CARBON-BACKED SECURITIES

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Accelerating biochar project development through innovative carbon-credit-backed debt financing

Grace Aranow, Chandler Dalton, Ramil Ibrahim, Derek Nong
Yale School of Management

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OUR TEAM

Grace Aranow

MBA/MEM ‘25

Climate tech and
infrastructure investing

Chandler Dalton

MBA ‘25

Management consultant
Energy and Finance & Risk

Ramil Ibrahim

MBA/MEM ‘27

Agricultural micro-finance
Affordable housing lending

Derek Nong

MBA ‘25

Corporate Sustainability and
Green Bank Lending

140+

Global banking institutions with Net Zero commitments

50%

Remaining carbon budget used between 2020-2023

7-9B

Tons of CO_2 removed annually by mid-century to meet 1.5 target

0.5-2T

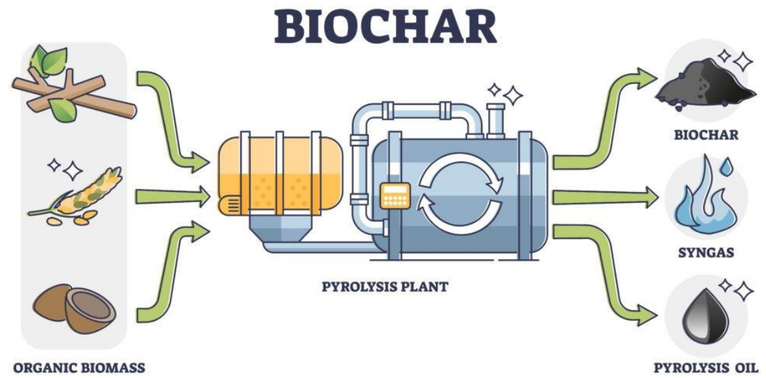
CDR investment required by 2030 to meet 2050 targets

BIOCHAR ISN'T RECEIVING THE NECESSARY FUNDING

Significant co-benefits – Cleanly dispose agricultural waste while producing a fertilizer to boost yields by 25%

Scalability – Potential to remove / store up to 3B tons/yr by 2050 (28% of all required removals)

Traction – In 2023, Biochar credits in the voluntary carbon market represent **>90% of global deliveries…**



…yet only 13% of CDR investment

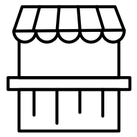
Underinvestment in this climate solution is a clear market failure.

WE NEED AN INNOVATIVE SOLUTION TO OVERCOME BIOCHAR FINANCING CHALLENGES

LENDER PAIN POINTS

Lender unfamiliarity

Small projects make due diligence costly and not worth the transaction overheard



Carbon Market volatility

Prices for carbon credits, particularly CDR, vary widely and are hard for banks to access given tech industry monopsony

Green financing diversification

Portfolios are overweighted towards renewables with lack of investing alternatives

