



SWIF

SEAWEED INVESTMENT FUND

Sustainably and profitably address the harmful buildup of sargassum seaweed in the Caribbean

2022 Kellogg Morgan Stanley Sustainable Investing Challenge



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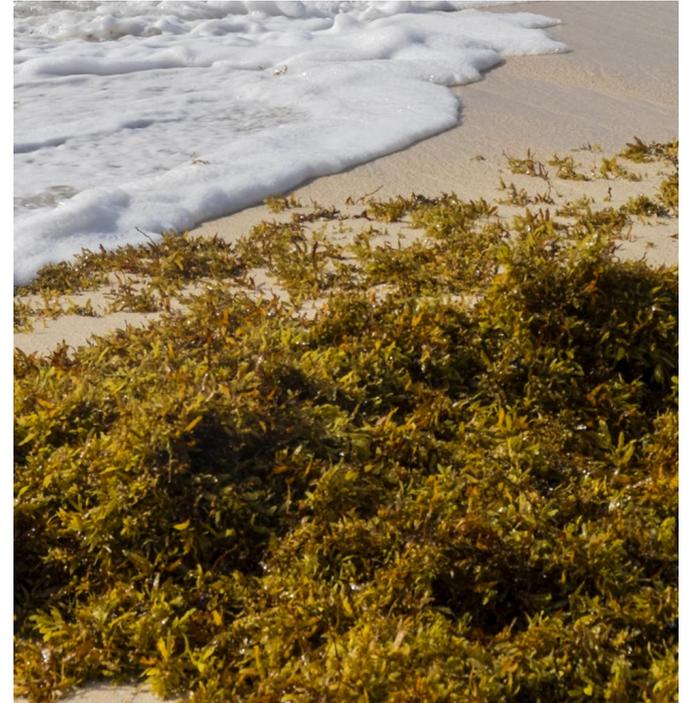
PROBLEM & OPPORTUNITY

Ecological crisis & Economic opportunity

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RISK & IMPACTS

Risk & mitigation, fund impact and scalability





WHAT IS SARGASSUM SEAWEED?

Sargassum is a genus of brown macroalgae

One of the fastest growing plants on earth

It is pelagic - meaning that it lives floating on the ocean surface, and is often found washed up on our beaches

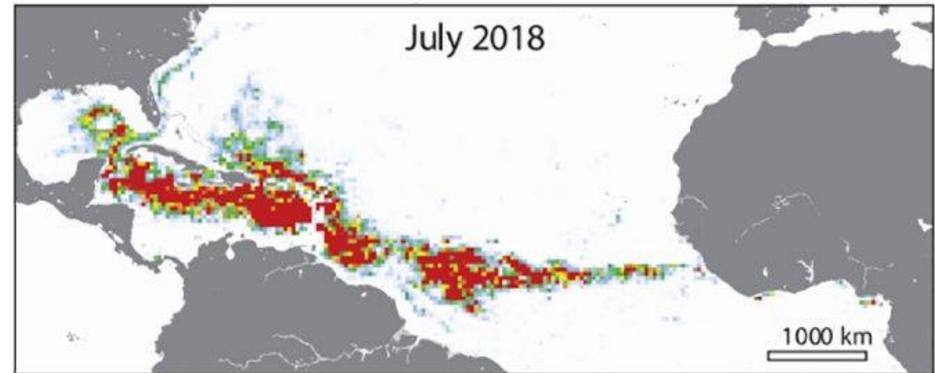
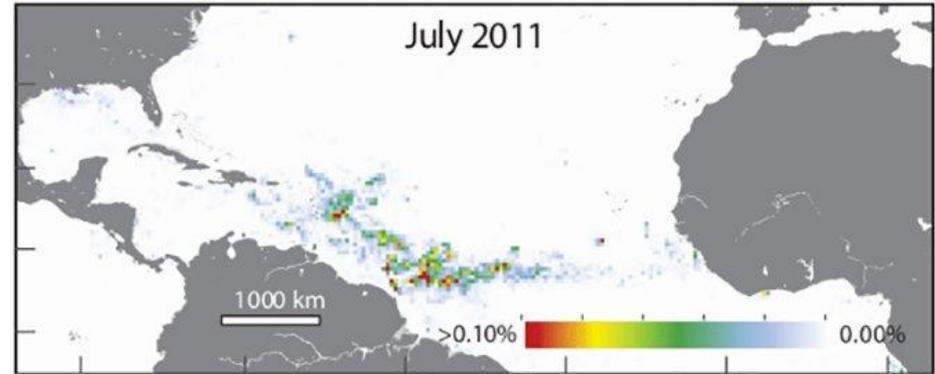
KEY ISSUE

Over the past decade, sargassum blooms have grown exponentially due to nutrient runoff and warming oceans.

