ReFrame Haven: Sustainable Housing Solution Dossier

Product Vision & Value Proposition

Vision: To realize a future where housing stability is universally accessible, underpinned by a circular economy that eliminates construction waste and maximizes resource reuse.

Product Concept: The 'ReFrame Module' is a flat-pack, kit-of-parts sustainable micro-home designed for rapid assembly. It utilizes structural components engineered entirely from reclaimed and processed scrap wood inputs, setting a new standard for green building.

Unique Selling Points (USPs):

1. **Radical Cost Reduction:** Material costs are significantly lowered by sourcing waste streams, passing savings directly to homeowners and non-profit partners.

1. **Sustainability & ESG Impact:** Each module diverts tons of wood from landfills, providing a compelling Environmental, Social, and Governance (ESG) investment opportunity.

1. **Speed & Efficiency:** Standardized, lightweight kits allow for rapid deployment and assembly by non-specialized labor, making it ideal for immediate housing needs.

Consumer & Market Impact

Persona 1: The Non-Profit Housing Provider

Pain Point: High material costs and long construction timelines restrict the volume of aid provided.

Value Solved: Provides high-quality, scalable shelter solutions within limited budgets.

Testimonial: “This radically changes our ability to house families. The sustainability angle is crucial for our mission integrity.”

Persona 2: The Disaster Relief Agency (Non-Obvious Persona)

Pain Point: Relying on expensive, non-sustainable, or slow temporary housing solutions post-disaster.

Value Solved: Offers durable, quickly deployable transitional housing that can be repurposed or permanently sited.

Testimonial: “The modularity and ease of assembly mean we can bring stability back to a community weeks faster than traditional rebuilds.”

Persona 3: The Low-Income Homeowner ('The Happy Homeowner')

Pain Point: Affordability barriers and high ongoing utility costs in conventional housing.

Value Solved: A direct path to secure, dignified ownership with superior energy efficiency, resulting in drastically reduced utility bills.

Testimonial: “This is the first time I've truly felt secure and proud of my home. My electric bill is almost nothing.”

Feasibility Assessment

Technological Readiness Level (TRL): 4 – Component and/or breadboard validation in a laboratory environment.

Assessment: The core technology involves the material science of sourcing, treating, and standardizing diverse scrap wood inputs into a consistent, structural-grade composite or framed panel. This foundational process requires validation of structural integrity (load bearing, moisture resistance) in a controlled setting.

Next Stage (TRL 5): Component and/or breadboard validation in a relevant environment (e.g., constructing and testing a full-scale wall section exposed to external elements).

Business Readiness Level (BRL): 3 – Proof of concept developed and market validation initiated.

Assessment: The business model (cheap input material leading to cost-competitive output) is conceptually strong, but reliable scrap wood supply chains and detailed unit economics (processing costs, quality control overhead) are still under development. Initial discussions with potential B2B partners are nascent.

Next Stage (BRL 4): Viability analysis and business model refinement based on detailed cost modeling and initial commitment letters or Memoranda of Understanding (MOUs) from potential non-profit clients.

Prototyping & Testing Roadmap

Phase I: Minimum Viable Kit (MVk) Development (0-6 months)

- Design and engineer the simplest standardized wood frame kit (e.g., a 100 sq ft shelter module).
- Establish a micro-processing facility to formalize scrap wood quality control and standardization protocols.
- MVP field trial: Construct 5 units with partner NGOs for assembly feedback and basic structural performance checks.

Phase II: Iterative Refinement & Cost Validation (6-12 months)

- Refine kit assembly based on construction feedback, focusing on minimizing specialized tools and optimizing labor time.
- Parallel business model validation: Finalize B2B unit pricing and demonstrate definitive cost savings against incumbent solutions.

Phase III: Scalable Module Testing (12-18 months)

- Develop and test two additional floor plans (e.g., 2-bedroom family module) to validate scalability of the framing system.
- Targeted field trials: Deploy 20 units across diverse climates (e.g., high humidity, cold) to test material durability and energy performance in real-world scenarios.

Strategic Launch & Market Integration

Strategic Partnerships: Secure long-term supply agreements with national waste management companies to guarantee a stable, high-volume feedstock of usable scrap wood. Partner with large, established housing non-profits (e.g., Habitat for Humanity) for initial volume orders and credibility.

Pilot Programs & Incentives: Offer deeply discounted 'First 50' units to established Community Land Trusts (CLTs) in exchange for detailed longitudinal performance data and robust homeowner satisfaction testimonials ('Happy Homeowner' metrics).

Distribution Channels: Primary focus will be B2B (Non-Profits, Government Housing Agencies, Disaster Relief Organizations). Secondary channel is Direct-to-Contractor (D2C) via an online kit marketplace, targeting sustainable and specialized builders.

Macrotrend Framing: ReFrame Haven capitalizes on the massive global shift toward the **Circular Economy**, providing a direct, auditable mechanism for turning construction waste into valuable, socially impactful assets. It seamlessly integrates into the growing movement for **Affordable, Resilient Housing** solutions, positioning the company as a leader in sustainable shelter infrastructure.

Next Step

Secure $500k seed funding to establish a pilot-scale wood processing and standardization facility and finalize engineering specifications for the Minimum Viable Kit (MVk), focusing specifically on achieving TRL 5 within 9 months.