DEVELOPER PAIN POINTS

High upfront capital cost

Ranging from $2-5M, depending on scale and feedstock

High financing costs

Lenders typically demand interest rates of 18%-20% or higher

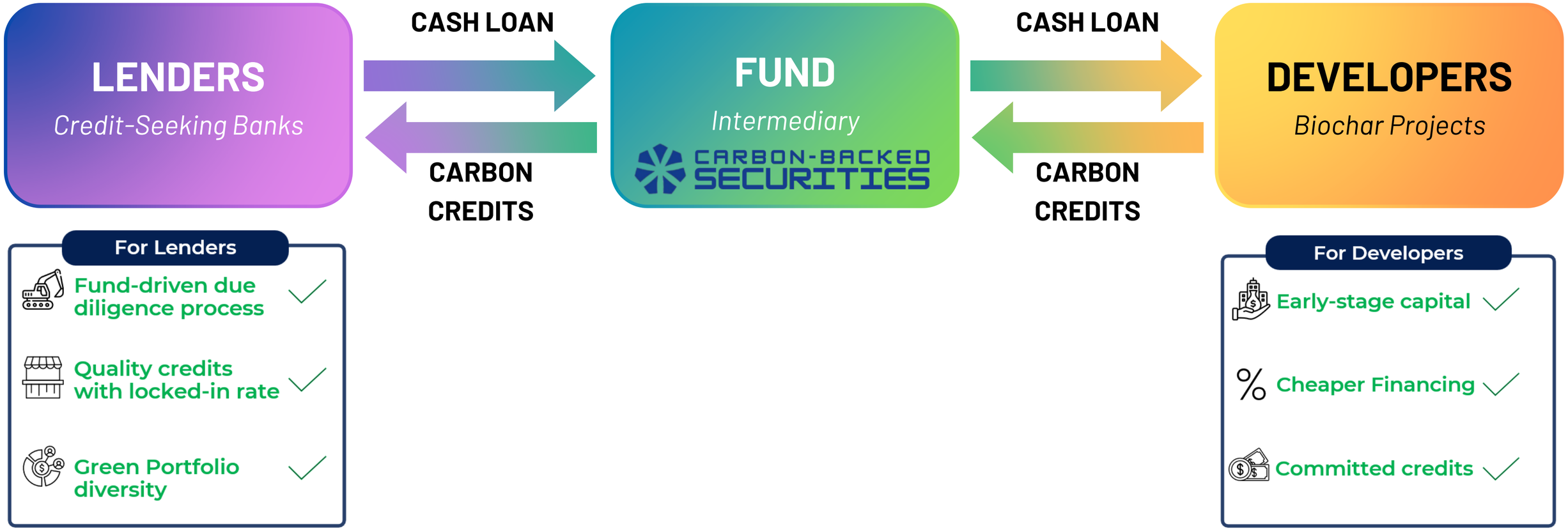
Monetizing Credits

Only 40% of issued credits have been sold on voluntary markets

FRAGMENTED POLICY SUPPORT UNDERSCORES THE NEED FOR FINANCIAL INNOVATION

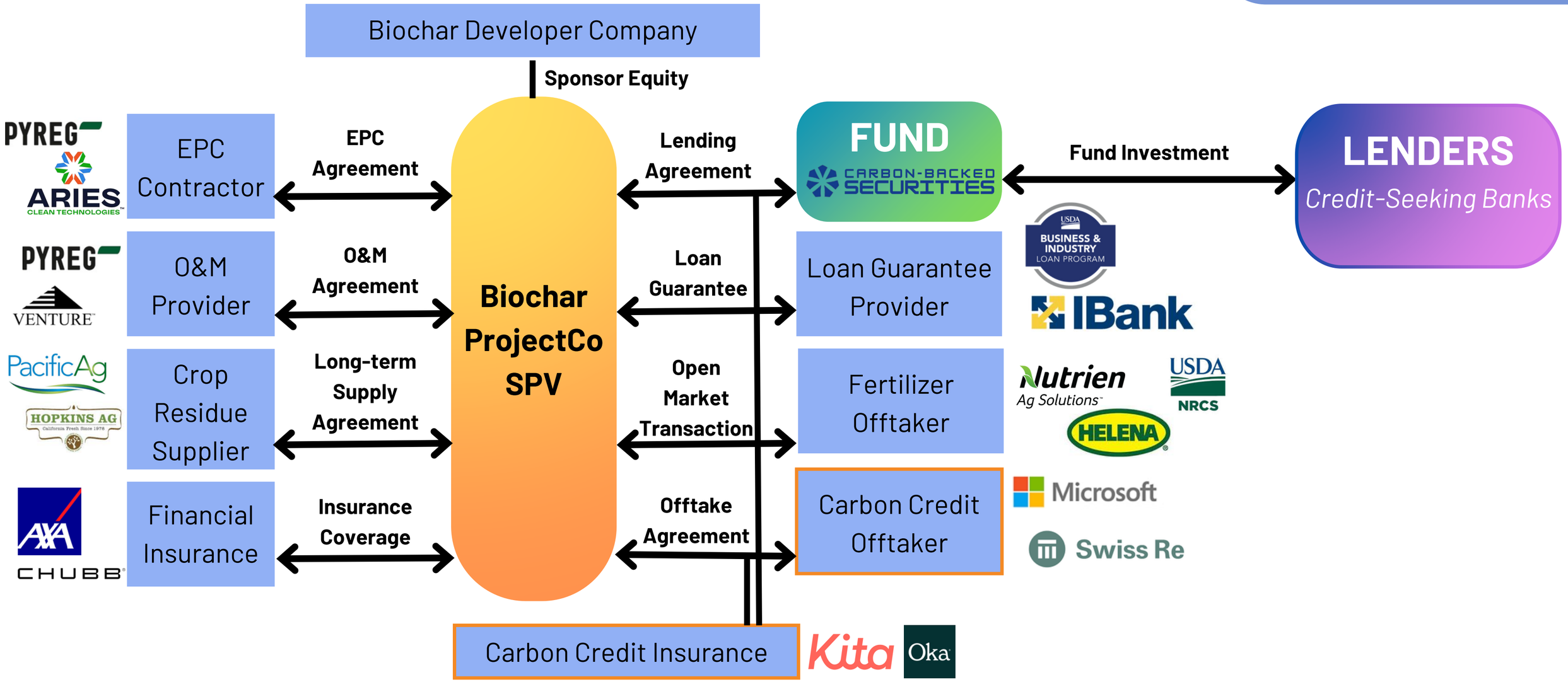
OUR SOLUTION:

CARBON-BACKED SECURITIES BRIDGES THE GAP BETWEEN **DEVELOPERS** AND **LENDERS**



DEVELOPER STRUCTURE

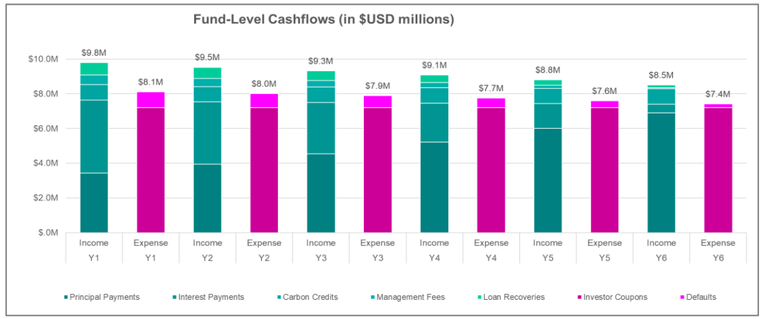
BIOCHAR PROJECTS ARE DERISKSED VIA CONTRACTS



VALUE PROPOSITION

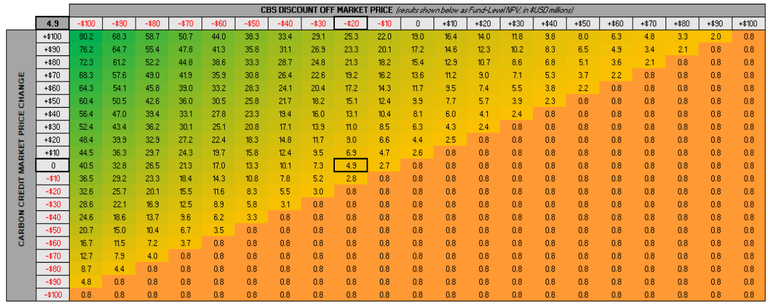
	Creates value for...	Mitigates risk by...
LENDERS	• Attractive coupons: UST10Y + 500 bps = 9.25% • Full-service: origination, underwriting, portfolio mgmt. • Assured supply of carbon credits	*Credit* • Fixed income: decent yield, low risk • Fund absorbs first-loss • Secured by hard asset collateral
FUND CARBON-BACKED SECURITIES	• Interest rate spread: 15% – 9.25% = 5.75% • Discount on credits: $185/t – $20/t = $165/tCO2e • Mgmt. fee: 2%	*Price Volatility Risk* • Price Cap + No Floor • High upside / limited downside
DEVELOPERS	• Lower cost of capital: Mkt (20%) – 500bps = 15% • Assured demand for carbon credits	*Repayment & Default Risk* • USDA Guarantee (80% of loan) • 1.40x DSCR, signed EPC / offtake • Secondary source: biochar sales

FINANCIAL ANALYSIS



Base Case:

14% Portfolio IRR + $5M Fund NPV at 3% defaults



CBS DISCOUNT OFF MARKET PRICE *(results shown below as Fund-Level NPV, in $USD millions)*

CARBON CREDIT MARKET PRICE CHANGE	-$100	-$90	-$80	-$70	-$60	-$50	-$40	-$30	-$20	-$10	0	+$10	+$20	+$30	+$40	+$50	+$60	+$70	+$80	+$90	+$100
+$100	80.2	68.3	58.7	50.7	44.0	38.3	33.4	29.1	25.3	22.0	19.0	16.4	14.0	11.8	9.8	8.0	6.3	4.8	3.3	2.0	0.8
+$90	76.2	64.7	55.4	47.8	41.3	35.8	31.1	26.9	23.3	20.1	17.2	14.6	12.3	10.2	8.3	6.5	4.9	3.4	2.1	0.8	0.8
+$80	72.3	61.2	52.2	44.8	38.6	33.3	28.7	24.8	21.3	18.2	15.4	12.9	10.7	8.6	6.8	5.1	3.6	2.1	0.8	0.8	0.8
+$70	68.3	57.6	49.0	41.9	35.9	30.8	26.4	22.6	19.2	16.2	13.6	11.2	9.0	7.1	5.3	3.7	2.2	0.8	0.8	0.8	0.8
+$60	64.3	54.1	45.8	39.0	33.2	28.3	24.1	20.4	17.2	14.3	11.7	9.5	7.4	5.5	3.8	2.2	0.8	0.8	0.8	0.8	0.8
+$50	60.4	50.5	42.6	36.0	30.5	25.8	21.7	18.2	15.1	12.4	9.9	7.7	5.7	3.9	2.3	0.8	0.8	0.8	0.8	0.8	0.8
+$40	56.4	47.0	39.4	33.1	27.8	23.3	19.4	16.0	13.1	10.4	8.1	6.0	4.1	2.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8
+$30	52.4	43.4	36.2	30.1	25.1	20.8	17.1	13.9	11.0	8.5	6.3	4.3	2.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
+$20	48.4	39.9	32.9	27.2	22.4	18.3	14.8	11.7	9.0	6.6	4.4	2.5	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
+$10	44.5	36.3	29.7	24.3	19.7	15.8	12.4	9.5	6.9	4.7	2.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
0	40.5	32.8	26.5	21.3	17.0	13.3	10.1	7.3	4.9	2.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
-$10	36.5	29.2	23.3	18.4	14.3	10.8	7.8	5.2	2.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
-$20	32.6	25.7	20.1	15.5	11.6	8.3	5.5	3.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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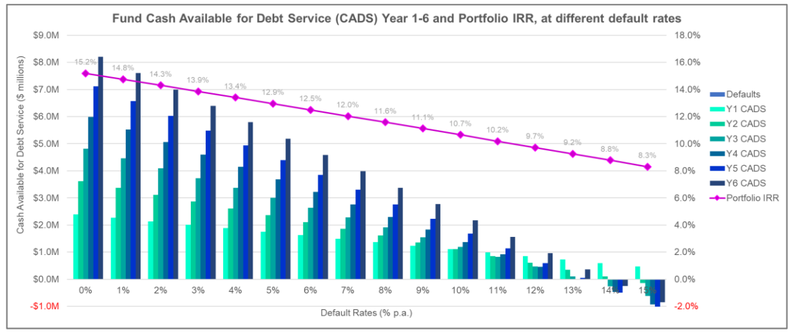
-$50	20.7	15.0	10.4	6.7	3.5	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
-$60	16.7	11.5	7.2	3.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
-$70	12.7	7.9	4.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
-$80	8.7	4.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
-$90	4.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
-$100	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8

