

**UTILITY RISK FINANCING OPTIONS**

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BEFORE THE COMMISSION ON CATASTROPHIC WILDFIRE COST  
AND RECOVERY

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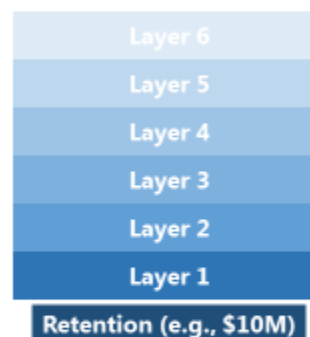
This testimony outlines the various instruments that utilities and other companies use to mitigate risks such as wildfire. There are a variety of ways in which wildfire risk can be financed. Most approaches involve transferring the risk to another party, like an insurance company or a reinsurance company, or the capital markets. It is also possible to finance a risk using pre-funding to smooth out the variability of claims costs. We will describe each of the most common approaches in turn.

## **Insurance**

Figure 1 below shows the structure of a typical corporate insurance program. Reading the diagram from the bottom up, rather than the top down, shows that the first \$10M for example, of each claim would be retained by the company and not insured. For claims greater than the illustrative \$10M retention, the insurance company in layer 1 is the next one to pay, up to the amount of their insurance limit. If needed to satisfy a claim, the insurer in layer 2 will pay next, followed by layer 3, etc. For investor-owned utilities, claims payments made within the retention are forecast and collected in customer rates, generally using a five year average of historic claims. Premiums paid for insurance are also recovered in rates, based either on a forecast of premiums or on premiums actually paid.

**Figure 1**  
*Typical Utility Insurance Program*

- Retention: company retains (does not insure) some portion of each claim
- If a claim exceeds retention, Layer 1 insurer pays up to policy limit
- Same process continues up the tower as each layer is exhausted



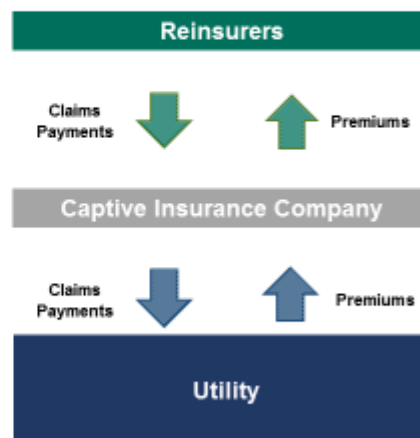
Sometimes insurers in a corporate program include a co-insurance provision in their policies. This means that for any claim paid by that insurance policy, a portion of the claim must also be paid by the insured company. For example, a 10% co-insurance provision would mean that for every dollar of claims covered under that policy, 90 cents would be paid by the insurer and 10 cents would be paid by the insured company. Co-insurance participation is a form of self-insurance, and can be funded in the same way as the retention on the program is funded.

## Reinsurance

Reinsurance is similar in concept to insurance, but it is defined as insurance purchased by an insurance company. Non-insurance companies cannot access the reinsurance markets. One approach for purchasing reinsurance often used by non-insurance companies is to form an affiliate company which is itself an insurance company, and then have that affiliate insurance company buy reinsurance coverage and issue a corresponding mirror image insurance policy to the non-insurance company affiliate. The insurance company in this arrangement is known as a captive insurance company, in the sense that it exists to serve the needs of its non-insurance affiliate(s). This type of structure is shown in Figure 2 below.

**Figure 2**  
*Typical Utility Reinsurance Program*

- By law, only insurance companies may access reinsurance market directly
- Utilities wanting to buy reinsurance must access through an insurance company
- Often an insurance company owned by the utility ("captive" insurance company) is used
- Premiums flow from the utility to the captive insurance company and then to the reinsurers, and claims payments flow the opposite way



This arrangement can be beneficial to a company when reinsurance coverage is less expensive than equivalent insurance coverage, or when a company needs more insurance coverage than it is able to obtain from the traditional insurance market.