In 2018, an estimated **20 million tons** were mapped over 5,000 miles of the Atlantic Ocean.

In 2019, Miami Dade County spent approximately \$35 million in cleanup and roughly **\$120 million** was spent in the Caribbean

Satellite image of sargassum bloom 2011 & 2018



NEGATIVE IMPACTS



Ecological
Impacts native species, biodiversity, and human health



Economic
Damaging to local tourism & fishing industry



Removal
Costs millions in tax dollars and damage to fragile coastal ecosystems

OPPORTUNITY & MARKET FOR SARGASSUM

WORLDWIDE TOTAL ECONOMIC VALUE OF THE SEAWEED PRODUCTION INDUSTRY: **\$16.7 BN**



FERTILIZER

Eg. Liquid manure & biostimulants
- Promote resistance to disease and pests & improve fruit bearing & germination

FOOD PRODUCTS

Animal feed and human consumption
-rich in carbohydrates, proteins, minerals and vitamins



BIOFUEL

Palm oil substitute, bio oil and fuel

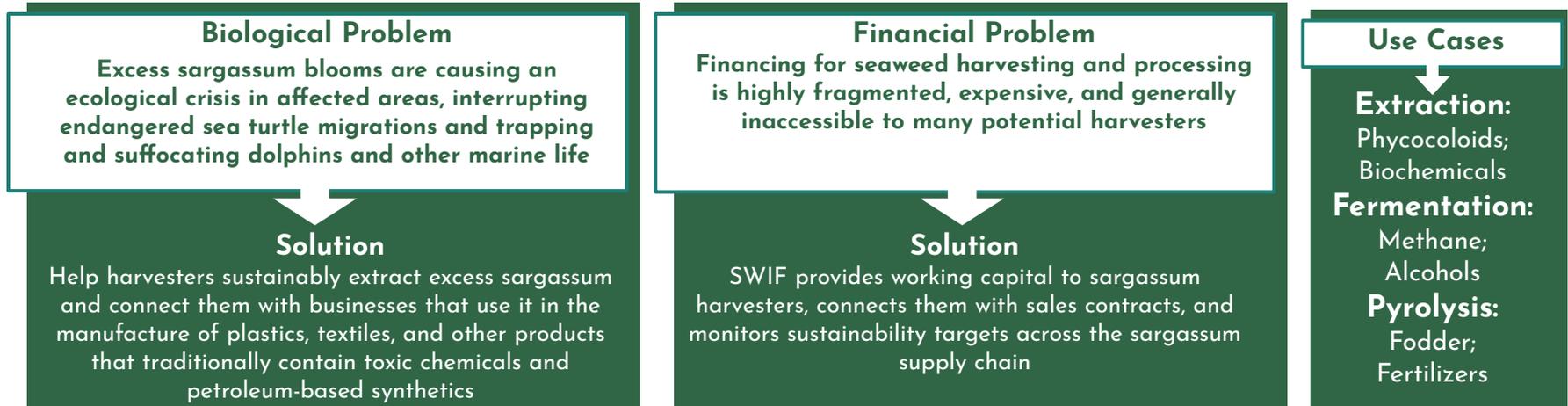
CONSUMER GOODS

Emulsifiers, stabilizers, biotextiles



OUR MISSION & SOLUTION

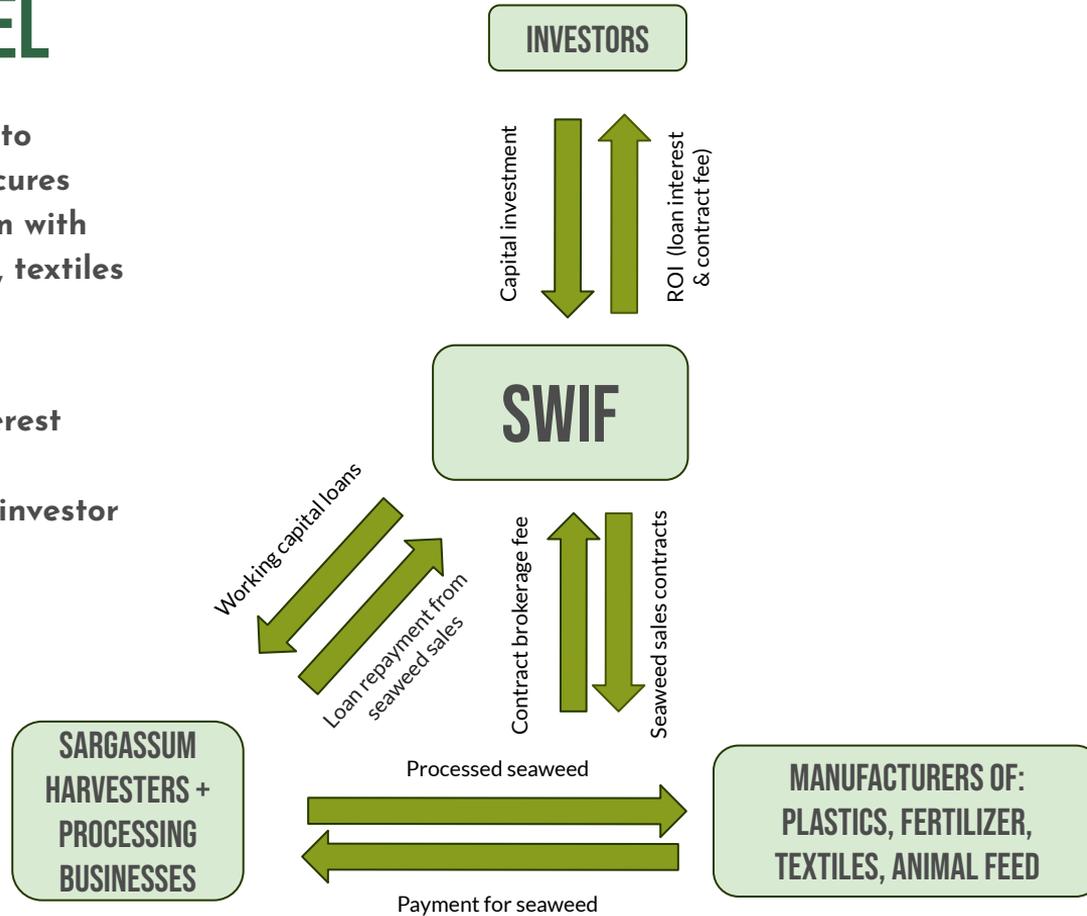
SWIF is a boutique loan fund that seeks to help sargassum seaweed harvesters sustainably and profitably address the buildup of excess sargassum in the Caribbean that it is harming coastal ecosystems and costing millions in tax dollars to clean up. To accomplish this, SWIF makes loans and provides sales contracts to meet the unique needs of harvesters and end buyers in the rapidly growing but relatively underdeveloped, fragmented sargassum market.



OPERATING MODEL