Price Volatility:

Fund NPV = +ve at any carbon market price



Defaults:

Stressed up to 13% before Fund delinquency risk

See appendices for more details

UNLOCKING CAPITAL FOR BIOCHAR CREATES SIGNIFICANT IMPACT

Annual Impact

46,000 tons biochar

60 rural jobs

130,000 tCO2e removed

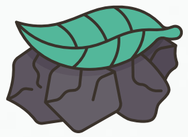
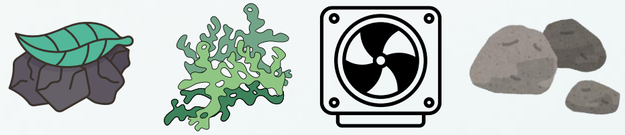
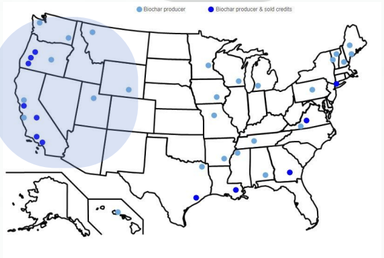
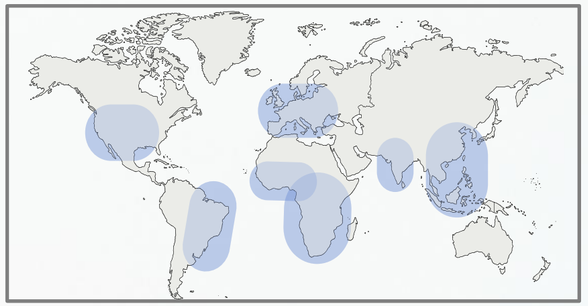
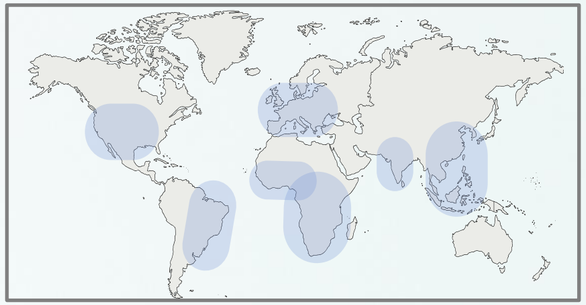
Impact Over Project Life

2,300,000 tCO2e removed

20 year project life

Main SDGs addressed

SCALING OUR SOLUTION

	NEAR TERM	GEOGRAPHIC EXPANSION	TECHNOLOGICAL EXPANSION
Opportunity Size	~$250M current, $500M by 2030	~$540M current, $1.4B by 2030	~$1.5B current, $25B by 2030
Investment Focus			
Target Geography			

CARBON-BACKED SECURITIES

THANK YOU TO OUR ADVISORS

Topic	Mentor	Organization
Lending and Project Finance	Richard Kauffman	GGRF, former NYSERDA
	Dan Gross	Amazon Climate Pledge
	Stephon Smith	Bank of America
	Gil Shefer	Orrick
	Chinmaya H M	Tata Steel
Biochar	Jeff Hallowell	Biomass Controls
	Josiah Hunt	Pacific Biochar
	Ross Kenyon	Airminers
	Emily Lewis	Silk Grass Farms
	Matt Plasek	US Biochar Initiative
Carbon Credit Markets	Kassandra Byaruhanga	Baringa
	Lana Le Hir	Orrick
	James Kench	Kita Carbon Insurance

CARBON-BACKED SECURITIES

APPENDIX

WE NEED AN INNOVATIVE SOLUTION TO OVERCOME BIOCHAR FINANCING CHALLENGES

For Developers

- Early-stage capital ✓
- % Cheaper Financing ✓
- Committed credits ✓

For Lenders

- Fund-driven due diligence process ✓
- Quality credits with locked-in rate ✓
- Green Portfolio diversity ✓

FRAGMENTED POLICY SUPPORT UNDERSCORES THE NEED FOR FINANCIAL INNOVATION

UNLOCKING CAPITAL FOR BIOCHAR CREATES SIGNIFICANT IMPACT

Most direct impact

Indirect impact / future impact through expansions

Not relevant

8 DECENT WORK AND ECONOMIC GROWTH

Each facility generates approximately 60 direct jobs in rural communities, with broader economic ripple effects through feedstock collection and increased agricultural productivity

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Infrastructure that bridges agricultural and industry. Facilities provide regional waste processing, agricultural soil amendments, and can serve as innovation hubs

