FortressFire
Wildfire Risk Solutions

The Growing Risk of Wildfires: A Discussion on Prevention and Liability Issues

FortressFire Technology for Wildfire Assessment, Protection, and Insurability

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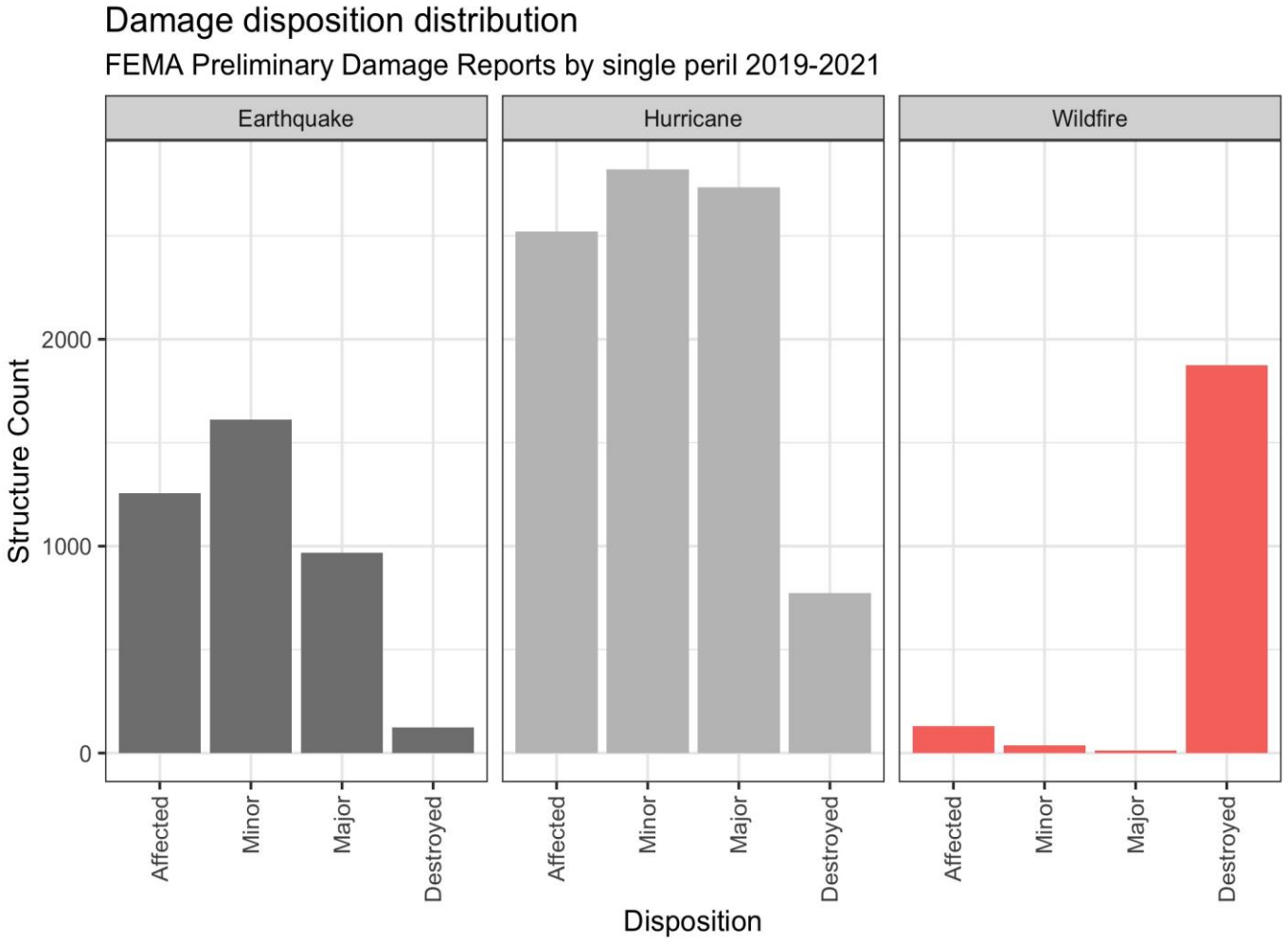
FortressFire: A California-based InsurTech Company

