utilities should implement operational practices that reduce ignitions during dangerous times, balancing the need to improve safety against reduced reliability and implementing cost-effective interventions to mitigate the impacts of PSPS on their customers. Mitigations may require new infrastructure investments, such as underground power lines and covered conductors, that reduce ignition risks.

Plan for additional sources of ignition.

Even when electricity grids are fully upgraded, wildfire will remain a risk, with other types of human and natural causes likely to be responsible for ignitions. Wildfire ignitions are correlated with population density up until the built environment becomes so urbanized that wildfires cannot propagate due to lack of fuel.

Map fire pathways.

Assess areas with vegetation that will bring fires to the community and the entry points that will receive them.

Plan for vegetation management.

The effectiveness of mitigation efforts such as fuel breaks to modify vegetation will benefit from being sited close to the community. Distant vegetation treatments run the risk of an ignition occurring downwind or in a location that causes the fire to bypass the treated area. Very near community mitigations can serve to change the exposure of perimeter homes to ground component fire such that they only require ember resistance, reducing the mitigation effort required by residents.

Review the structures capable of initiating urban fire.

Some homes may be exposed to grass, brush, and/or timber, while others may have exposure to blown embers and firebrands but not to a ground component fire. All of these create different hazards requiring different mitigation measures.

Note that structure loss typically occurs under extreme drought and wind conditions, and these must be the focus of mitigation efforts. During average conditions, modest fuel breaks combined with fire suppression will likely prove effective; however, these approaches alone cease to provide protection under the weather conditions capable of generating extreme fire behavior.

Determine mitigations to residential dwellings.

These will depend on the potential source of ignition. If the mechanism of ignition is the adjacent structure, this risk cannot be mitigated at the parcel level, and risk-reduction efforts are better spent mitigating risk factors upstream to prevent the initiation of urban fire.

Most homes will require some retrofits, but the question is to what extent and at what cost; for example, if all homes already have a Class A roof, mitigations become cheaper. However, not all treatments are equally effective, and they must be grouped and matched to the mechanism of ignition at the appropriate scale to reduce risk. The approach that will be effective for densely packed homes in urban or high-density suburban locations is not the same approach that should be used for low-density areas:

Structure loss typically occurs under extreme drought and wind conditions, and these must be the focus of mitigation efforts. Not all treatments are equally effective, and they must be grouped and matched to the mechanism of ignition at the appropriate scale to reduce risk.

- **Low-density homes with exposure to wildfire** should have defensible space to reduce fire intensity and break up vegetative continuity, as well as home-hardening retrofits and Zone Zero/Home Ignition Zone mitigations to create ember resistance.

- **Homes at the edge of high-density areas** need the same mitigations as low-density homes, as they will be exposed to the same wildfire conditions.
- **Homes that are within the ember deposition zone but not on the edge of high-density areas** need home-hardening retrofits and Zone Zero/Home Ignition Zone mitigations to create ember resistance. Because these homes do not have direct exposure to ground component fire, they do not generally benefit from traditional defensible space work.
- **Homes that are outside the ember deposition zone** do not need retrofits, as risk is reduced by mitigating those upstream structures that could carry urban fire to their location.

In the case of new community construction, this approach can be further enhanced through the thoughtful placement of non-burnable community amenities such as parks, golf courses, water features, roads, bike paths bordered by non-combustible walls, and parking lots to compartmentalize the community and limit the consequences of structural ignitions.

Consider workforce needs.

Consider the potential availability of and need to hire specialized staff. For example, “mow and blow” crews require less skill and can establish Zone Zero spaces, while much more highly trained electrical workers, who are in limited supply, are needed for grid upgrades. State university systems may be a good potential resource for training and developing new workforces to meet the need for planning, designing, implementing, modeling, inspecting, and maintaining resilient structures and communities.

4. ASSESS THE COST OF MITIGATIONS AND POTENTIAL FUNDING SOURCES.

Creating a sustainable funding model for a risk-assessment framework and the necessary mitigations for homes, the electric grid, and other areas will require contribution from multiple public and private sources. Again, matching the mitigation measure to the method of home and/or community ignition will help prevent wasted resources and thereby reduce costs.

Property owners.

Homeowners must be made aware that they are responsible for funding home-hardening measures, and the government will not be the primary payer. States must mobilize homeowners’ capital and cooperation through public awareness, enforcement of regulations, and financial incentives, including access to insurance coverage and mortgage credit.

Note that these same households will contribute to grid-related mitigation measures through higher electricity bills and to community mitigation through state and local taxes. And, if left untreated, high wildfire risk will likely contribute to escalating insurance premiums and reduced availability of coverage.

State government.

The state’s primary investments may be in education, risk assessments, and assistance for property owners and local governments. States may also fund or guarantee low-interest loans, with the option to borrow against real estate transfer taxes. In addition, states may provide resources to enhance community-level fuels management, particularly when state firefighting resources have primary responsibility for fire suppression.