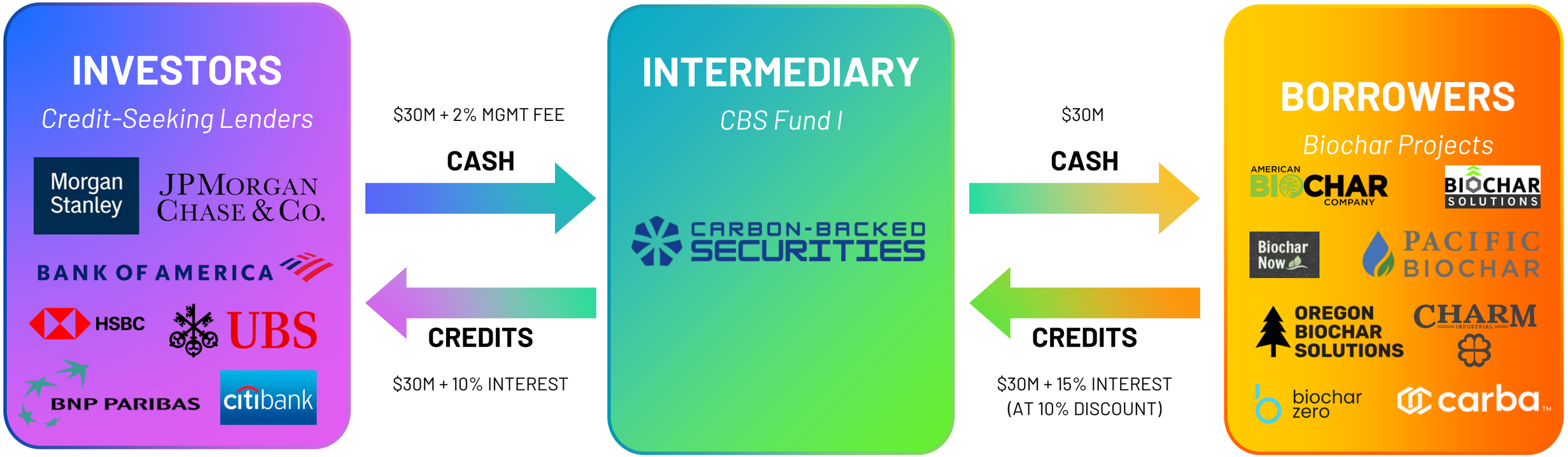
12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Fund catalyzes the production of 105,000 tons of biochar, improving ~26,000 acres of farmland and creating long-term soil benefits and avoiding local waterway contamination

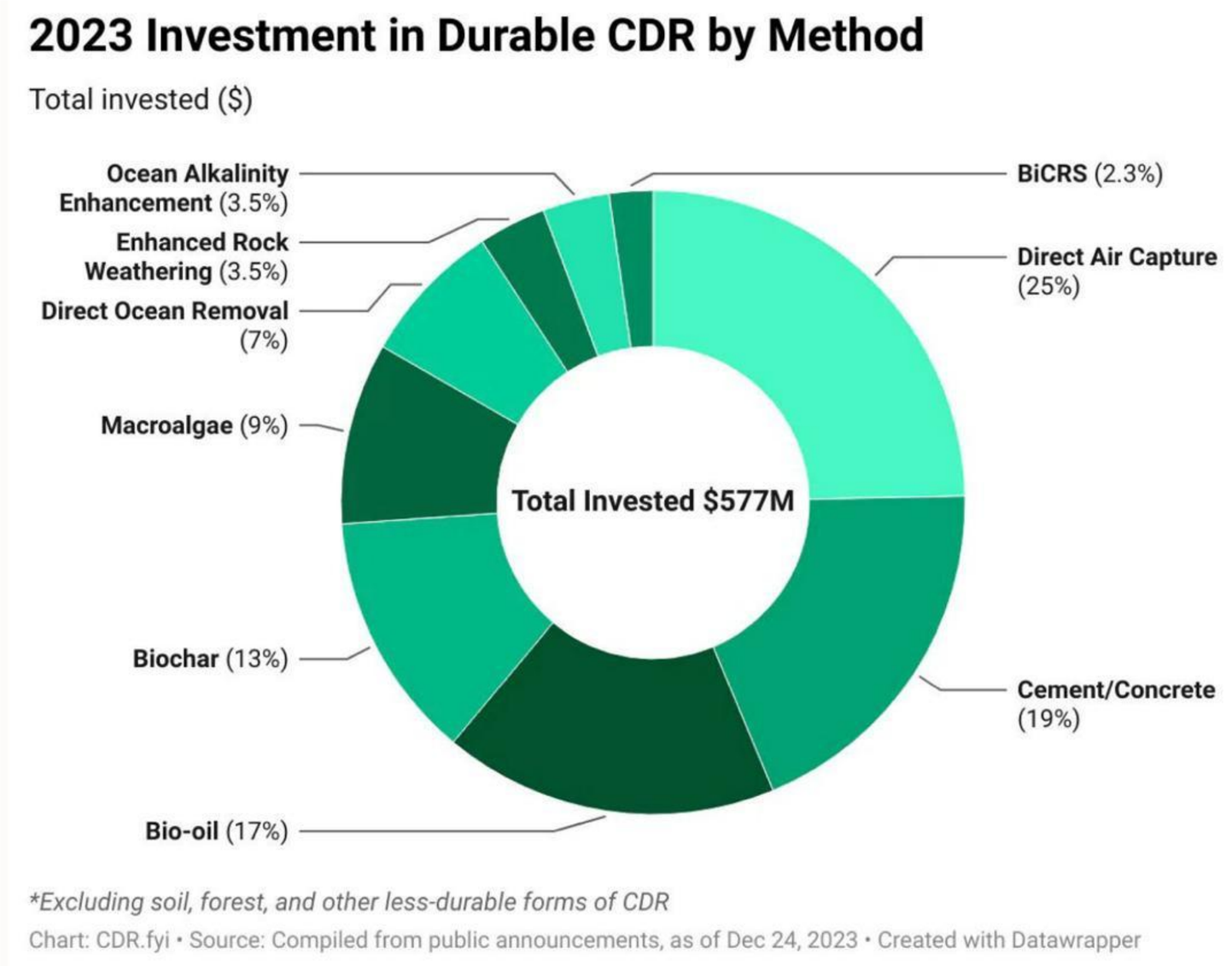
13 CLIMATE ACTION

Fund enables 300,000 tons of carbon removal and storage annually, positioning biochar as a scalable climate solution with measurable impact

FLOW OF FUNDS



Other CDR technology



US OPPORTUNITY SIZE

Global Market

- 350,000t (2023)
- $542M and expected to reach $1.4B (2030, 14% CAGR)
- ~300 Producers

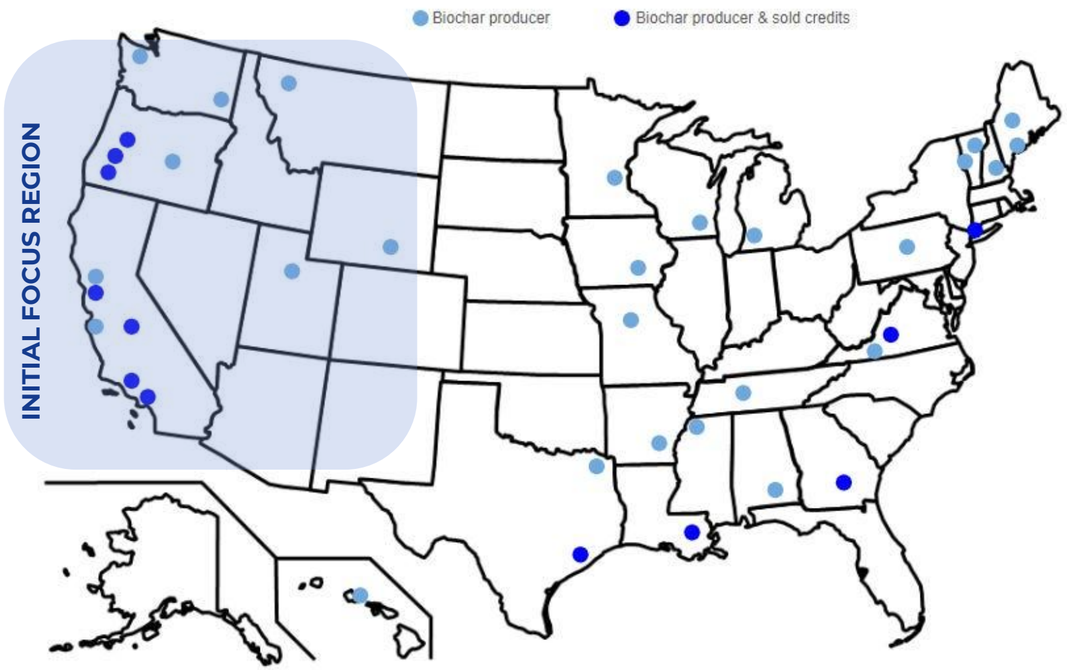
US Growth

- $203M in US (2022), ~$480 by 2030 (11% CAGR)
- 180 Producers

Western US Focus

- 4-8Mt of waste woody biomass produced per year
- 1-4Mt of biochar yield per year
- Figures could increase 25x if state and federal goals are met
- Increasing restrictions on agricultural waste burning (ex. San Joaquin Valley)