SWIF provides working capital to harvesters + processors and secures sales contracts connecting them with buyers in the plastics, fertilizer, textiles and other industries.

Returns in the form of loan interest payments and sales-contract brokerage fees are paid to the investor through SWIF.



WHY INVEST WITH SWIF?

IMPACT

SWIF seeks to fill a current gap in financing to create jobs, tackle a climate change-driven biological crisis, and encourage the development of environmentally friendly products.

DIVERSIFICATION

SWIF seeks to provide investors exposure to an emerging seaweed market with little correlation to developed asset classes.

SWIF intends to finance a range of small, medium, and large sargassum harvesters and processors with varying capital needs.

INCOME

Through a combination of loan interest and sales contracts, SWIF seeks to provide investors a competitive long-term income opportunity.

POTENTIAL INVESTORS

FOUNDATIONS & ENDOWMENTS

Institutional investors with ESG mandates, diversification needs and long term investment horizons

IMPACT-ORIENTED INVESTORS

High networth individuals and families interested in impact investment

Through potential partnerships with investment consultants:



CAMBRIDGE
ASSOCIATES

Morgan Stanley



FUND PROFILE

Fund Name



SWIF

Fund type

Private loan fund

Target Fund Size

\$105M

Minimum investment

\$250K

Initial Regional Focus

Caribbean beaches

Target Investor Pool

Impact Investors, Foundations

Management Fee

1%

Loan Tenor

10 years

Loan Origination Fee

1.5%

Interest rate (SOFR+7%)