Local government.

These bodies typically focus on community-level preparedness, planning, and enforcement of building codes and defensible space ordinances. Local governments can also fund fuels management activities adjacent to communities to disrupt fire pathways where low SSDs make home-level mitigations an ineffective strategy.

Utilities ratepayers.

Evidence suggests that investor-owned utilities are better able to raise funds than rural and municipal utilities. However, costs are ultimately borne by ratepayers. These costs are spread across all ratepayers, meaning that communities with low risk end up subsidizing risk reduction in high-risk communities. This raises important equity questions, particularly if low-risk communities are also in hot climate zones with high electric bills related to air conditioning costs.

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With utility upgrades effectively paid for by community residents through higher electricity costs, determine whether it might be preferable to raise this money through higher taxes or insurance premiums. We note that these mechanisms for raising money are more challenging to implement politically but also allow for a more diversified set of mitigation actions that may be more cost-effective.

Unlikely source: the federal government.

Contrary to public assumptions, the U.S. Forest Service does not provide funding in areas without federal lands. Limited federal dollars may be available for post-fire recovery and other wildfire-related activities, or via grants for community-level fire-prevention measures and infrastructure projects. However, states and communities should not expect significant federal contributions to mitigation efforts.

Additional potential sources.

Funding may also come from public partnerships with private capital and resilience bonds. In California, tax increment financing is an option for local governments that form Climate Resilience Districts. Insurance premium taxes may also help cover mitigation costs, and in rare circumstances carriers themselves may contribute to mitigation efforts. For example, in some communities insurers have opted to fund the installation of screens on vents in vulnerable homes because this has been deemed a smaller expense than covering losses if those homes remain unprotected and burn during a wildfire.

Realistic expectations on costs.

Past rebuilding schemes after wildfires have perpetuated the narrative that every home costs $200,000 to mitigate. This is false—and underscores the need to match the mitigation measure to the method of ignition.

Hardening some homes may require only minimal, inexpensive landscaping changes. Not every house will require a new roof, new siding, double-paned windows, and other extensive and expensive modifications. In these cases, the majority of the expense may be associated with the materials selected for replacement and not the cost of removing the existing combustive material. The costs can further be reduced by planning community-wide efforts that allow materials and labor to be more efficiently purchased and deployed.

Maintenance costs.

Note that, for any vegetation treatment or defensible space mitigation, the cost of original implementation is likely to far exceed the cost of maintenance. However, absent a sustainable mechanism to fund and ensure maintenance, the value of the treatments will diminish over time. A realistic expectation should be that vegetation treatments must receive maintenance as often as once a season and no less frequently than once a decade, depending on vegetation type. This maintenance cycle inherently limits the number of acres that can be sustainably modified, further emphasizing the need for careful targeting.

5. SECURE STAKEHOLDER BUY-IN.

To implement effective mitigation measures, states must involve many stakeholders and organizations. Securing their buy-in and agreement may prove challenging. The following considerations can help.

Enlist champions to foster an enabling political climate.

Identify and engage with leaders in the community who can act as high-visibility first movers and inspire others to act. Consider neighborhood organizers, city council members, fire chiefs, real estate agents, and other stakeholders.

Consider whether certain existing governance structures create conditions more receptive to implementing the necessary changes. For example, it may be more effective to first pursue mitigations in communities with willing subcommunity entities, such as homeowners' associations (HOAs) or FireWise neighborhoods, to demystify the process and outcomes.

> It is vital to educate the public that suppressing all fires, hiring more firefighters, and other popular but insufficient strategies will have no incremental impact on community wildfire risk. Reducing community vulnerability is the most necessary and least costly mitigation that will help.

Communication also can help create the political climate needed to proceed. The public, and the elected officials that respond to but can also influence public opinion, must learn that suppressing all fires, hiring more firefighters, and other popular but insufficient strategies will have no incremental impact on community wildfire risk. It is vital to educate the public that reducing community vulnerability is the most necessary and least costly mitigation that will help.

Identify strategies to increase the cooperation of property owners.

Promulgating the necessary interventions via building codes can enhance resilience going forward, but this will only affect new construction and therefore does not address the largest part of the problem. Owners of existing homes are likely to be surprised to face and may resist any new hardening requirements, as standard land-use policy only requires homes to be brought up to code when a major building permit is needed.

To reduce resistance, look to tie mitigation requirements to existing opportunities where decisions and investments are already being made. For example, owners are often more motivated to comply when they need government and/or HOA signoff before a sale. Requiring a subset of mitigation actions to be implemented when properties are bought and sold, when homes are being rebuilt after a fire, or when permitting is required for other home renovations, helps to overcome the social, political, and financial challenges of retrofitting existing communities.

