

California Wildfire and Forest Resilience Action Plan Feedstock Supply Insurance Advisory Group - Project Report

Summary

The aim of the advisory group was to review the feasibility of developing functional mechanisms and bankable term sheet Feedstock Supply Insurance (FSI) to unlock key barriers to developing long-term woody feedstock contracts. Outlined below is an update from this advisory group in support of California's Wildfire and Forest Resilience Action Plan, as well as the state's Woody Biomass Industry Development Framework, and the Governor's office of Planning and Research (OPR).

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Table of Contents

Background:	2
Parametric Insurance Objective:	3
What is a Parametric Insurance Product:	3
Parametric Policy Overview:	4
Coverage:	4
Rate Structure:	5
Loss Triggers and Payouts:	6
Data & Supply Risk Considerations:	7
Policy Contract:	8
Distribution Opportunities	9
Anti-Selection and Fraud Control	9
Regulatory Considerations:	10
Reinsurance Placement:	11
Other Product Options:	12
Conclusion:	13

Background:

Adaptive Insurance was invited by CLERE to participate in a feedstock supply insurance advisory group in support of California’s Wildfire and Forest Resilience Action Plan, as well as the state’s Woody Biomass Industry Development Framework, and the Governor’s office of Planning and Research (OPR). The aim of this advisory group was to review the feasibility of developing functional mechanisms and bankable term sheet Feedstock Supply Insurance (FSI) to unlock key barriers to developing long-term woody feedstock contracts.

EcoStrat provided the advisory group with information on what lenders and investors would require with regard to insurance or other risk transfer mechanisms for woody feedstock supply, in order to make long term loans or investments in a biomass energy producer. One of the key requirements is that the insurance or risk transfer mechanism cover the duration of the term of the loan or investment of capital, or if not, at least cover 5 -10 years in duration.

The advisory group, which included a number of insurance market experts and practitioners, considered various existing indemnity risk transfer products, including but not limited to crop insurance, performance bonds, and business interruption insurance. Each of these was discarded as an option because policies are written for periods of one year and the capacity providers are unwilling to enter into longer term contracts, especially for a new product like that contemplated for woody feedstock supply, for which insurers have no experience to draw on to underwrite and price the product.

The advisory group determined that to meet the requirements for lenders and investors for a long-term woody feedstock supply insurance policy, the only viable option would be a parametric insurance product. A full

discussion of how a parametric insurance policy might be structured for woody feedstock supply follows. However, there are considerable challenges to structuring a woody feedstock supply parametric insurance product covering 5 to 10 years, as discussed below. The advisory group determined that the likelihood of success in getting a capacity provider to underwrite a 5 – 10 year parametric insurance product for woody feedstock supply is very low.

Parametric Insurance Objective:

Outline the feasibility of developing an investment-grade long-term (5-10 years) parametric insurance policy designed to provide coverage against the variability of a feedstock supply price index. The policy would be designed to trigger coverage when the cost of feedstock supply exceeds a pre-defined price index, providing financial stability and encouraging investment in the biomass energy sector to protect project debt costs.

What is a Parametric Insurance Product:

A parametric insurance product is a type of insurance contract that pays out based on the occurrence of a specific, pre-defined event or trigger, rather than on the actual losses incurred. A parametric insurance product could be structured to provide coverage for a feedstock supply index by focusing on the price or availability of the feedstock, rather than the traditional assessment of physical damage or financial loss.

Potential Benefits:

1. Trigger-Based Payouts:
 - Payouts are determined by objective, measurable parameters that are clearly defined in the policy contract. Examples include:
 - Wind speed
 - Rainfall accumulation
 - Earthquake magnitude
 - Wildfire acres burned
 - Price index
2. Objective and Measurable:
 - The triggers are based on 3rd party data from independent sources. Such as:
 - National Weather Service
 - NOAA
 - NASA
 - USGS
 - Municipalities
3. Speed and Efficiency:
 - Payouts are typically processed quickly, as there's no need to assess the extent of actual damages.
 - There is also less risk of moral hazard from the insured due to the independent 3rd party data used to trigger the claim event.
4. Transparency:
 - The terms and conditions of the policy, including the trigger and payout structure, are clearly defined upfront.
 - Communication regarding the claim process and payment is streamlined due to less verification being required.