*7.29%

Sales Contract Fee

2%

CAGR of Fund value

4.56%

Financial Covenants

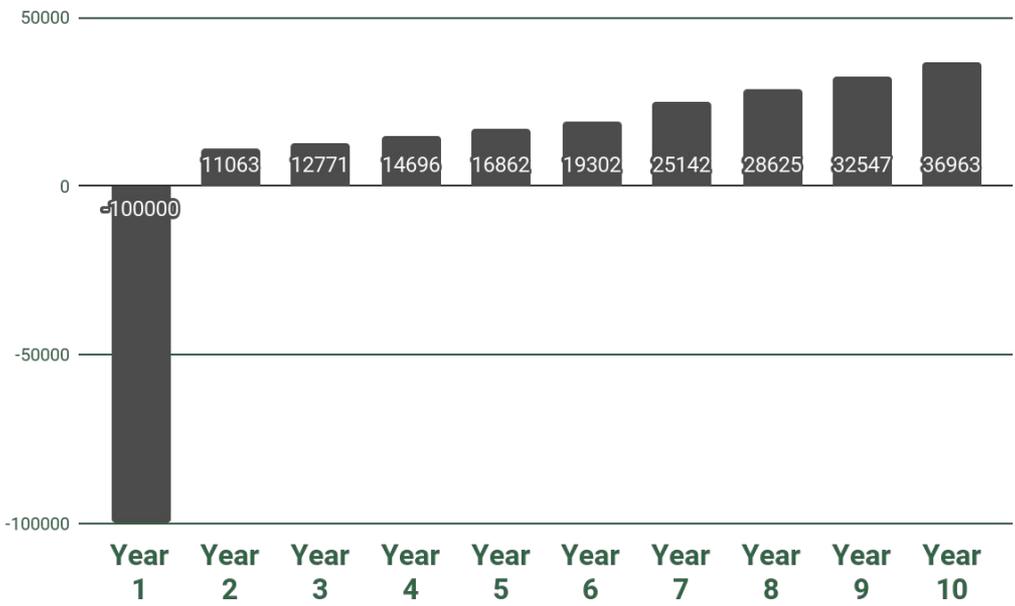
Maintain min 5k working capital; use at least 70% of cash flows to pay debt; no additional liens on original land

*Current SOFR rate = 0.29%

SOURCES AND USES OF FUNDS

SOURCES:	\$	%
Average SWIF Loan	\$100,000	100%
USES:		
Origination Fee	\$1,500	1.5%
Working Capital	\$30,000	30%
Water Rights Permits	\$25,000	25%
Pyrolysis System	\$25,000	25%
Technical Assistance	\$2,000	2%
Distribution Costs	\$7,500	7.5%
Legal/Regulatory	\$2,000	2%
Insurance	\$5,000	5%
Miscellaneous Costs	\$2,000	2%
TOTAL	\$100,000	100%

🇺🇸 HARVESTER CASH FLOWS



NPV: \$35,821
IRR: 13.91%

SCALABILITY

Current Worldwide total economic value of seaweed production industry: **\$16.7Bn**

Projected worldwide total economic value of seaweed production industry in 2025: **\$30.2Bn**

Projected CAGR during this forecast period: **12.6%**

SWIF'S SCALABILITY PLAN INCLUDES:

Geographic Expansion

Compared to the Caribbean, U.S. (FL, CA) and Europe have

Higher sargassum bloom rates

More harvesting startups (**164 in 2021** vs. 37 in Caribbean)



Industry Expansion

Expand to new industries (eg. cultivated seaweed with operations in 50 countries)

RISKS & MITIGATION

01

Damaging cultivation/harvesting practices negate ecological benefits...

- SWIF maintains strict reporting requirements for sustainable harvesting operations

02

Financial risks

- SWIF requires rigorous background / credit checks for loan eligibility + repayment
- SWIF maintains risk management solutions and policies to monitor and prevent defaults
- Disclaimer: Private loans do not have liquid markets

03

Developing regulations (e.g., sargassum ownership rights)

- SWIF regularly monitors established/developing regulations across invested markets
- SWIF will work with localities to obtain “concession” permit to collect/process sargassum without interference.