It is critical to communicate with owners about risk, especially the impact to property values from wildfire risk and rising insurance costs. In addition, owners should be educated about the spillover effects of home mitigation—both positive and negative—to bring social pressure to bear on holdouts.

Consider the insurance implications.

To the extent that insurance premiums signal the true cost of risk, improved cost of and access to insurance can reinforce the benefits of risk reduction; conversely, a disconnect between effective mitigation and insurance outcomes is a strong deterrent to taking action.

Public misconceptions about the role of insurers in wildfire risk mitigations are widespread, so education will also be crucial here. Dispel the notion that insurers will fund mitigations, and plan to educate homeowners on the value of retaining access to insurance policies in high-risk communities. In addition, expect confusion about the potential impact of mitigation strategies on insurance premiums, and aim to set realistic expectations up front that mitigations are unlikely to lead to substantial reductions in current premiums in most places. Mitigation may be able to stabilize future costs, not take us back to a pre-climate change era.

> Improved cost of and access to insurance can reinforce the benefits of risk reduction; conversely, a disconnect between effective mitigation and insurance outcomes is a strong deterrent to taking action.

The public also must learn that addressing an entire community's wildfire risk through proven hardening measures will have the most meaningful impact on insurance costs. Note that in order for hardening to impact future insurance premiums, insurers must have visibility into hardening measures, which can be facilitated via the establishment of a public/private mitigation data exchange.

Require accountability.

Tie incentives to outcomes, for example by providing grants or other funding only on the condition that appropriate mitigation measures are implemented and documented via inspection. Identify levers available to enforce mitigations, including new zoning laws and building codes and mandatory inspections of defensible space. Consider additional laws or regulations that can compel mitigation, such as requirements to comply with defensible space requirements and harden a home before a sale, as previously suggested.

6. CREATE AN ACTION PLAN PRIORITIZING MITIGATION METHODS AND TARGETS.

Consider portfolios of strategies.

Certain baskets of mitigation measures must be implemented together in order to be effective. In addition, other mitigations are non-negotiable baselines, and if these are not properly implemented all other measures will be ineffective. For example, homes within the ember deposition zone must implement ember-resistant mitigations including Class A roof covering or assembly, ember-resistant vents, and a non-combustible Zone Zero.

Model the scenarios under consideration.

Alternative mitigation scenarios can be modeled at the statewide level to estimate their impacts on the underlying risk. Access to appropriate models at the local level can help community leaders with decision-making.

The models and the underlying data will need to be refined and updated over time. Some high-level models, such as state wildfire hazard maps, may need to be updated only once a decade, while more detailed models may require more frequent updates.

Perform a cost–benefit analysis.

Determine which approaches are feasible given the funding available. Factor in the time required to complete each potential mitigation step. If a measure takes decades to implement, even if it is highly cost-effective, a high-risk community may burn prior to its completion.

Consider additional factors.

Leaders must weigh trade-offs, such as the introduction of grid updates that have caused poor electricity reliability in some rural areas. In addition, it is vital to avoid embracing technology fallacies: No single "savior" technology, such as drones or artificial intelligence, will reduce wildfire risk on its own.

At every stage, be mindful of equity. As noted earlier, certain valuation metrics may direct mitigations toward higher values at risk, which may be the more expensive homes in more expensive areas. Take steps to ensure mitigation measures are distributed so that occupants of less-expensive homes will be able to recover from catastrophic wildfires.

Be honest with stakeholders about the potentially achievable risk reduction given available funds, and the remaining risk that will still exist for a community. Wildfire risk reduction is analogous to seatbelts in that it will reduce but not eliminate losses.

Set a timeline for implementation.

It may be tempting to set an ambitious goal for 10 years in the future, but this will not come to fruition without a detailed plan for how to achieve this end state. Instead, establish a series of gates for achieving incremental, measurable progress along this path, and set interim goals (e.g., the first 3–5 years, 5–10 years, and beyond). Bear in mind that government and organizational budgets are often set annually, so each one-year budget must factor in the incremental steps needed to achieve the desired endpoint multiple years in the future.

Conclusion: Effective wildfire risk mitigation requires a plan

As the climate crisis escalates, devastating wildfires—including urban conflagrations—are becoming increasingly common. To reverse this trend, states must pursue effective mitigation measures to protect their communities. This framework offers a path forward.

Any plan must go beyond simply requiring mitigation steps, as the past decade of fires has proven that activity alone does not reduce risk. A mitigation framework must insist on measurable and verifiable outcomes.

The process will not be easy. Change is challenging and disruptive, and policymakers must make difficult choices. Older communities, not new construction, are the most at risk and thus require the most change, raising complicated implementation issues. Spending limited resources in one area likely means diverting funds from another, perhaps extremely worthy, area. But without the appropriate mitigations, applied at scale within the at-risk, dense communities, any action will fall short of what is needed. If this occurs, states should expect to face the dire and costly outcome of losing more and more residents and communities to fire.

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