OVERVIEW OF US PRODUCTION



RISKS AND MITIGATION

Risk	Description	Impact	Mitigation
Credit Risk	Delinquency or default by developers due to project failure or inability to generate sufficient carbon credits/cash	Loss of principal, missed carbon credit goals	• Strict underwriting criteria • Loan tenor and cash sweep terms enable lender to accrue 100% of economic benefit during a default • Secured collateral with marketable pyrolysis equipment
Carbon Market Price Risk	Volatility in carbon credit spot prices leading to lower-than-expected value	Reduced cash flow	• Price Cap + No Floor provision enables lender to receive more credits in downside • Offtake contract with creditworthy offtaker limits spot market exposure
Policy Risk	Changes in carbon credit regulations or eligibility criteria	Recapture of credits, changes in subsidy available	• Monitor policy and regulatory developments • Structure loans with alternative cash repayment options
Offtake Risk- Credits	Offtaker refuses to accept credits	Reduced cash flow	• Take-or-Pay offtake agreements with corporate buyers • Reserve fund to cover short-term liquidity needs • Biochar revenue provides cash-based repayment
Offtake Risk- Biochar	Insufficient biochar fertilizer demand leads to low price	Reduced cash flow	• Contract with large fertilizer providers for multi-year supply contract • Utilize USDA subsidies for farmers to promote biochar demand
Measurement, Reporting, and Verification (MRV) Certification Risk	Biochar facilities fails to achieve MRV and thus produces less credits	Lower/no carbon credit generation	• Work with experienced developers • Include contractual penalties for verification delays/failures

SIMILAR MARKET PRODUCTS

	CARBON-BACKED SECURITIES	Pre-payments with Offtake Contract	Carbon Streaming
Upfront Payment	Yes, as loan	Yes, part of payment schedule	Yes, as nonrefundable deposit
Source of Capital	Bank Lenders with Credit Demand	Anyone (historically Tech)	Market Specialists
Use for Discounted Credits	Retire (with Resale option)	Retire	Resale for Profit
Exposure to Market Volatility	Price Cap with No Floor provides upside if prices fall	Fixed price provides no upside if prices fall	Profit/Loss based on price differential
Values Biochar Sales	Yes	No	No
Remedies for Credit Delivery Failure	Cash/Credit Sweep, Plant Repossession	None	None
Total Upfront Value at Risk	100% less equipment value	100%	100%

FINANCIAL ACCOUNTING FOR CARBON CREDITS

Accounting for Carbon Offsets

- Carbon offsets that are intended to be retired are typically considered intangible assets
- They are derecognized when they are retired, and the reporting entity records the gain/loss. Management judgement is required to determine the appropriate cost expense.
- Carbon offsets do not have an expiration date, and generally should not be impaired

Fair Valuing Carbon Offsets

- Carbon offsets are carried on the book at cost if there is no active market (ex. if price and quantity vary widely)
- If there is an active market, then the credits need to be revalued regularly compared to the market price, and any gains/losses recorded
- In instances with a signed offtake/loan contract, then the market approach, followed by cost approach would be most appropriate.

Accounting for CBS Loans

- CBS loans are recorded at amortized cost with the effective interest method, like any other financial loan

https://viewpoint.pwc.com/dt/gx/en/pwc/in_depths/in_depths_INT/in_depths_INT/ifrs-financial-reporting-considerations.html

APPENDIX

FINANCIAL MODEL (1/4)

CARBON BACKED SECURITIES - FINANCIAL MODEL ASSUMPTIONS

PROJECT LEVEL	Value	Unit
CapEx per Project	$4,000,000	*$*
LTV	80.0%	*%*
Equity Required	$800,000	*$*
Biochar Production	6,160	*tons/year*
Biochar Price	$200	*$/ton bc*
Price Escalator	2.00%	*% yoy*
Feedstock Cost	$50	*$/ton fs*
Feedstock Yield Factor	20.0%	*bc:fs*
OpEx	$100	*$/ton bc*
Expense Escalator	3.00%	*% yoy*
Carbon Benefit	2.5	*tCO2/ton bc*
Tax Rate	21.0%	*% p.a.*
PP&E Useful Life	20	*years*
Technology	25MW biopower light upgrade	

FUND LEVEL		
Initial Investment	$30,000,000	*$*
Tenor	6	*years*
Repayment Structure	Mortgage	
Total Number of Projects	7.5	*#*
Defaults	3.00%	*% p.a.*
Management Fee	2.00%	*% p.a.*

INTEREST RATE (TO BORROWER)		
UST10Y	4.35%	*% p.a.*
Spread	15.65%	*% p.a.*
Market Rate	20.00%	*% p.a.*
CBS Discount	-5.00%	*% p.a.*
CBS Rate	15.00%	*% p.a.*

INTEREST RATE (TO LENDER)		
UST10Y	4.35%	*% p.a.*
Investor Spread	5.00%	*% p.a.*
Investor Coupon	9.35%	*% p.a.*

USDA LOAN GUARANTEE		
Guaranteed Portion of Loan	80.0%	*of loan amt.*
Origination Fee	3.00%	*%*
Retention Fee	0.55%	*% p.a.*

CARBON CREDIT PRICE		
Market Rate @ t_0	$185	*$/tCO2e*
Market Price Change	$0	*$/tCO2e*
Market Rate @ t_new	$185	*$/tCO2e*
CBS Discount	-$20	*$/tCO2e*
CBS Price Cap	$165	*$/tCO2e*
CBS Price Floor	N/A	

APPENDIX

FINANCIAL MODEL (2/4)