IMPACTS

Economic Empowerment

Create **10,000+ jobs** in Caribbean communities*;

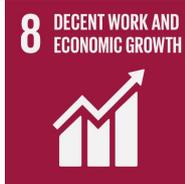
Partners must meet/maintain **50%+** female workforce for loan eligibility



*Calculation based on year 10 projection of partnered harvesters

Resurrect Tourism Industry

Recoup **30%** of tourist trade by removing seaweed tides from beaches



Sargassum Removal

Sustainably remove **46,000+** tons of Sargassum tides that harm marine ecosystems*

9,000+ turtles saved from sargassum removal



*Calculation based on total sargassum removed by yr 10



Responsible Consumption & Production

93,000+ tons CO2 sequestered*;

550,000+ KM2 naturally fertilized land*;

23,000+ tons plastics replaced*



*Calculation based on total sargassum removed by yr 10



THANKS

Do you have any questions?



OUR TEAM



SERGIO DELATORRE



BENJAMIN HOLCOMBE



NIKHIL JARUNDE



GRACE VAN DER VEN



APPENDIX



Questrom School of Business



Morgan Stanley

BlackRock.



APPLETON
PARTNERS, INC.



SPECIAL THANKS TO

Our Advisors:

- **Ignacio Paullier** - Sustainable Investing, BlackRock
- **David Zerbib** - Professor of Finance, Boston University Questrom School of Business
- **Richard Fontes, CFA** - ESG Product Manager, Statestreet
- **Max Hyatt** - Senior Associate, Orrick
- **Elizabeth Damaskos** - Law Clerk, Orrick
- **Jonathan Wettack** - Local expert, Carbonwave

HARVESTER CASH FLOWS

(AMOUNTS IN \$)	YEAR 0	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10
Revenues		\$35,000	\$39,410	\$44,376	\$49,967	\$56,263	\$63,352	\$71,334	\$80,322	\$90,443	\$101,839
Operating expenses		(26,250)	(29,558)	(33,282)	(37,475)	(42,197)	(47,514)	(53,501)	(60,242)	(67,832)	(76,379)
EBIT		\$8,750	\$9,853	\$11,094	\$12,492	\$14,066	\$15,838	\$17,834	\$20,081	\$22,611	\$25,460
Tax		(2,188)	(2,463)	(2,773)	(3,123)	(3,516)	(3,959)	(4,458)	(5,020)	(5,653)	(6,365)
Depreciation		(1,750)	(1,971)	(2,219)	(2,498)	(2,813)	(3,168)	(3,567)	(4,016)	(4,522)	(5,092)
Capex	(100,000)	-	-	-	-	-	-	-	-	-	-
Changes in Net working capital	-	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)
Free cash flow	(100,000)	\$11,063	\$12,771	\$14,696	\$16,862	\$19,302	\$22,049	\$25,142	\$28,625	\$32,547	\$36,963
NPV	\$35,821										
IRR	13.91%										

ASSUMPTIONS:	
Revenue growth (Seaweed Industry CAGR)	12.6%
Operating expenses (% Revenues)	75%
Tax rate	25%
Depreciation (% Revenues)	5%
Loan repayment (% FCF)	70%
SOFR rate (current)	0.29%
WACC	8%
Export Price in USA	\$3,500
Sargassum harvested/harvester	10 tonnes
Constant Default rate (CDR)	5%

LOAN SCHEDULE

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Loan Beginning balance	\$ 100,000	\$ 100,000	\$ 99,546	\$ 97,863	\$ 94,711	\$ 89,811	\$ 82,847	\$ 73,453	\$ 61,208	\$ 45,633	\$ 26,177
Interest rate (SOFR+7%)		\$ 7,290	\$ 7,257	\$ 7,134	\$ 6,904	\$ 6,547	\$ 6,040	\$ 5,355	\$ 4,462	\$ 3,327	\$ 1,908
Loan repayment (70% of FCF)	-	\$ (7,744)	\$ (8,940)	\$ (10,287)	\$ (11,804)	\$ (13,511)	\$ (15,434)	\$ (17,599)	\$ (20,037)	\$ (22,783)	\$ (25,874)
Loan ending balance	\$ 100,000	\$ 99,546	\$ 97,863	\$ 94,711	\$ 89,811	\$ 82,847	\$ 73,453	\$ 61,208	\$ 45,633	\$ 26,177	\$ 2,211
Net Fund value	\$100,000	\$107,290	\$114,547	\$121,681	\$128,586	\$135,133	\$141,172	\$146,527	\$150,989	\$154,316	\$156,224
Net ROI to investors (in 10 years)	56.22%										
CAGR	4.56%										