Edison has purchased wildfire reinsurance in this way since 2013 to supplement the wildfire insurance that has been available in the traditional market. However, it is worth noting that both the insurance and reinsurance markets for wildfire liability are “hardening,” meaning the number of insurance companies willing to provide this coverage at the same level is going down and pricing is going up. The insurance market deteriorated after the 2017 wildfires, and only worsened after the 2018 wildfires, adding substantial costs to Edison and our customers in the form of ever higher premiums amid a tightening insurance market. To give a sense of the numbers, in 2017 our total wildfire and non-wildfire liability insurance expense was approximately \$75 million, whereas in 2018 our wildfire liability insurance expense alone was approximately \$235 million, a greater than three-fold increase. In sum, many insurers now believe that California presents an uninsurable risk given the State’s four large wildfires experienced in the last two years.

### **Catastrophe Bonds**

Catastrophe bonds (or “cat bonds”) are a means of obtaining risk protection from the capital markets, as opposed to obtaining it from insurers and reinsurers. The mechanics of cat bonds are somewhat complex, but in essence bonds are issued in the capital markets with the provision that investors may lose some or all of their investment if a certain event or events happen (for example, a large wildfire, or an earthquake, or a hurricane). If the event or events happen, then the capital not repaid to investors is used instead by the sponsor of the bonds to cover losses from the catastrophic event(s).

There are two types of cat bonds in the market – those with a parametric trigger (based on a formula, e.g., number of inches of rain per hour) and those with an indemnity trigger. Indemnity triggers work much like insurance by responding based on the losses incurred.

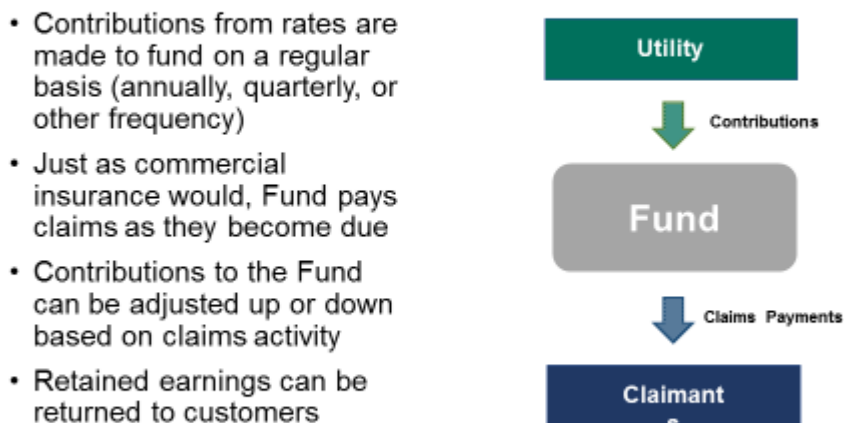
Cat bonds are used by both insurance companies and non-insurance companies to mitigate risk. Cat bonds for wildfire risk differ in several ways

from most cat bonds in the market. For example, most cat bonds cover first party losses, such as earthquake damage to the sponsor's facilities, whereas wildfire cat bonds cover third party losses for which the sponsor could be legally liable. Other differences between the few wildfire cat bonds that have been issued to date and other cat bonds in the market are that the wildfire cat bonds only cover one peril (wildfire) in a geographically concentrated area within California. These factors make the investor universe for wildfire cat bonds much more limited than for other cat bonds.

### **Funded Self-Insurance**

As Figure 3 below shows, funded self-insurance works by creating a pool of funds that is available to pay claims as they come due. Contributions are made to the self-insurance fund on a regular basis, allowing for a predictable pattern of funding, and claims are paid from the self-insurance fund as needed. The level of contributions can be adjusted over time depending on claims experience.

**Figure 3**  
*Funded Self-Insurance*



In the case of wildfire risk, funded self-insurance makes sense when the cost of wildfire insurance is too high, and for any co-insurance or retention in the insurance program. It also makes sense for financing wildfire risk in

excess of the amount of insurance and reinsurance available in the market, which is currently at most around \$1.5 billion.

### **Catastrophic Wildfire Insurance Fund**

Now let us turn to the topic of a fund. We believe that a wildfire fund, with characteristics that include the following, will not only complete the part of the Inverse Condemnation doctrine that calls for the socialization of liabilities, but also would provide an economic substitute for commercial insurance above approximately \$1.5B where the markets have not provided capacity.