YEAR			0	1	2	3	4	5	6
FUND LEVEL MODEL									
INCOME (CASH INFLOWS)									
Loan O/S Begin. Bal., interim				30,000,000	26,572,893	22,631,720	18,099,370	12,887,169	6,893,137
Less: Principal Amortiz.				(3,427,107)	(3,941,173)	(4,532,349)	(5,212,202)	(5,994,032)	(6,893,137)
Loan O/S End. Bal., interim			30,000,000	26,572,893	22,631,720	18,099,370	12,887,169	6,893,137	-
Defaults	3.00%			(900,000)	(797,187)	(678,952)	(542,981)	(386,615)	(206,794)
Less: Loan Guarantee Recovery	80.0%			720,000	637,749	543,161	434,385	309,292	165,435
Net Loan Loss				(180,000)	(159,437)	(135,790)	(108,596)	(77,323)	(41,359)
Principal Payment, before Default Effects				3,427,107	3,941,173	4,532,349	5,212,202	5,994,032	6,893,137
Less: Net Loan Loss				(180,000)	(159,437)	(135,790)	(108,596)	(77,323)	(41,359)
Less: Reduced Principal Payment	3.00%			(51,407)	(59,118)	(67,985)	(78,183)	(89,910)	(103,397)
Principal Payment, after Default Effects				3,195,701	3,722,618	4,328,574	5,025,422	5,826,798	6,748,381
Loan O/S End. Bal., Net of Princ. Amort. and Loan Loss			30,000,000	25,672,893	21,834,533	17,420,419	12,344,187	6,506,522	-
Avg. Loan O/S				27,836,446	23,753,713	19,627,476	14,882,303	9,425,355	3,253,261
Interest Payment	15.0%			4,175,467	3,563,057	2,944,121	2,232,345	1,413,803	487,989
Debt Service (P&I) Payments, incl. Loss Recovery and Default Effects				7,371,168	7,285,675	7,272,695	7,257,768	7,240,602	7,236,370
DS in Carbon Credits, at CBS Rate	165			44,674	44,156	44,077	43,986	43,882	43,857
DS in Carbon Credits, at Market Rate	185			39,844	39,382	39,312	39,231	39,138	39,116
Fund "Profit," in Carbon Credits				4,830	4,774	4,765	4,755	4,744	4,741
Fund "Profit," if Carbon Credits Cashed Out	185			893,475	883,112	881,539	879,729	877,649	877,136
Fund Management Fee	2.00%			556,729	475,074	392,550	297,646	188,507	65,065
Total Mgmt Fee	**1,975,571**								
Total OPM Capital Required	**31,975,571**								
Total Fund Income				8,821,371	8,643,862	8,546,783	8,435,143	8,306,757	8,178,571
EXPENSE (CASH OUTFLOWS)									

APPENDIX

FINANCIAL MODEL (3/4)

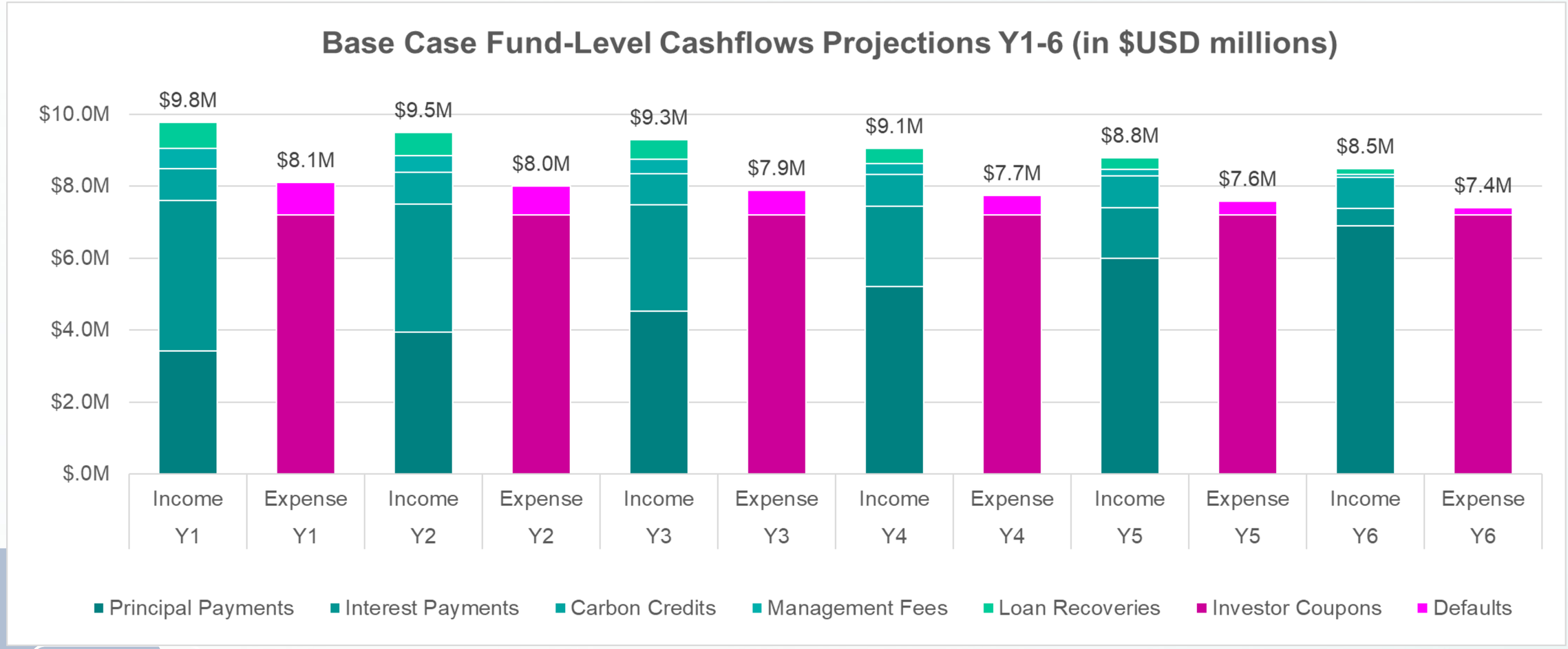
YEAR			0	1	2	3	4	5	6
Total Fund Income				8,821,371	8,643,862	8,546,783	8,435,143	8,306,757	8,178,571
EXPENSE (CASH OUTFLOWS)									
Interest Portion of Coupon				(2,989,716)	(2,595,818)	(2,165,090)	(1,694,089)	(1,179,050)	(615,854)
Principal Portion of Coupon				(4,212,815)	(4,606,714)	(5,037,441)	(5,508,442)	(6,023,481)	(6,586,677)
Total Investor Coupons	9.35%			(7,202,531)	(7,202,531)	(7,202,531)	(7,202,531)	(7,202,531)	(7,202,531)
Guarantee Origination Fee	3.00%			(900,000)	-	-	-	-	-
Guarantee Retention Fee	0.55%			(153,100)	(130,645)	(107,951)	(81,853)	(51,839)	(17,893)
Total Guarantee Expense				(1,053,100)	(130,645)	(107,951)	(81,853)	(51,839)	(17,893)
Total Fund Expense				(8,255,632)	(7,333,177)	(7,310,482)	(7,284,384)	(7,254,371)	(7,220,424)
NET INCOME (NET CASHFLOWS TO CBS)				**565,740**	**1,310,685**	**1,236,301**	**1,150,759**	**1,052,387**	**958,147**
Fund Discount Rate	8.0%								
Fund NPV	**4,794,824**								
Fund Mgmt Fee Account Begin Bal				1,975,571	1,418,842	943,768	551,218	253,572	65,065
Less: Mgmt. Fee Payment				(556,729)	(475,074)	(392,550)	(297,646)	(188,507)	(65,065)
Fund Mgmt Fee Account End Bal			1,975,571	1,418,842	943,768	551,218	253,572	65,065	(0)
Fund Cash (No Distrib.) Begin. Bal.				1,975,571	1,984,582	2,820,192	3,663,944	4,517,057	5,380,937
Less: Mgmt Fee				(556,729)	(475,074)	(392,550)	(297,646)	(188,507)	(65,065)
Add: Net Income / Retained Earnings				565,740	1,310,685	1,236,301	1,150,759	1,052,387	958,147
Fund Cash (No Distrib.) End. Bal.			1,975,571	1,984,582	2,820,192	3,663,944	4,517,057	5,380,937	6,274,018
Income-to-Expense Ratio (Annual)				6.9%	17.9%	16.9%	15.8%	14.5%	13.3%
Income-to-Expense Ratio (Cumulative)				6.9%	12.0%	13.6%	14.1%	14.2%	14.0%
RETURNS									
Investor Cashflows			(31,975,571)	7,202,531	7,202,531	7,202,531	7,202,531	7,202,531	7,202,531
Investor IRR	**9.35%**								