WORST CASE SCENARIO 1: HIGH INFLATION RATE >10%

APPENDIX

(AMOUNTS IN \$)	YEAR 0	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10
Revenues		\$35,000	\$40,250	\$46,288	\$53,231	\$61,215	\$70,398	\$80,957	\$93,101	\$107,066	\$123,126
Operating expenses		(26,250)	(30,188)	(34,716)	(39,923)	(45,911)	(52,798)	(60,718)	(69,826)	(80,299)	(92,344)
EBIT		\$8,750	\$10,063	\$11,572	\$13,308	\$15,304	\$17,599	\$20,239	\$23,275	\$26,766	\$30,781
Tax		(2,188)	(2,516)	(2,893)	(3,327)	(3,826)	(4,400)	(5,060)	(5,819)	(6,692)	(7,695)
Depreciation		(1,750)	(2,013)	(2,314)	(2,662)	(3,061)	(3,520)	(4,048)	(4,655)	(5,353)	(6,156)
Capex	(100,000)	-	-	-	-	-	-	-	-	-	-
Changes in Net working capital	-	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)
Free cash flow	(100,000)	\$11,063	\$13,097	\$15,436	\$18,127	\$21,221	\$24,779	\$28,871	\$33,577	\$38,988	\$45,211
NPV	\$52,538										
IRR	16.08%										

ASSUMPTIONS:	
Revenue growth (Seaweed Industry CAGR)	15%
Operating expenses (% Revenues)	75%
Tax rate	25%
Depreciation (% Revenues)	5%
Loan repayment (% FCF)	70%
SOFR rate	0.29%
WACC	8%
Export Price in USA	\$3,500
Sargassum harvested/harvester	10 tonnes
Constant Default rate (CDR)	5%

LOAN SCHEDULE

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Loan Beginning balance	\$ 100,000	\$ 100,000	\$ 99,546	\$ 97,635	\$ 93,947	\$ 88,107	\$ 79,676	\$ 68,139	\$ 52,897	\$ 33,249	\$ 8,381
Interest rate (SOFR+7%)		\$ 7,290	\$ 7,257	\$ 7,118	\$ 6,849	\$ 6,423	\$ 5,808	\$ 4,967	\$ 3,856	\$ 2,424	\$ 611
Loan repayment (70% of FCF)	-	\$ (7,744)	\$ (9,168)	\$ (10,805)	\$ (12,689)	\$ (14,855)	\$ (17,345)	\$ (20,210)	\$ (23,504)	\$ (27,292)	\$ (8,992)
Loan ending balance	\$ 100,000	\$ 99,546	\$ 97,635	\$ 93,947	\$ 88,107	\$ 79,676	\$ 68,139	\$ 52,897	\$ 33,249	\$ 8,381	\$ -
Net Fund value	\$100,000	\$107,290	\$114,547	\$121,665	\$128,513	\$134,936	\$140,745	\$145,712	\$149,568	\$151,992	\$152,603
Net ROI to investors (in 10 years)	52.60%										
CAGR	4.32%										

WORST CASE SCENARIO 2: HIGH INTEREST RATE (6 RATE HIKES)

APPENDIX

(AMOUNTS IN \$)	YEAR 0	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10
Revenues		\$35,000	\$39,410	\$44,376	\$49,967	\$56,263	\$63,352	\$71,334	\$80,322	\$90,443	\$101,839
Operating expenses		(26,250)	(29,558)	(33,282)	(37,475)	(42,197)	(47,514)	(53,501)	(60,242)	(67,832)	(76,379)
EBIT		\$8,750	\$9,853	\$11,094	\$12,492	\$14,066	\$15,838	\$17,834	\$20,081	\$22,611	\$25,460
Tax (25%)		(2,188)	(2,463)	(2,773)	(3,123)	(3,516)	(3,959)	(4,458)	(5,020)	(5,653)	(6,365)
Depreciation		(1,750)	(1,971)	(2,219)	(2,498)	(2,813)	(3,168)	(3,567)	(4,016)	(4,522)	(5,092)
Capex	(100,000)	-	-	-	-	-	-	-	-	-	-
Changes in Net working capital	-	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)
Free cash flow	(100,000)	\$11,063	\$12,771	\$14,696	\$16,862	\$19,302	\$22,049	\$25,142	\$28,625	\$32,547	\$36,963
NPV	\$35,821										
IRR	13.91%										

