



MEKONG RESILIENCE FUND

Blended Finance · Climate Resilience Infrastructure · Supply Chain Insetting · Singapore VCC

11.7% / 4.80%

SENIOR / JUNIOR NET IRR

1.41x MOIC

BASE CASE · 65% ADOPTION

\$28B Protected

ANNUAL MEKONG EXPORT VALUE

The **Mekong Resilience Fund (MRF)** converts climate risk into a bankable, institutional asset class through a pioneering **"Supply Chain Insetting"** model. Corporate off-takers pay a **Resilience Fee Agreement (RFA)**: a **30% flat fee guaranteed** regardless of climate events, plus a **performance fee** when the 4g/L salinity trigger is met, shifting the financial burden of resilience from 1.1 million vulnerable farmers to global supply chains.

The Problem

The **Mekong Delta** produces **11% of the world's rice exports** and the highest-value seafood globally. Trapped in a **"repeated rebuild cycle"**, typhoons and salinity intrusion (>4g/L, 90km inland) create a **\$3B economic drag** on Vietnam's GDP annually, with 90% of losses uninsured. Over **\$1B in aid** committed since 2020, yet losses grow. Farmers bear 100% of the risk; off-takers bear zero.



The Solution

MRF deploys a **\$250M blended finance vehicle**. RFAs paid by 17 identified corporate off-takers yield **\$16.9M/yr guaranteed** and up to **\$56.3M/yr adoption-adjusted**. Fees finance: **12–15 automated sluice gates**, **3–4 elevated logistics hubs**, and **30,000ha mangrove bio-shields**. Triggers verified by IoT (LoRaWAN) and satellite data (Floodbase, Planet Labs), certified by DNV/Bureau Veritas.

EU CSRD Scope 3 Mandate

17 MRF off-takers face mandatory Scope 3 supply chain disclosure from FY2025. Mekong Delta exposure becomes a material, reportable liability. MRF converts that liability into a contractual solution.

ADB PCG · \$50M Backstop

ADB's 20% Partial Credit Guarantee provides \$50M unfunded backstop. No sovereign counter-indemnity required. Combined with \$75M Junior first-loss, Senior tranche has 83.3% credit enhancement. \$50M PCG mobilises \$150M private capital (3x leverage).

Vietnam Master Plan 2021-2030

Vietnam's Prime Minister-approved Mekong Delta Master Plan mandates provincial co-investment in climate infrastructure. In 2026, the implementation window is fully open and the private capital gap is at its widest. Government provides land, permits, and coordination at zero cost to the fund. 7 provinces · PPP-ready

Fund Details

Fund Type / Vehicle	Blended Debt Facility; Singapore Variable Capital Company (VCC)
Total Fund Size	US\$250 Million (Phase 1: \$40–50M Ca Mau pilot)
Fund Term	10 Years (5-Year Staged Investment Period)
Primary Revenue	RFAs: 30% flat fee guaranteed + performance fee (trigger-linked)
Secondary Revenue	Verra VCS Blue Carbon Credits · \$2.7–3.6M/yr (Shell, Microsoft, Respira, South Pole)
Target Net IRR	11.7% Senior 4.80% Junior 1.41x MOIC (65% adoption)
Breakeven Adoption	45% (below 65% base) · Stress-tested at 68% of Typhoon Yagi worst-case
Corporate ROI	6.7x: \$1 in fees avoids \$6.70 in supply chain losses
Management Fee	1% p.a. on committed capital
Performance Fee	20% of surplus above hurdle rate (Junior/Equity tranches; surplus years only)
Exit Strategy	Vietnam Sovereign Green/Blue Bond refinancing or Forward Carbon Rights monetisation

Operating Structure & Verification Node

- 1. Domicile & Legal Entities:** Singapore VCC (Umbrella Fund) enables seamless ASEAN scalability without new legal entities. A Vietnam SPV enters a PPP with Provincial People's Committees to hold physical infrastructure assets.
- 2. The Verification Node:** Trigger verification uses real-time IoT salinity sensors (LoRaWAN, 15km radius/node) and satellite imagery (Floodbase + Planet Labs), interpreted by an independent calculation agent (DNV/Bureau Veritas). Binary outcome: TRIGGER MET: flat + performance fee; TRIGGER NOT MET: flat fee only. No negotiation. 90-day payout.