APPENDIX
FINANCIAL MODEL (4/4)

YEAR		0	1	2	3	4	5	6
RETURNS								
Investor Cashflows		(31,975,571)	7,202,531	7,202,531	7,202,531	7,202,531	7,202,531	7,202,531
Investor IRR	**9.35%**							
PORTFOLIO LEVEL								
Interest Income (from Borrowers)	15.0%		4,175,467	3,563,057	2,944,121	2,232,345	1,413,803	487,989
Interest Expense (Coupons to Lenders)			(2,989,716)	(2,595,818)	(2,165,090)	(1,694,089)	(1,179,050)	(615,854)
Net Interest Income			1,185,751	967,239	779,031	538,256	234,753	(127,865)
Avg. Interest Earning Assets			27,836,446	23,753,713	19,627,476	14,882,303	9,425,355	3,253,261
Net Interest Margin (Per Year)			4.3%	4.1%	4.0%	3.6%	2.5%	-3.9%
Net Interest Margin (Cumulative)			4.3%	4.2%	4.1%	4.0%	3.9%	3.6%
Portfolio Cashflows (before coupons)		(31,975,571)	8,264,642	8,168,787	8,154,234	8,137,497	8,118,250	8,113,506
Portfolio IRR	**13.76%**							

APPENDIX

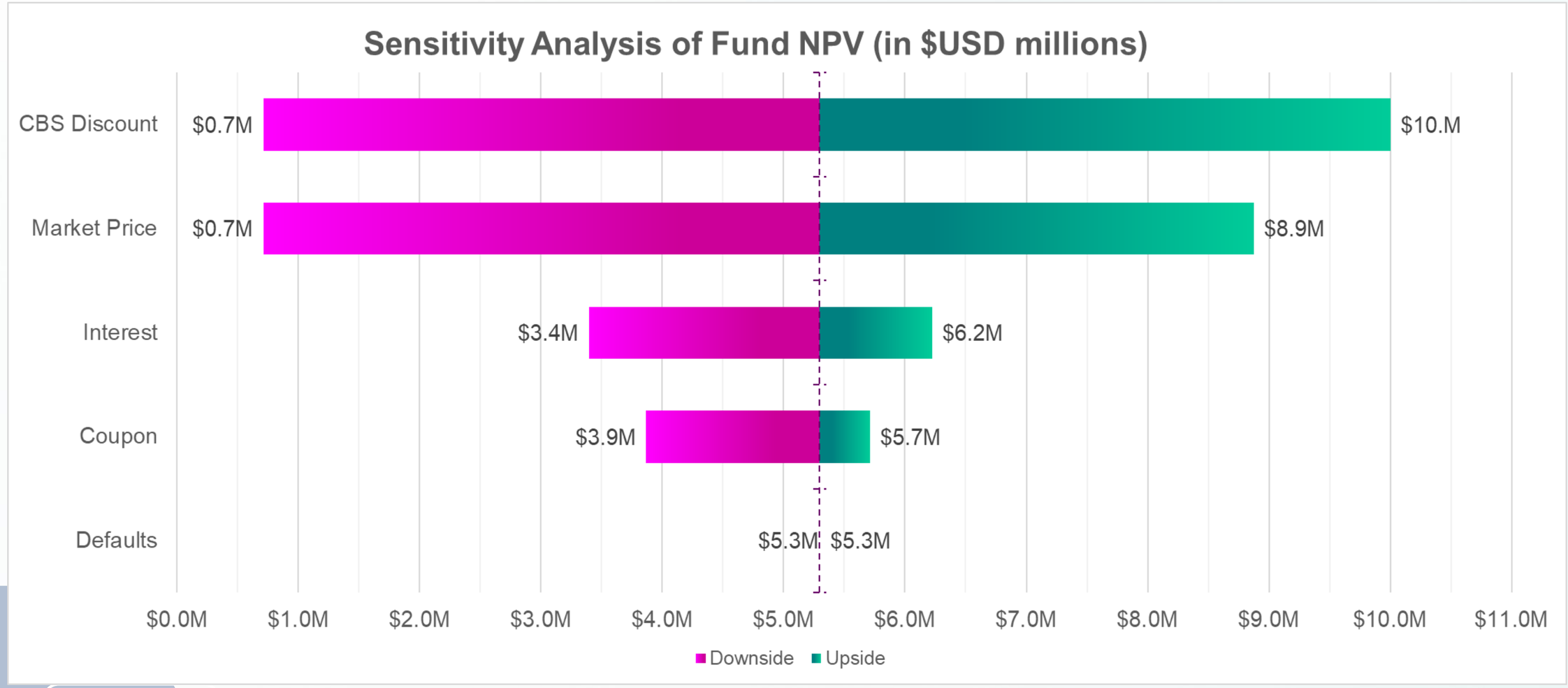
ANALYSIS: CASHFLOW PROJECTIONS



Note: Here, "income" = cash inflows and "expense" = cash outflows

APPENDIX

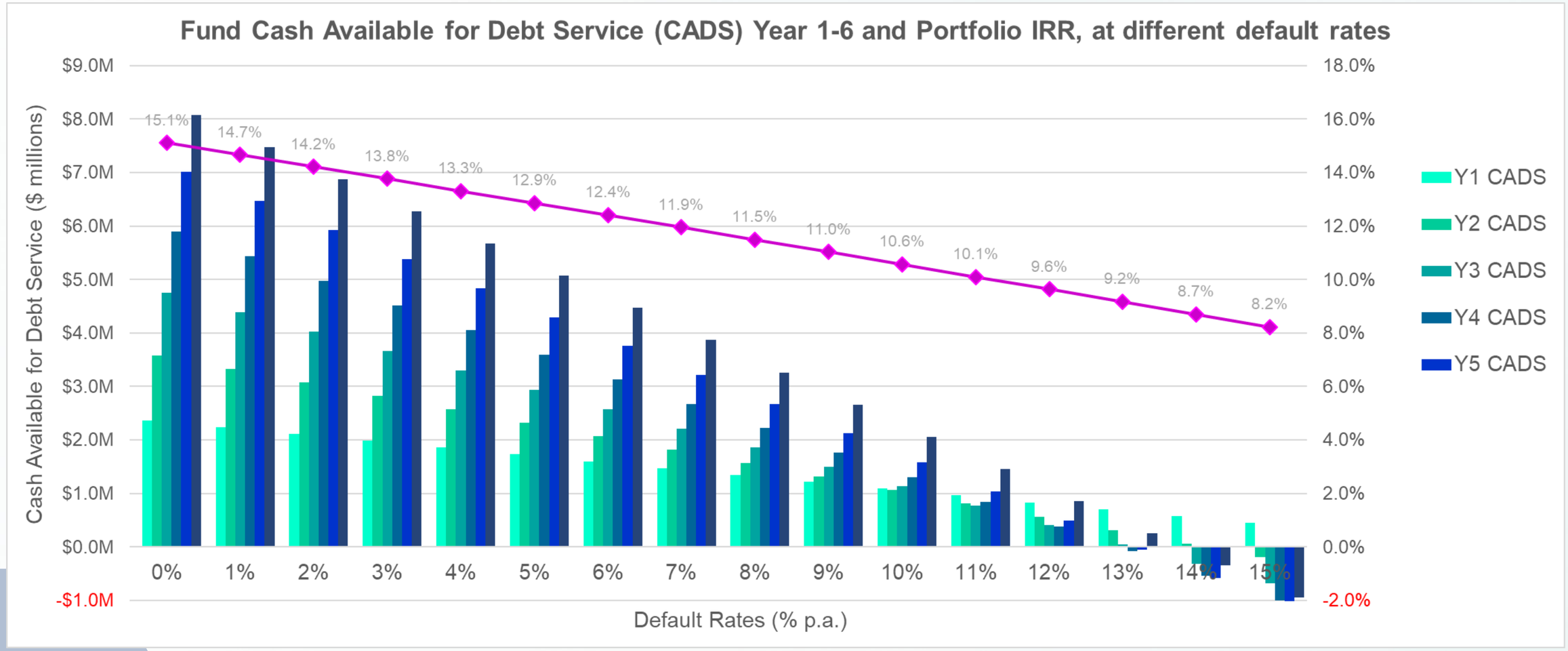
ANALYSIS: SENSITIVITY



Note: Each line item was stressed +/- 10% to produce the above effects

APPENDIX

ANALYSIS: DEFAULTS STRESS TEST



Interpretation: Defaults must exceed 13% before Fund is at risk of delinquency on coupon payments. At this point, Portfolio IRR is less than 9.25%, which is the coupon rate to Lenders.

APPENDIX

ANALYSIS: PRICE VOLATILITY SCENARIOS

CARBON CREDIT MARKET PRICE CHANGE	CBS DISCOUNT OFF MARKET PRICE *(results shown below as Fund-Level NPV, in $USD millions)*																			
4.8	-$100	-$90	-$80	-$70	-$60	-$50	-$40	-$30	-$20	-$10	0	+$10	+$20	+$30	+$40	+$50	+$60	+$70	+$80	+$90	+$100
+$100	79.9	68.0	58.4	50.5	43.8	38.1	33.2	29.0	25.2	21.9	18.9	16.3	13.9	11.7	9.7	7.9	6.2	4.7	3.3	1.9	0.7
+$90	76.0	64.5	55.2	47.6	41.1	35.6	30.9	26.8	23.2	20.0	17.1	14.5	12.2	10.1	8.2	6.4	4.8	3.4	2.0	0.7	0.7
+$80	72.0	61.0	52.0	44.6	38.4	33.1	28.6	24.6	21.1	18.0	15.3	12.8	10.6	8.5	6.7	5.0	3.5	2.0	0.7	0.7	0.7
+$70	68.0	57.4	48.8	41.7	35.7	30.6	26.3	22.4	19.1	16.1	13.5	11.1	8.9	7.0	5.2	3.6	2.1	0.7	0.7	0.7	0.7
+$60	64.1	53.9	45.6	38.8	33.0	28.1	23.9	20.3	17.0	14.2	11.6	9.3	7.3	5.4	3.7	2.1	0.7	0.7	0.7	0.7	0.7
+$50	60.1	50.3	42.4	35.8	30.3	25.7	21.6	18.1	15.0	12.3	9.8	7.6	5.6	3.8	2.2	0.7	0.7	0.7	0.7	0.7	0.7
+$40	56.2	46.8	39.2	32.9	27.6	23.2	19.3	15.9	13.0	10.3	8.0	5.9	4.0	2.3	0.7	0.7	0.7	0.7	0.7	0.7	0.7
+$30	52.2	43.2	36.0	30.0	25.0	20.7	17.0	13.7	10.9	8.4	6.2	4.2	2.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