Potential Challenges:

1. Annual Policy Term Length:
 - Standard parametric insurance policies are written on an annual basis, like traditional insurance.
 - In some cases, parametric insurance policies can have longer terms, such as 3-5 years, but this is typically only the case for coverage against risks that are predictable over a longer period.
2. Single Payout Design:
 - Parametric policies are priced to pay after the single event trigger which would be the end of the policy
 - This would cause the policy to terminate after the first event where the price index exceeds the threshold.
3. Price Index Accuracy:
 - The reliability of the chosen feedstock price index might not always reflect the actual market conditions
 - This can lead to payouts that don't align with the insured's losses.
4. Insurance Capacity:
 - Finding sufficient reinsurance capacity for a relatively new and potentially volatile product will be very challenging.
 - Ensuring the financial stability of the parties involved in the transaction (insurers, reinsurers, index providers) is also very challenging.

Parametric Policy Overview:

The policy design would need to focus on the average delivered cost of biomass as the key trigger. A "redline collar" would need to be established, defining an acceptable price range. If the average delivered cost, as measured by a pre-agreed upon, reliable price index, exceeds the upper limit (event trigger) of this collar within a specified period, a payout is automatically triggered.

Coverage:

On a parametric insurance contract, "coverage" refers to the financial protection provided based on the occurrence of a pre-defined trigger event, rather than actual losses incurred. It's a key distinction from traditional indemnity insurance.

1. Limits for this type of parametric insurance policy would be highly variable.
 - Key Factors:
 - Project Size and Scale: Length of the contract combined with how broad of a region is being considered in coverage.
 - Project Debt Levels: This will be driven by the actuarial pricing which will determine the premium required to cover the debt level.
 - Some of this will also be driven by the amount of capacity capital that an insurance company is willing to provide.
 - Risk Tolerance: This will be project specific depending on what level of risk tolerance the parties involved will allow.
 - i.e. how many years contract the debt provider will allow the policy to be.
 - Market Volatility: This will be another component considered in the actuarial pricing and one of the harder pricing points to determine.
 - Historical Data Analysis: How believable and accurate is the historical data being used to develop the product.

- Financial Modeling: This will determine what levels of coverage can be priced effectively and determine at what loss ratio the program will perform at.
- 2. Potential Coverage Limit Scenarios:
 - Percentage of Annual Feedstock Costs:
 - Coverage could be expressed as a percentage of the project's estimated annual feedstock costs.
 - Fixed Dollar Amount:
 - A fixed dollar amount could be established as the maximum payout under the policy, regardless of the actual cost overruns.
 - Tiered Coverage:
 - The policy could offer tiered coverage, with higher payouts for more significant price increases.

Rate Structure:

Actuarial pricing for a parametric insurance product covering a feedstock supply index would involve a specialized approach that differs from traditional insurance pricing. Instead of focusing on individual losses, it will need to center on the probability of the trigger event and the potential payout amounts. Here's a breakdown of the main components:

1. Data Analysis and Modeling:
 - Historical Feedstock Price Data:
 - Gathering and analyzing historical price data for the specific feedstock is fundamental. This includes:
 - Identifying reliable data sources (e.g., government agencies, commodity exchanges).
 - Assessing data quality, completeness, and consistency.
 - Analyzing price trends, volatility, seasonality, and cyclical patterns.
 - Statistical Modeling:
 - Employing statistical models to estimate the probability of the trigger event occurring (e.g., the index exceeding a predefined threshold).
 - This may involve:
 - Time series analysis
 - Probability distributions
 - Correlation analysis with other market factors
 - Modeling the potential severity of price fluctuations and their impact on the insured.
2. Defining the Coverage and Payout Structure:
 - Trigger Definition:
 - Precisely defining the conditions that will trigger a payout.
 - For example:
 - The monthly average price exceeding a certain level.
 - A specific percentage increase in the index over a defined period.
 - Payout Calculation:
 - Establishing the formula for calculating the payout amount, which could be:
 - A fixed amount per unit of feedstock price increase.
 - A percentage of the insured's feedstock expenses.
 - A sliding scale that increases the payout as the index exceeds the trigger by a greater margin.
 - If feedstock suppliers didn't require coverage for the entire debt, a 12 month coverage for expenses sufficient to keep the operation active until feedstock price return to lower levels could be possible.