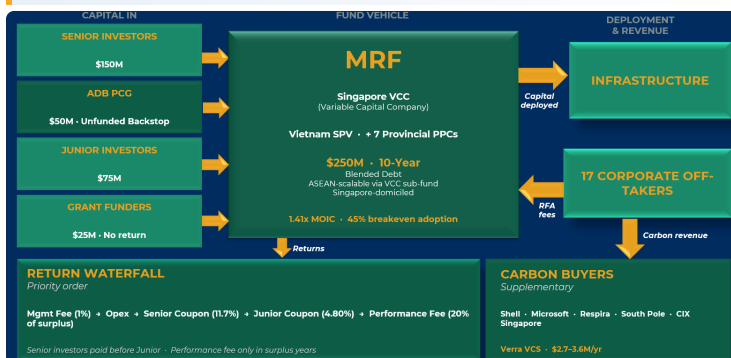
Phased Rollout & Scale

- Phase 1 · Yrs 1–3 · \$40–50M:** Ca Mau pilot. Anchor: **Minh Phu Seafood**. 3–4 sluice gates + IoT + 5,000ha mangroves. First RFA payments. Ca Mau IRR: 9.2%.
- Phase 2 · Yrs 4–6 · \$100M:** **Dong Thap + Soc Trang**. Add **Vinh Hoan + Sao Ta**. First Verra VCS blue carbon credits (Year 4). ADB PCG activates at \$100M+.
- Phase 3 · Yrs 7–10 · \$250M:** All 7 Mekong provinces. 17 off-takers. 30,000ha mangroves. 12–15 sluice gates. Post-Year 10: ASEAN expansion via VCC sub-fund.

CAPITAL STACK

60%	\$150M	SENIOR TRANCHE De-risked by 20% ADB PCG (\$50M unfunded backstop) <i>11.7% Net IRR</i>
30%	\$75M	JUNIOR TRANCHE First-loss: ADB, IFC, FMO, KfW <i>4.80% Net IRR</i>
10%	\$25M	GRANT LAYER USAID · GIZ · philanthropy · IoT + training <i>No financial return</i>

Fund Structure & Ecosystem



Market Validation & Partners

Thomas Jacobs (IFC Country Manager, Mekong Region) · IFC junior tranche interest validated. **Bas Rekvelt** (FMO Principal Investment Officer, Asia Agribusiness) · conditional DFI interest signalled. **Christopher Au** (WTW Director, Climate & Resilience Hub, Asia Pacific) · parametric trigger soundness confirmed. **Dr. Bapon Fakhruddin** (GCF Water & Climate Leader) · GCF Private Sector Facility compatibility confirmed. **17 corporate off-takers identified** · \$577.6M verified Mekong supply chain exposure.



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Financial Analysis

Key Assumptions & Revenue Model

Fee Structure

- **30% flat fee guaranteed** regardless of climate events (\$16.9M/yr)
- **Performance fee** paid when 4g/L salinity trigger is met
- Trigger Met: ~\$55–65M | Full waterfall distribution
- Trigger Not Met: ~\$30.5M | Covers opex + \$20.5M surplus

Revenue Waterfall

Mgmt fee → Opex → Senior coupon → Junior coupon → Perf fee. Senior paid before Junior; perf fee only in surplus years.

Assets & Impact

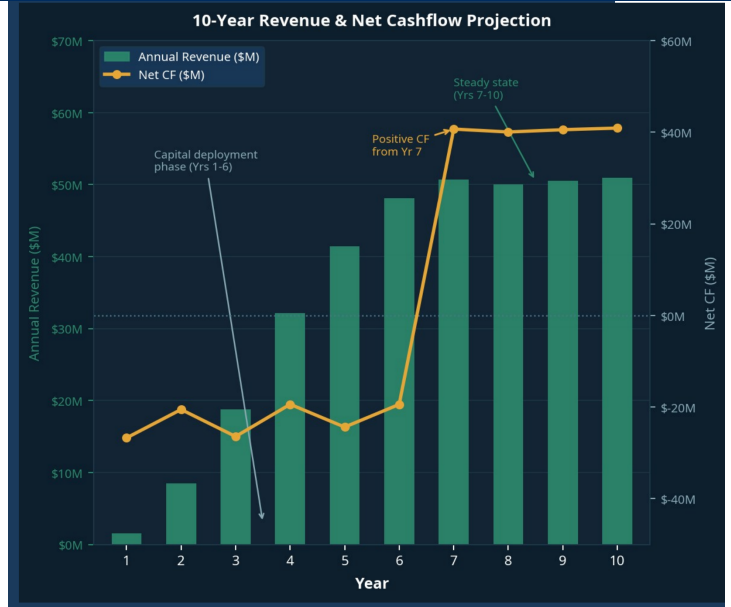
- Hard: \$160–210M (12–15 sluice gates, logistics hubs, road networks)
- Natural: \$29–44M (30,000ha mangroves, 6–8 tCO2e/ha/yr sequestration)
- Digital: \$8–13M (LoRaWAN IoT, Floodbase, Planet Labs, blockchain audit)