+$20	48.2	39.7	32.8	27.1	22.3	18.2	14.6	11.6	8.9	6.5	4.4	2.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
+$10	44.3	36.2	29.6	24.1	19.6	15.7	12.3	9.4	6.8	4.6	2.5	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
0	40.3	32.6	26.4	21.2	16.9	13.2	10.0	7.2	4.8	2.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
-$10	36.4	29.1	23.2	18.3	14.2	10.7	7.7	5.1	2.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
-$20	32.4	25.5	20.0	15.4	11.5	8.2	5.4	2.9	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
-$30	28.4	22.0	16.7	12.4	8.8	5.7	3.0	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
-$40	24.5	18.4	13.5	9.5	6.1	3.2	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
-$50	20.5	14.9	10.3	6.6	3.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
-$60	16.6	11.3	7.1	3.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
-$70	12.6	7.8	3.9	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
-$80	8.6	4.3	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
-$90	4.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
-$100	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

Interpretation: If carbon credit market price drops below CBS price cap, Fund NPV = $0.7M.
At this point, Fund gets zero "profit" from carbon credit arbitrage, and only earns interest and fee income.

APPENDIX

EXAMPLE: PRICE CAP / NO FLOOR MECHANICS

	Null Case Without CBS No Price Change	**Base Case** With CBS No Price Change	**Upside Case** With CBS Price Increase +$10	**Downside Case** With CBS Price Decrease -$10
Borrower repayment at CBS Price Cap:	$1,000 / $100 per credit = 10 credits	$1,000 / $90 per credit = 11.11 credits	$1,000 / $90 per credit = 11.11 credits	$1,000 / $90 per credit = 11.1 credits
Fund receives market value of:	10 credits * $100 = $1,000	11.11 credits * $100 = $1,111	11.11 credits * $110 = $1,222	11.11 credits * $90 = $1,000
Fund "profit" from arbitrage:	$0	$111	$222	$0

Assumptions

- Cash to Credit Conversion = Debt Service / CBS Price
- Debt Service = $1,000
- Carbon Credit Market Price = $100 / tCO2e
- CBS Price Cap (10% Discount) = $90 / tCO2e

EXAMPLE DEVELOPER FINANCIALS

- $4.0M CapEx
  - $3.2M Loan principal, 80% leverage
- 17,600 ton/year processing capacity
  - 6,160 tons biochar output (@ $150/ton)
  - 17,433 tCO2e credits (@ $185/ton)
- $3.8M Revenue (75% from credits)
- $0.9M Biomass feedstock cost (@ $50/ton)

	CBS Loan (6 years)
EBITDA	$1.6M
Debt Service	$1.06M
Average DSCR	1.43x
Levered IRR	38.7%