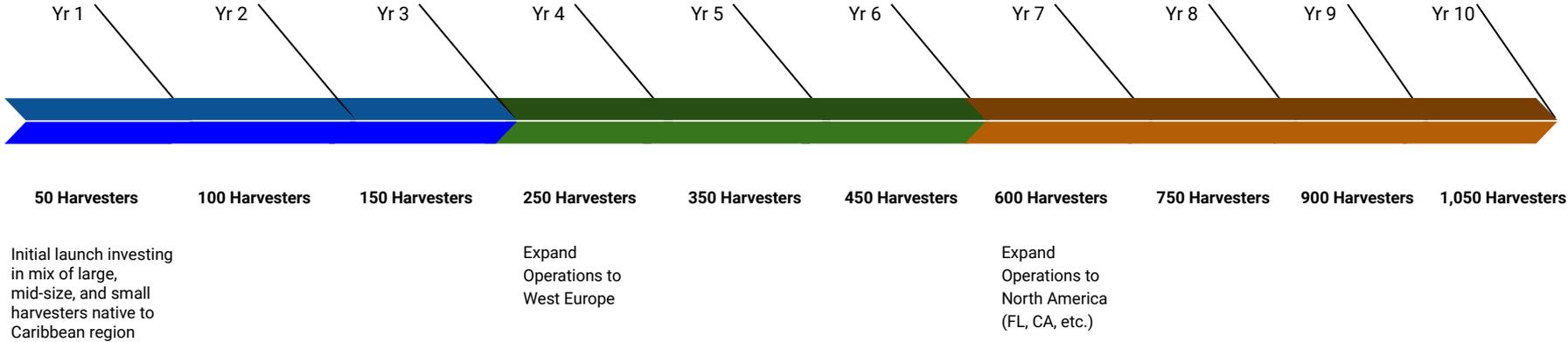
ASSUMPTIONS:	
Revenue growth (Seaweed Industry CAGR)	12.6%
Operating expenses (% Revenues)	75%
Tax rate	25%
Depreciation (% Revenues)	5%
Loan repayment (% FCF)	80%
SOFR rate (6 rate hikes)	1.79%
WACC	8%
Export Price in USA	\$3,500
Sargassum harvested/harvester	10 tonnes
Constant Default rate (CDR)	5%