- Coverage Limits:
 - Setting the maximum payout amount and any other limitations on coverage.
- 3. Pricing the Risk:
 - Expected Loss:
 - Calculating the expected loss by multiplying the probability of the trigger event by the average payout amount.
 - This represents the average amount the insurer expects to pay out in claims over a given period.
 - Risk Loading:
 - Adding a risk loading to the premium to account for uncertainties and potential deviations from the expected loss.
 - Factors influencing risk loading:
 - Model risk (uncertainty in the statistical models).
 - Data risk (potential for data errors or manipulation).
 - Catastrophic risk (the possibility of extreme price spikes).
 - Expense Loading:
 - Including an expense loading to cover the insurer's operational costs, such as:
 - Policy administration
 - Claims processing (which is typically simpler in parametric insurance)
 - Marketing and sales
 - Profit Margin:
 - Adding a profit margin to ensure the insurer's profitability.
- 4. Ongoing Rate Adjustments:
 - Include provisions for adjusting the premium over time to reflect changes in market conditions and project performance.

Loss Triggers and Payouts:

On a parametric insurance contract, "loss triggers" are the specific, pre-defined events or conditions that must occur to activate a payout. They are the objective, measurable parameters that determine whether the insured is entitled to compensation. These triggers will typically be agreed upon by the actuaries, underwriters, carrier, and reinsurers to make sure all parties are aligned on the "loss trigger" definition.

1. Define the Price Index:
 - Specific Feedstock Definition:
 - Clearly define the exact type of biomass being referenced.
 - Specify exact parameters for how the price is determined.
 - Geographic Scope:
 - Define the relevant geographic region for the index, matching the project's area.
 - Price Basis:
 - Clarify exactly what price the index reflects for the trigger to activate.
 - Data Source:
 - Select a reputable, independent data source for verification.
 - Ensure the data is publicly available or from a reputable 3rd party and is consistently updated.
2. Trigger Event Definition:
 - Average Cost Exceedance:
 - Define the primary trigger event against when the indicated index exceeds the upper bound (ceiling) of the redline collar.
 - Time Period:

- Specify the time period over which the average cost is calculated (e.g., monthly, quarterly, annually).
 - This can be a major factor in determining the over premium impact on the policy.
 - Trigger Confirmation:
 - Outline the process for confirming the trigger event, including the data source and verification steps.
- 3. Payout Mechanism:
 - Payout Calculation:
 - Figure out how the payment will be calculated and if there are any contract limitations that would limit the payout amount.
 - It could be the difference between the actual price and the ceiling or a set amount for every price increase.
 - Payout Frequency:
 - Specify the frequency or limitations of payouts.
 - Typical parametric policies trigger a single time after the event.
 - Payout Limitations:
 - Define any limitations on the payout amount.

Data & Supply Risk Considerations:

To create a reliable feedstock index for parametric insurance a robust amount of data sources will be essential to both pricing as well as underwriting/triggering a policy. Historical feedstock price data, relevant indices (e.g., regional or national biomass price indices, energy price indices), and production/consumption data, much of which can be provided by Ecostrat will need to be used.

1. Key Considerations for Data Sources:
 - Reliability:
 - The data source should be reputable and have a proven track record of accuracy.
 - Transparency:
 - The methodology used to collect and report the data should be transparent.
 - Availability:
 - The data should be readily available and consistently updated.
 - Objectivity:
 - The data should be free from bias and manipulation.
 - Granularity:
 - The data should be granular enough to reflect the specific feedstock and geographic region of the biomass project.
2. Key Considerations for Supply Risks:
 - Detail the various risks that can impact biomass feedstock supply, including:
 - Price volatility resulting from the following:
 - Supply shortages
 - Transportation disruptions
 - Quality issues
 - Supplier risks
 - Competitor risks
 - Weather risks

Policy Contract:

A well-structured policy contract for a feedstock parametric policy should clearly define the terms and conditions, ensuring transparency and minimizing potential disputes. The policy contract will need to be developed through a company (Milliman, Perr & Knight, etc.) with knowledge of existing insurance contract language through ISO or other policy form companies. Examples of what will be included in the policy form may be the following:

1. **Declarations Page:**
 - Policyholder Information: Names and addresses of the insured.
 - Insurer Information: Name and contact details of the insurance company.
 - Policy Period: Start and end dates of the coverage.
 - Coverage Amount: The maximum amount payable under the policy.
 - Premium: The amount the policyholder pays for the coverage.
 - Trigger Event(s): A brief description of the parametric trigger(s).
 - Attachment: Any endorsements or schedules that modify the policy.
2. **Definitions:**
 - This section is crucial in a parametric policy. It provides precise definitions of key terms, including:
 - Index: The specific data source or measurement used to determine if a trigger event has occurred (e.g., specific weather station data, earthquake intensity scale).
 - Trigger Event: A detailed description of the event that will activate a payout (e.g., wind speed exceeding a certain threshold, rainfall falling below a specified amount).
 - Measurement Location: The specific location where the trigger event is measured (e.g., a designated weather station).
 - Calculation Agent: The party responsible for determining if the trigger event occurred (often a third-party data provider).
 - Payout Amount: The predetermined amount payable for each level of the trigger event.
3. **Coverage Agreement:**
 - This section outlines the basic agreement to provide coverage.
 - It states that the insurer will pay the insured if a trigger event occurs, as defined in the policy.
 - It may specify the types of losses that the parametric payout is intended to cover (e.g., business interruption, property damage).
 - It often emphasizes that payment is made regardless of actual losses, as long as the trigger is met.
4. **Trigger Event Details:**
 - This is the heart of the parametric policy. It provides a detailed description of the trigger mechanism, including:
 - The specific index or data source used.
 - The threshold values that must be met or exceeded.
 - The duration or timing requirements for the trigger event.
 - Any specific calculations or formulas used to determine if the trigger has been met.
5. **Payout Schedule:**
 - This section outlines the amount payable for each level of the trigger event.
 - It may include a fixed payout amount or a sliding scale that increases the payout as the trigger event becomes more severe.
 - Examples:
 - "If price index exceeds "X", the payout is \$500,000; if price index reaches "Y", the payout is \$1,000,000."
6. **Exclusions:**
 - This section lists the events or circumstances that are not covered by the policy.

- Common exclusions in parametric policies might include:
 - Losses caused by events not directly related to the trigger.
 - Losses due to factors that can't be priced.
 - Losses due to negligence or intentional acts.
 - Losses due to an Act of War
 - Losses due to Terrorism
 - Losses due to Cyber Events
 - Governmental Interference
- 7. Conditions:
 - This section outlines the terms and conditions of the policy, including:
 - Policyholder responsibilities.
 - Payment terms.
 - Cancellation provisions.
 - Dispute resolution procedures.
- 8. Governing Law:
 - This section specifies the jurisdiction whose laws will govern the contract.

Key Differences from Traditional Insurance:

- **Emphasis on Triggers:** Parametric policies heavily emphasize the clear definition of the trigger event and its measurement.
- **Reduced Loss Adjustment:** There's less focus on assessing actual damages, streamlining the claims process.

Distribution Opportunities

Parametric products can be distributed through several different channels within the insurance space. With this product being so closely designed for loan origination, the following distribution options would likely be the best fit:

1. **Embedded Insurance:**
 - The product can be embedded into the loan contracts.
2. **Broker Networks:**
 - Partnering with insurance brokers specializing in the biomass and energy sectors can expand distribution reach.
3. **Direct Sales:**
 - Targeting biomass energy producers and consumers directly.

Anti-Selection and Fraud Control

Anti-selection and fraud control are crucial in parametric insurance policies, perhaps even more so than in traditional indemnity insurance, for several reasons:

1. **The Nature of Parametric Triggers:**
 - **Objectivity vs. Subjectivity:** Parametric insurance relies on objective, measurable triggers (like weather data or sensor readings) rather than subjective assessments of damage. While this brings advantages like faster payouts, it also creates potential vulnerabilities.
 - **Reduced Loss Assessment:** The lack of a detailed, on-site loss adjustment means there's less opportunity for the insurer to verify the true extent of the insured's losses. This can make the system susceptible to exploitation if not properly controlled.

2. Anti-selection:
 - Adverse Selection: Anti-selection occurs when individuals or businesses with a higher risk of loss are more likely to purchase insurance, while those with a lower risk are less likely to.
 - Parametric Vulnerability: In parametric insurance, this can manifest if someone knows a trigger event is highly likely in their specific location or situation and purchases a policy to profit from it.
 - Example: If a business knows a specific weather index is likely to reach a trigger point due to an impending storm, they might buy a policy knowing a payout is imminent.
3. Fraud:
 - Trigger Manipulation: While triggers are designed to be objective, there's a risk of manipulating or falsely reporting the data used to determine the trigger (though this is less likely with reputable data sources).
 - False Representation: Policyholders might misrepresent their circumstances to qualify for a policy or to maximize potential payouts.
 - Collusion: In rare cases, there could be collusion between policyholders and others to trigger payouts fraudulently.