- Founded to **Protect Homes and Commercial Properties** from wildfires
- Focused on **Improving the Availability and Affordability of Insurance** in wildfire-exposed areas
- Intended to provide **Property Owners, Realtors, Insurers, and Lenders** with tools and services to understand wildfire risks and mitigate those risks to near-zero

The Escalating Wildfire Problem

- 45 million homes are located in wildfire-exposed areas of the western U.S.
- Wildfires are becoming more frequent, widespread, and severe
- Securing adequate insurance coverage is increasingly costly, challenging, and may still leave gaps in protection
- Understanding wildfire risk and safeguarding structures from loss is complex
- Wildfire risk affects a broad range of stakeholders – including property owners/sellers, real estate professionals, developers and construction companies, insurance carriers, reinsurers, and lenders

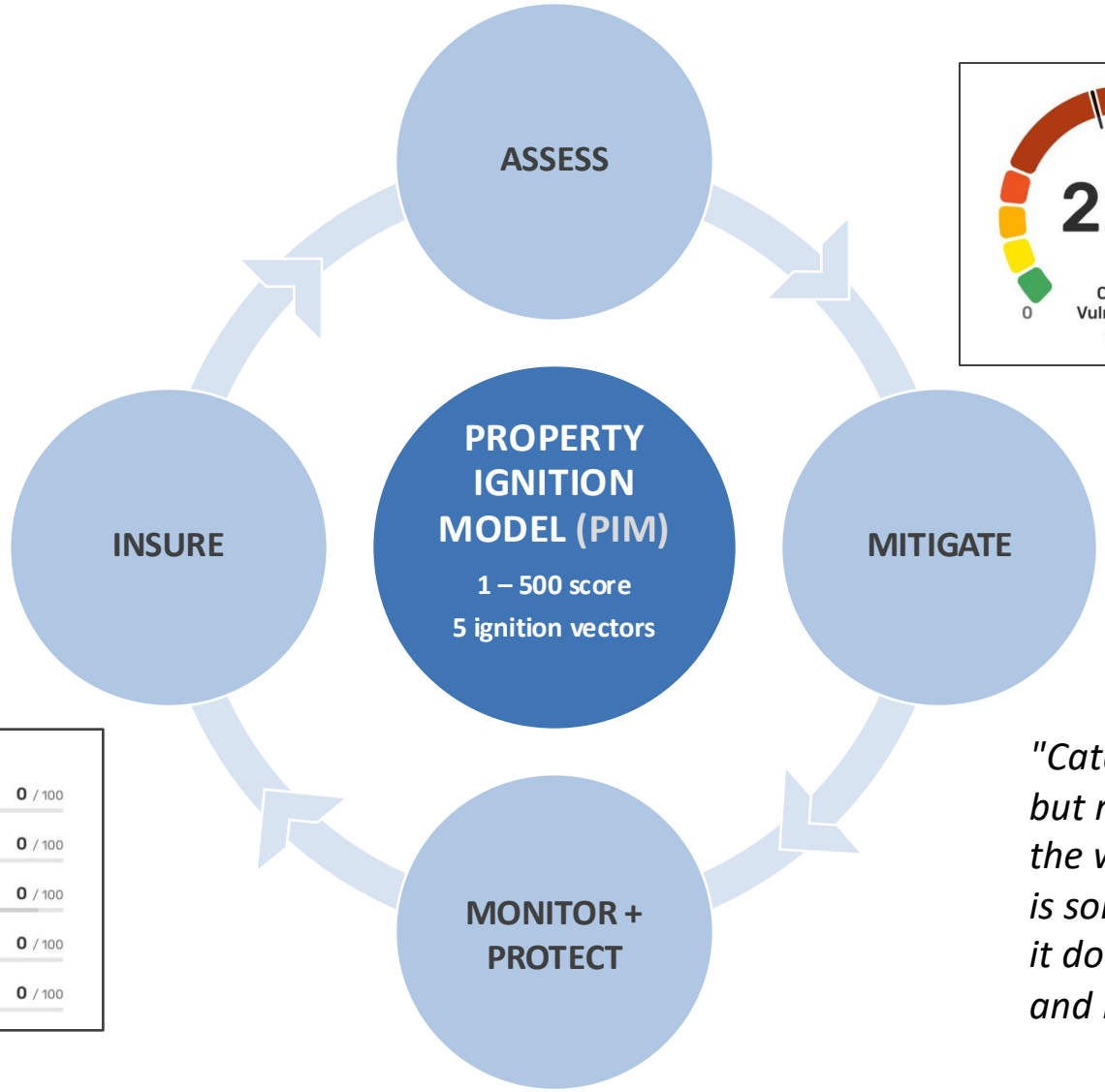
Wildfire Peril Demands Greater Certainty and Precision