Exit Strategy

- Path A: Vietnam National Green/Blue Bond market refinancing
- Path B: Monetisation of mature Forward Blue Carbon rights (Verra VCS)

Returns Summary

11.7% Senior IRR | 4.80% Junior IRR | 1.41x MOIC base case | Breakeven: 45% adoption



IRR SENSITIVITY ANALYSIS

Metric	Downside	Base Case	Upside
Adoption Rate	45%	65%	85%
Carbon Price (\$/tCO2e)	\$10	\$15	\$25
Exit Path	None	Path A	Path C
Senior IRR	4.42%	11.7%	13.4%
Junior IRR	0%*	4.80%	5.9%
MOIC	1.04x	1.41x	1.82x
Net Return (\$M)	\$12.5M	\$72.5M	\$212.5M
Breakeven?	Yes (45%=BE)	Yes	Yes

* Downside Junior IRR reflects zero-exit scenario (cashflow only, no terminal exit). Capital returned at 1.04x MOIC.

RISK ASSESSMENT

	Description	Mitigation Strategy	
Environmental & Geographic	Climate volatility (typhoons, salinity) exceeding design specs.		HIGH
Market & Counterparty	Revenue volatility tied to off-taker adoption of RFAs and performance-linked fees.		HIGH
Data & Technology	Risk of basis failure or data gaps in validating parametric triggers.		MODERATE
Financial & Liquidity	Post-event cash flow shocks delaying scheduled payouts.		MODERATE

Impact Measurement

SDG	SDG Target	Impact Metric for MRF	Measurement of Success
1 POVERTY	Ensure sustainable and resilient food production systems	Hectares of rice and shrimp production protected from salinity intrusion, enabled by automated sluice gates.	Target: ~350,000 hectares protected by Year 10.
1 POVERTY	Increase productivity and incomes of small-scale food producers	Number of smallholder livelihoods stabilised, with reduced exposure to crop loss and high-interest debt.	Target: ~1.1 million farmers reached by full deployment.
13 CLIMATE ACTION	Strengthen adaptive capacity to climate-driven salinity shocks	Days per year supply chains remain within safe freshwater thresholds via real-time salinity monitoring (4g/L line).	Target: <30 days/yr (baseline: 90-180 days/yr)
13 CLIMATE ACTION	Protect and restore coastal mangrove ecosystems as natural climate buffers	Hectares of mangroves restored as nature-based coastal bio-shields across the Mekong Delta coastline.	Target: 120,000 ha total mangrove cover by Year 10.
17 PARTNERSHIPS FOR THE GOALS	Catalyse cross-sector partnerships for climate-resilient development	Singapore VCC + Vietnam PPP + 17 corporates + 4 DFIs + 7 provincial governments, one blended finance vehicle.	Target: >\$250M blended capital mobilised; 3x leverage ratio on ADB PCG backstop.
17 PARTNERSHIPS FOR THE GOALS	Operationalise performance-linked climate finance as a replicable global model	Operationalisation of performance-linked climate finance using parametric triggers.	Target: 17 active Resilience Fee Agreements with global corporate off-takers by Year 10.

17 IDENTIFIED OFF-TAKERS · \$577.6M VERIFIED SUPPLY CHAIN EXPOSURE

TIER 1 · TRADERS	TIER 2 · PROCESSORS	TIER 3 · MNCs	TIER 4 · RETAILERS
Olam · Wilmar · Louis Dreyfus · Bunge	Minh Phu · Vinh Hoan · Sao Ta · Nam Viet	Nestlé · CP Group · Unilever · Mars	Costco · Walmart · AEON · Tesco · Carrefour

POST-Y10 EXPANSION: Thailand · Chao Phraya | Indonesia · Java Delta | Philippines · Cagayan

THE ASK: \$150M Senior · \$75M Junior · \$25M Grant