INVESTOR RETURNS

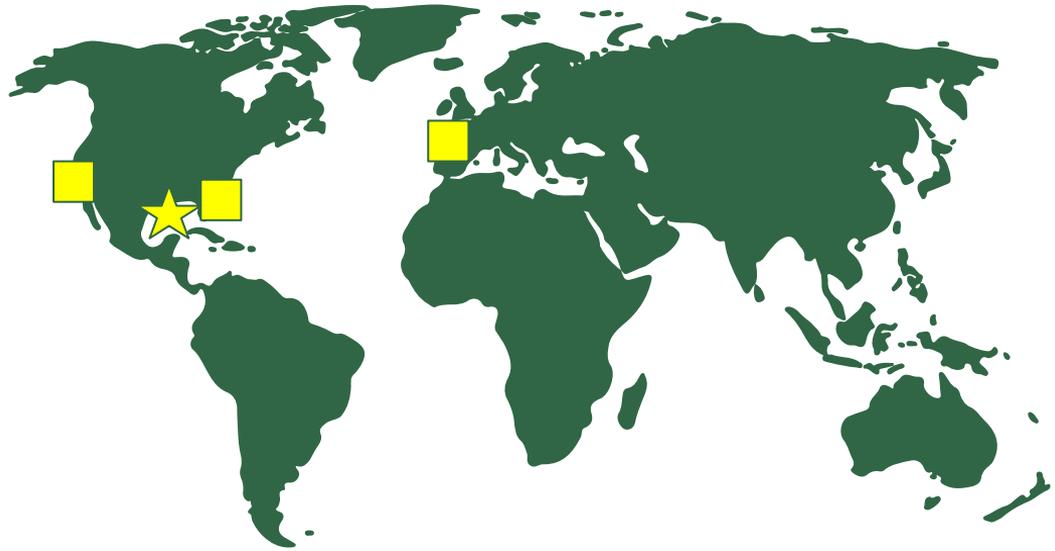
LOAN SCHEDULE

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Loan Beginning balance	\$ 100,000	\$ 100,000	\$ 99,940	\$ 98,508	\$ 95,410	\$ 90,307	\$ 82,803	\$ 72,443	\$ 58,697	\$ 40,956	\$ 18,519
Interest rate (SOFR+7%)		\$ 8,790	\$ 8,785	\$ 8,659	\$ 8,387	\$ 7,938	\$ 7,278	\$ 6,368	\$ 5,159	\$ 3,600	\$ 1,628
Loan repayment (80% of FCF)	-	\$ (8,850)	\$ (10,217)	\$ (11,756)	\$ (13,490)	\$ (15,441)	\$ (17,639)	\$ (20,114)	\$ (22,900)	\$ (26,037)	\$ (20,147)
Loan ending balance	\$ 100,000	\$ 99,940	\$ 98,508	\$ 95,410	\$ 90,307	\$ 82,803	\$ 72,443	\$ 58,697	\$ 40,956	\$ 18,519	\$ -
Net Fund value	\$100,000	\$108,790	\$117,575	\$126,234	\$134,620	\$142,558	\$149,836	\$156,204	\$161,364	\$164,964	\$166,591
Net ROI to investors (in 10 years)	66.59%										
CAGR	5.24%										

Forecast: New Harvester Partnerships Per Year



GLOBAL EXPANSION

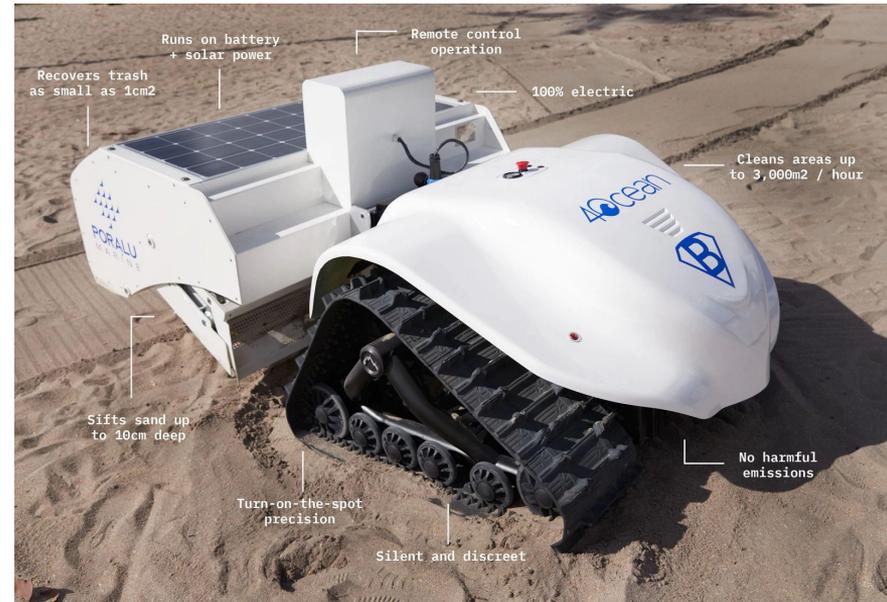


HOW IS SWIF DIFFERENT THAN A COMMERCIAL BANK?

	SWIF	COMMERCIAL BANK
Expected loan terms for seaweed business	Deliberately favorable given impact focus	Unfavorable given unique/niche nature and minimal credit history of industry
Partnership with local governments and NGOs to engage harvesters and estimate production targets		
Links harvesters with end buyers through sales contracts		
Markets to potential investors and buyers in geographic region of focus		

PLASTIC AND OCEAN LITTER

- There is a technology that converts seaweed AND waste plastics into biofuels and fertilizers. So, the massive plastics pollution problem developing in oceans can be tangentially addressed with seaweed collection. When plastic is intertwined with seaweed it does not need to be sorted out or removed, it can be incorporated into a reusable product.
- Ocean litter is a massive problem, we see it as an opportunity for SWIF to provide additional impact in this area and tangentially benefit from innovations coming from the creative solutions to solve it
 - Like this solar powered beach cleaner



GLOBAL SEAWEED MARKET



FERTILIZER

The global seaweed fertilizer market is expected to reach \$17.1M by 2025 at a CAGR of 5.1%



ALGINATE

The global alginate market size was valued at \$728.4M in 2020 and is expected to grow at a CAGR of 5% from 2021 to 2028



BIOFUEL

The global seaweed biofuel market is expected to reach \$10.73B by 2025 at a CAGR of 8.8%