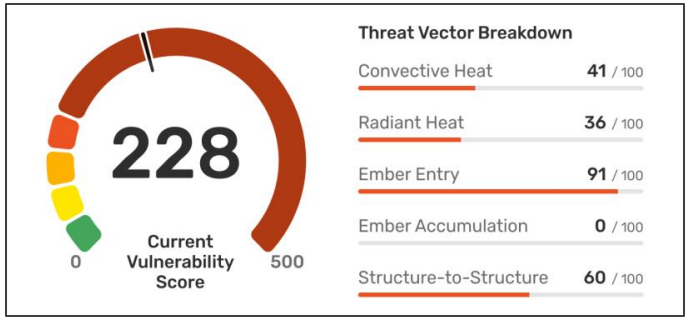


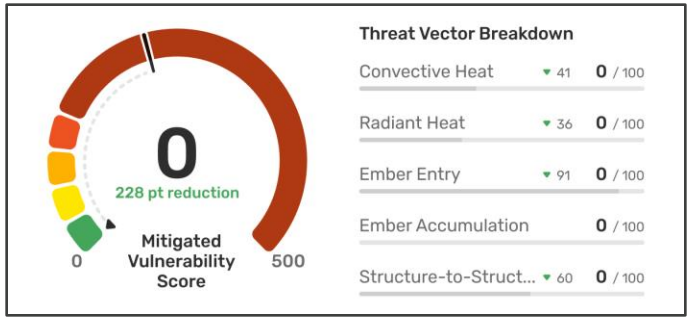
- Unlike other perils, **wildfire outcomes are binary in nature**
- Current wildfire models predict more wildfires that are more severe, and therefore increased losses
- FortressFire's **wildfire vulnerability score** uses energy models that evaluate **5 ignition vectors** of structure loss
- After understanding a structure's wildfire vulnerability, **actionable and accurate mitigation** can then **bring the ignition risk to near-zero**

A New Standard for Ignition Risk Evaluation

FortressFire can identify vulnerabilities of a specific structure and mitigate those vulnerabilities to the point where the structure has a near-zero risk of ignition and loss in a wildfire







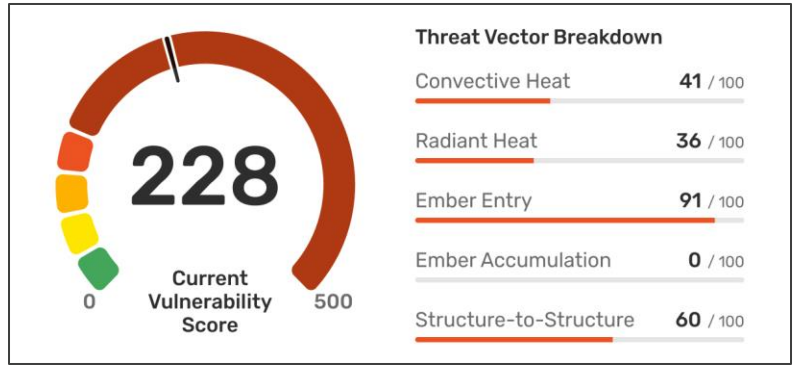
"Catastrophe models are essential but not sufficient to fully address the wildfire problems. The problem is solved by finding the risk and driving it down. And that includes better data and better modeling of mitigation."