Regulatory Considerations:

Developing and offering a parametric insurance policy like this would involve navigating several insurance regulatory hurdles. Here's a breakdown of the key areas to consider:

1. Product Classification:
 - Insurance vs. Derivative:
 - Parametric products blur the line between traditional insurance and financial derivatives. Regulators may classify it as one or the other, impacting licensing and compliance requirements for the program.
 - If it's deemed a derivative, the product might fall under securities regulations and would no longer be classified as an insurance product.
 - Property/Casualty vs. Financial Guarantee:
 - Determining the appropriate insurance line of business (e.g., property/casualty, financial guarantee) would need to be determined as each has distinct regulations and capital requirements.
2. Licensing and Authorization:
 - State-Specific Requirements:
 - Since insurance is primarily regulated at the state level in the U.S., compliance with the licensing requirements of each state where the policy would be offered is necessary.
 - This will require specific licenses, financial solvency, and meeting other regulatory criteria.
 - Admitted vs. Non-Admitted:
 - Deciding whether to offer the policy on an admitted (licensed) or non-admitted (surplus lines) basis will affect the regulatory process.
 - Non-admitted policies have less stringent regulations but may have limitations on who can purchase them.
3. Policy Form and Rate Filing:
 - Form Approval:
 - Many states require insurers to file and obtain approval for their policy forms. This ensures that the policy language is clear, fair, and compliant with state regulations.
 - Parametric policies, with their unique structure, may require detailed explanations and justifications.
 - Rate Approval:

- Many states, including California, regulate insurance rates and require insurers to file and justify their pricing.
 - The complexity of pricing parametric policies, involving indices and modeling, could lead to scrutiny from regulators.
4. Financial Solvency and Capital Requirements:
 - Reserve Requirements:
 - Regulators will assess the risk associated with the parametric policy and set appropriate reserve requirements which will require a financially sound company to back this type of program.
 - Capital Adequacy:
 - Insurers must demonstrate sufficient capital to cover their liabilities.
 - The long-term nature of biomass projects (5-10 years) and potential price volatility could necessitate significant capital reserves.
 5. Data and Index Transparency:
 - Data Source Validation:
 - Regulators will likely scrutinize the data sources used to construct the feedstock price index.
 - Ensuring the reliability, accuracy, and independence of the data is crucial.
 - Index Methodology:
 - The methodology used to calculate the index must be transparent and auditable.
 - Regulators may require detailed explanations of the index construction and calculation.
 6. Consumer Protection:
 - Disclosure Requirements:
 - Insurers must clearly disclose the terms and conditions of the parametric policy, including the trigger mechanism, payout calculation, and any limitations or exclusions.
 - Emphasis must be placed on explaining basis risk.
 - Claims Handling:
 - While parametric policies simplify claims, insurers must establish clear and efficient claims handling procedures that can be audited by regulators.

Reinsurance Placement:

Reinsuring a parametric policy designed to cover biomass feedstock cost risks presents unique challenges due to the specific characteristics of this type of insurance product. Here's a breakdown of the key reinsurance hurdles:

1. Novelty and Complexity:
 - Lack of Historical Data:
 - Parametric insurance for biomass feedstock is new. Reinsurers may be hesitant due to the limited historical data available to assess the risk.
 - Complex Modeling:
 - The pricing and risk assessment involve sophisticated modeling of feedstock price indices, which reinsurers may find difficult to evaluate.
2. Basis Risk Assessment:
 - Correlation Uncertainty:
 - Reinsurers need to understand and quantify the basis risk, which is the difference between the index's performance and the insured's actual losses.
 - Index Accuracy:
 - Reinsurers will scrutinize the accuracy and reliability of the chosen feedstock price index.
3. Long-Term Risk Exposure:

- Extended Policy Periods:
 - Biomass projects often have long-term financing (5-10 years), meaning reinsurers must commit to covering potential losses over an extended period.
- Price Volatility:
 - Reinsurers need to assess the potential for significant price volatility over the policy term.
- 4. Data Transparency and Reliability:
 - Data Source Credibility:
 - Reinsurers will require assurance that the data sources used to construct the index are credible and independent.
 - Data Manipulation Risk:
 - Reinsurers will be concerned about the potential for data manipulation or errors.
- 5. Trigger Event Definition:
 - Trigger Clarity:
 - Reinsurers need a clear and unambiguous definition of the trigger event (average price exceeding the redline collar).
 - Trigger Verification:
 - Reinsurers will seek a reliable mechanism for verifying the occurrence of the trigger event that they are able to test themselves.
- 6. Pricing and Underwriting:
 - Pricing Complexity:
 - Reinsurers will need to understand the complex pricing models used to determine premiums.
 - Underwriting Expertise:
 - Reinsurers may require specialized underwriting expertise to assess the unique risks associated with biomass projects.
- 7. Counterparty Risk:
 - Insurer Stability:
 - Reinsurers will assess the financial stability and creditworthiness of the primary insurer which is more complex given the policy term requirements.
 - Index Provider Risk:
 - If the index is provided by a third party, reinsurers will assess the provider's financial stability and reliability and well as their likelihood of being operational during the duration of the policy term.