The wildfire fund should be guided by the following principles:

1. **Applicability:** These principles apply to a wildfire fund for wildfires caused by electric utility ignitions.
2. **Governance:** A governing board should be appointed and include representation from the participating utilities (IOUs and POUs); this governing body would make decisions on utility contributions, reinsurance, and other means to reduce ratepayer impacts.
3. **Insurance requirement:** Electric utilities (IOUs and POUs) should be required to continue purchasing commercial insurance; the governing body will require the electric utilities to continue to procure economically feasible amounts of commercial insurance and continue to mitigate wildfire risks.
4. **Fund pays out after utility insurance:** The Wildfire Fund should respond and pay claims for property damage once an individual electric utility's insurance is exhausted.
5. **Required risk mitigation:** Electric utilities should continue to aggressively implement wildfire risk mitigation measures.
6. **Avoid moral hazard:** (1) The CPUC should retain authority to fine/penalize IOUs for conduct or regulatory violations related to a fire; (2) for wildfire covered by the Wildfire Fund, IOU shareholders would be responsible to pay a portion of the post-loss increased premium to the Wildfire Fund that corresponds with the extent an IOU acted imprudently; and (3) willful misconduct and punitive damages are not covered by the Wildfire Fund.

7. **Need for pre-loss upfront and annual contributions:** The Wildfire Fund should be funded by electric utilities' initial and ongoing, annual premium contributions:
  - a. Premiums should be based on: (1) risk (e.g., miles of distribution line or number of metered customers in high fire risk areas) and (2) modeling/actuarial analysis that includes a factor for implemented risk mitigation.
8. **Premiums covered in rates:** Initial and ongoing, annual premium contributions to the Wildfire Fund should be covered in rates (like insurance premiums).
9. **Securitization:** Electric utilities should be able to securitize, with a dedicated rate component, the initial and ongoing, annual premium contributions, and post-loss, as appropriate.
10. **Increased premiums for loss-causer after an event funded by shareholders in proportion to the extent an IOU is found imprudent in the cause of a fire:** If an electric utility suffers a loss paid by the Wildfire Fund, the Wildfire Fund will require the loss-causer to pay an increased additional premium per underwriting guidelines; recoverability of an IOU's increased additional contributions would be subject to a CPUC reasonableness review, and a portion may be allocated to shareholders proportional to the IOU's misconduct, to the extent such misconduct was a proximate cause of the wildfire.
11. **Tax-exempt contributions:** The Wildfire Fund should include a tax-exempt feature (both state and federal).
12. **Accessing reinsurance and other risk financing:** The Wildfire Fund may purchase reinsurance and other risk financing instruments.
13. **State contribution:** Due to statewide impact of catastrophic wildfire, the State should make regular contributions to the Wildfire Fund; to provide immediate confidence for the capital markets, the State should act as a backstop until the Wildfire Fund is adequately established.

With respect to the increased premium, if the loss-causer is an IOU, whether and to what extent IOU shareholders should be allocated a portion of the post-loss increased premium should be based upon a revised CPUC cost recovery standard that restores the regulatory framework. Specifically, if the utility has complied with its Wildfire Mitigation Plan (WMP), it should be deemed a prudent operator for purposes of cost recovery of wildfire damages, including the increased premium. The WMPs are comprehensive and cover all aspects of an IOU's wildfire mitigation operations throughout its high fire risk areas, which, in Southern California Edison's case, are expansive. However, if the utility does not comply with its WMP, and the non-compliance is a significant cause of the wildfire and its damages, then the CPUC should disallow cost recovery of the portion of the increased premium attributable to the utility's misconduct. In making such a determination, the CPUC should consider all causes of a wildfire ignition and its progression; external factors beyond the utility's control, such as wind, fuel stock, temperature, and low humidity; the extent of development in high wildfire risk areas; and/or to what extent any actors outside the utility contributed to its damages.

Preliminary modeling of the fund over a 10-year horizon indicated that an initial contribution to the fund of \$2 billion and annual contributions of \$700 million should be sufficient based on the following assumptions:

- Utilities retain the first \$500 million of exposure for each wildfire via commercial insurance
- Maximum payout from the fund for any wildfire is \$20 billion per occurrence and maximum total for any year is \$30 billion per participant
- Fund can securitize future revenue from utility premium payments if needed due to a loss
- Premiums increase for 5 years following a loss to the fund, primarily paid by loss-causing utility
- Wildfire claims settle over a 5-year period from the date of the fire
- Subrogation claims are settled at historical levels, around 50%