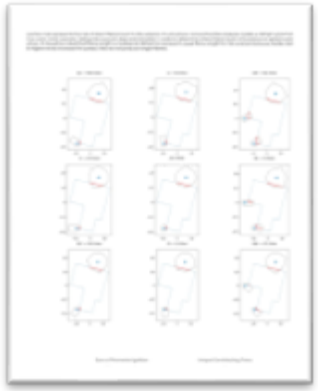
- CDI Working Group on Climate Risk

Protection = All Threat Vectors Addressed

FortressFire tools evaluate and quantify all possible ignition paths – and how to solve them

- Convective Heat (flame touch)
- Radiant Heat (projected energy)
- Ember Entry (through vents)
- Ember Accumulation (on roofs)
- Structure-to-Structure (transfer)





Convective Analysis

Radiant Analysis

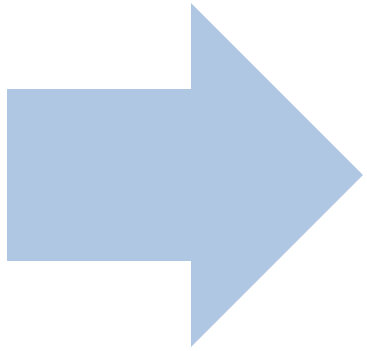
Ember Entry Analysis

Ember Accumulation Analysis

Structure to Structure Analysis

Back-Test Validates FortressFire Model and Score

True Positive Rate:	0.93
True Negative Rate:	0.99
Precision:	0.99
F1 Score:	0.96



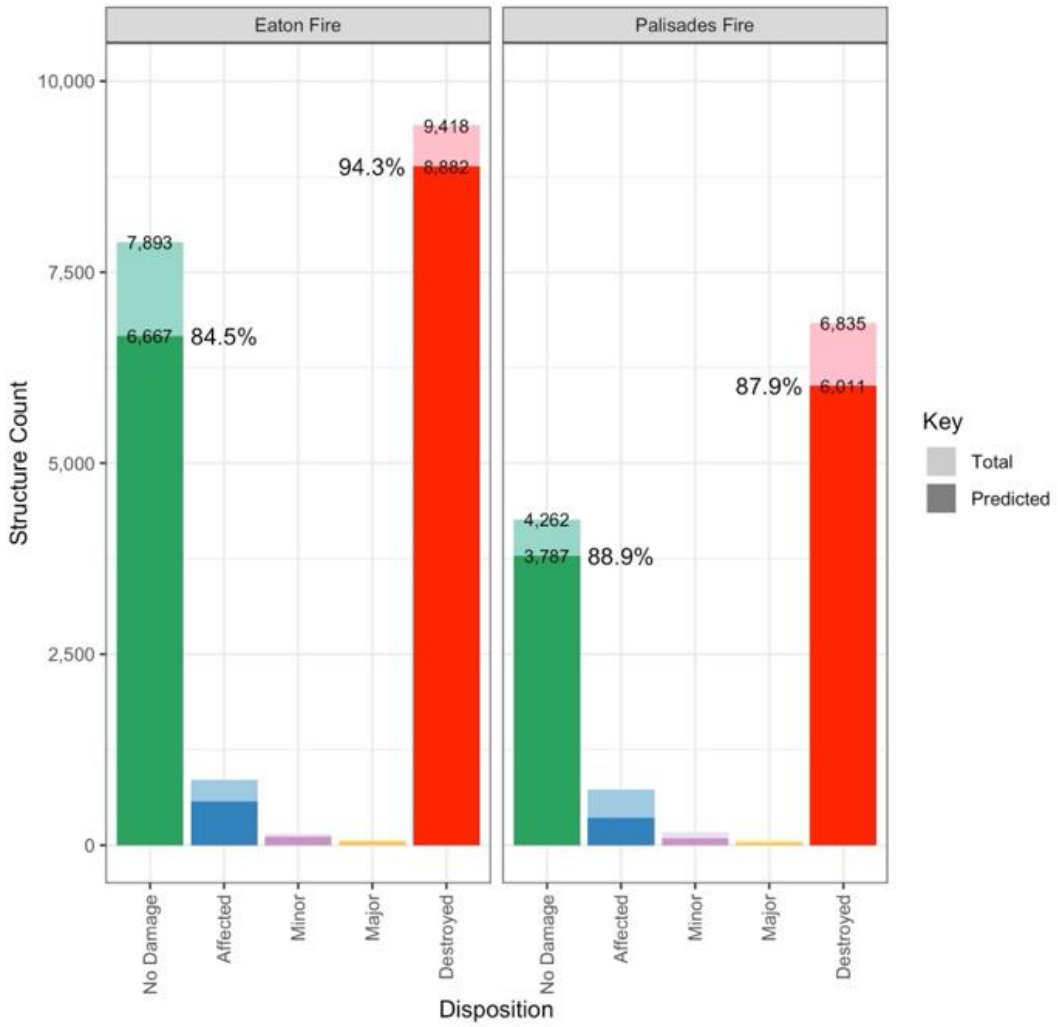
Very High Accuracy In Predicting Which Homes Will Be Destroyed and Which Will Survive Undamaged