Other Product Options:

The advisory committee also considered other insurance product options, but each of these fails to meet the requirement that the risk transfer mechanism cover for 5 – 10 years:

1. Derivative:
 - A derivative product, like a forward, futures, or swap, could protect a biomass project from rising feedstock costs.
 - It would work similarly to a parametric product by creating a contract where payments are tied to a biomass price index. If the average price of the feedstock, as tracked by the index, goes above a pre-set "ceiling" price, the derivative contract triggers a payment to the project, offsetting the increased costs.
 - This allows the project to hedge against price volatility, ensuring financial stability.
 - Derivative contracts can last anywhere from a few days to multi-year.
2. Surety Bond:

- While less directly tied to price indices than derivatives, a surety bond could be structured to indirectly cover biomass project losses due to feedstock costs exceeding a redline collar.
 - Instead of directly paying out based on price fluctuations, the surety bond could guarantee the performance of a supply contract that includes price protection.
 - Surety bond contracts typically have a one-year term length.
3. Crop Insurance:
- A risk management tool available to agricultural producers to protect against financial losses due to various perils that can damage or reduce the yield
 - In the United States, the Federal Crop Insurance Program (FCIP) is administered by the Risk Management Agency (RMA) of the U.S. Department of Agriculture (USDA).
 - It is primarily sold and serviced by private insurance companies with the premiums often subsidized by the federal government.
 - While crop insurance isn't suitable for feedstock supply coverage, there is some merit on a similarly designed program with federal or state subsidies to back a similar style product for feedstock supply.
 - Crop insurance contracts are typically sold on a one-year term length.
4. Business Interruption Insurance:
- BI insurance is a coverage triggered by direct physical loss or damage to the insured's own property
 - For coverage to kick in, there typically needs to be an event like a fire, storm, or other covered peril that damages the policyholder's property and causes a loss of business operations and income.
 - Problems with feedstock supply are often not related to physical damage to the insured's property.
 - Most disruptions can arise from various factors affecting suppliers or the supply chain
 - Business interruption policies are typically sold on a one-year term length.

Conclusion:

The objective of the advisory group was to determine whether insurance might be made available to cover the risks associated with woody feedstock supply for biomass energy producers. A coverage duration of 5-10 years at a minimum was identified as a pre-requisite for lenders and investors in biomass energy plants.

The advisory group, which included a number of insurance market experts and practitioners, considered various existing indemnity risk transfer products, including but not limited to crop insurance, performance bonds, and business interruption insurance. Each of these was discarded as an option because policies are written for periods of one year and the capacity providers are unwilling to enter into longer term contracts, especially for a new product like that contemplated for woody feedstock supply, for which insurers have no experience to draw on to underwrite and price the product.

The advisory group determined that to meet the requirements for lenders and investors for a long-term woody feedstock supply insurance policy, the only viable option would be a parametric insurance product.

In conclusion, while a parametric insurance product designed to cover biomass project losses triggered by feedstock price volatility is technically feasible, its practical implementation faces significant hurdles. The complexity of modeling long-term feedstock price indices, coupled with the inherent basis risk and the sheer number of variables that can impact biomass supply over a 5-10 year period, creates a challenging environment for both carriers and reinsurers. Securing sufficient capacity and appetite to underwrite such a

novel and potentially volatile risk, especially over the required extended term, would be exceptionally difficult. Ultimately, the successful development of this product hinges on finding carriers and reinsurers willing to accept the unique risks involved, a task that remains a significant obstacle.

Given the absence of an indemnity insurance product to cover woody feedstock supply risks sufficient to meet the demands of lenders and investors and the complete lack of appetite to write insurance for longer than a year in most instances, and given the low likelihood of persuading parametric capacity providers to write such a policy, the State of California should consider a public mechanism to address risks associated with woody feedstock supply, such as a guaranty fund or claims fund similar to that which the state has enacted to cover utility liability risk and risks associated with the application of prescribed fire.