Ground truth from sample of 35 fires from CALFIRE 2021 damage inspection data validated the accuracy of FortressFire's Vulnerability Model of Structure-Fuel interaction and Mitigation Solutions

Southern California Fires Confirm FortressFire Approach

- FortressFire Model – validated by 35 Back-tests, including Mountain Fire
  - Just as able to correctly predict ignition in 80 mph high winds as in moderate wind conditions
  - Some overprediction of loss for structures that were not destroyed – conservative approach
- LA Fires
  - Managing defensible space alone is not enough
  - Protection requires a combination of vegetation management, structure hardening, and an understanding of all interactions and risk factors
  - Shift required from heavy reliance on firefighters to control blazes > understanding that vulnerable structures are themselves the primary fuels
  - Implications for communities designed for cluster protection, construction / retrofit materials, thermal barriers as well as vegetation management

Back-Test: Eaton and Palisades Fires



- FortressFire analyzed all structures inspected by CAL FIRE within the Eaton Fire perimeter.
- Each structure was blind-assessed by FortressFire technology, its ignition outcome predicted, and then compared to CAL FIRE's disposition data.
- Takeaways
  - Large scale analysis: 30,456 structures
  - Bi-modal outcome distribution noted: No Damage or Destroyed
  - FortressFire technology validated in 80 mph high wind wildfire event
  - High prediction accuracy

The Best Risk Management is Loss Prevention

RISK MANAGEMENT

- Focused on strategic aspects of identifying, assessing, and prioritizing losses
- Financially based
- Uses tactics like reduction, segregation, and risk transfer

vs

LOSS PREVENTION

- Focused on technical elements of incident prevention
- Asset based
- Uses tactics like detection, resilience, resolution, and avoidance

- Greater insurance access and affordability options for Property Owners
- Better exposure insights > fewer losses, better portfolio management, and new growth opportunities for Lenders and Insurers
- Lower exposure to catastrophes and bail-outs for State Agencies
- Less environmental fall-out from structure burn sites for Communities
- Greater Community-level mitigation and cluster defense plans

Fire Science, Physics, and Deterministic Modeling = Comprehensive Wildfire Resilience

- **Difference**: We understand how wildfires transfer to structures and solve for vulnerabilities to prevent ignition. We do not attempt to predict the occurrence.
- **Instead**: We presume a wildfire, use science to understand how it will ignite a home, and prevent ignition.
- Our system is structure-specific, accurate, comprehensive, and cost-effective because it is based on fire physics.
- **Result**: Lower loss rates and fewer claims.

Only Fire Science Delivers Comprehensive Wildfire Resilience

Question + Answer Session

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FortressFire Products and Services

- Aerial Risk Report
- Onsite Inspection
- Monitoring + Protection Plan
- Residential Customer Success
- Commercial Customer Success

Aerial Risk Report Overview

Identify a structure's initial wildfire vulnerability score and ignition risk vectors.

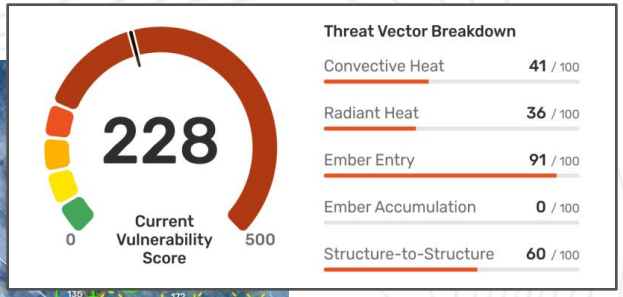
Define cost-effective, science-based mitigation actions to prevent the structure from burning.

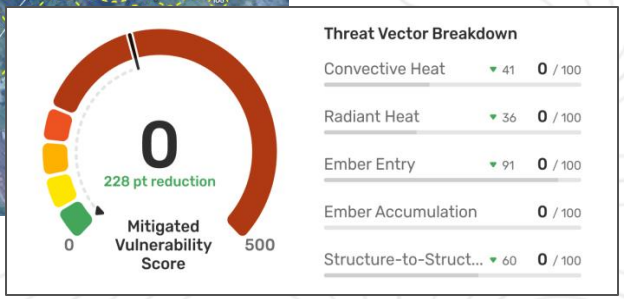
- Uses satellite images, data, and fire physics to model vulnerabilities through five ignition vectors.
- Leverages weather, topography, and parcel/stricture characteristics as inputs to model structure-fuel interactions
- Vulnerability Score (1-500) supports confidence in insurabili8ty conversations, with thousands of reports delivered through California Association of Realtors program as proof point

Onsite Inspection Overview

Refine precision of Aerial Risk Report and provide a customized mitigation roadmap for each property, including post-mitigation Vulnerability Score.

- Provides comprehensive data and analysis of a property's condition
- Includes mitigation actions and costs to protect structures from ignition in the wildfire events
- Quantifies post-mitigation PIM (Property Ignition Model) Score as compared to initial vulnerability assessment
- Features ready-to-contract-or-self-perform service quotes to remediate identified failure points
- Complements but does not replace fire agency inspections to certify compliance – FF adds structure point-of-view and prescriptive recommendations for risk reduction





Monitoring + Protection Plan Overview

Subscribe to annual plan that provides homeowner alerts, service visits, and weather-triggered event inspections, property preparation, and fire retardant staging.

- Tracks vegetation growth, weather and moisture conditions, structural changes, maintenance services, and the latest wildfire event data to inform and trigger protection services
- Ensures that property remains in mitigated, wildfire-prepared condition – linked to policy coverage periods or independent of insurance status
- Offers optional onsite fire retardant delivery, storage, and application (additional fees apply)

Residential Customer Success Story

Insurance Premiums Escalated

Surprised to receive an insurance renewal quoting a 73% increase in his homeowner insurance premium.

Called a local Realtor to order a Wildfire Disclosure Report.

Vulnerability Risks Addressed

Reviewed property-specific assessment and implemented the comprehensive mitigations – structure hardening and vegetation management – that were recommended.

"The WFDR is so much more helpful than just a CalFire hazard designation."

Savings Realized

Contacted insurance agent, armed with the Wildfire Disclosure Report and photos of recently completed mitigation actions.

Secured a **$1000 reduction** from the premium increase initially quoted.

By understanding a property's unique risks and actively addressing those vulnerabilities, homeowners become active participants in property protection and insurability.

Commercial Customer Success Story

Insurance Policy Non-renewal

Facing loss of coverage, the winery's insurance broker contacted FortressFire.

In parallel, the winery owner and broker began seeking alternative carriers to provide coverage.

Vulnerability Risks Addressed

Assessed ground conditions and recommended mitigations.

Worked alongside the winery's property management team to implement risk-reducing mitigations.

"Finally, some carriers are taking a more nuanced approach and rewarding property owners that commit to and invest in mitigations."

Savings Realized

Selected new carrier, complemented by a monitoring and protection plan.

Premium was **21% less** than another carrier's quote and **45% lower** than the FAIR Plan – neither included monitoring and protection.

One year later: The winery renewed their monitoring and protection plan, and received an imminent threat prep visit 3 days before the LA Fires. The winery did not sustain damage.

Properties that are mitigated, monitored, and protected are less likely to burn – avoiding loss claims. These investments <u>should</u> be more than compensated with insurance premium relief.