Kelp Klique Sustainability-Linked Fund

An investment fund that will help restore the pH of the ocean through kelp farming and in turn provide refuge for marine life while generating income to coastal communities.

Outline

1. The Problem
2. Business Solution
3. Financial Structure
4. Scalability, Risks, and Impact

1. The Problem

1.1 Key Challenges

1.2 Geographic Focus

1.1 Key Challenges

- **Ocean acidification to double by the end of this century**
- **Labelled as the "osteoporosis of the sea"**
- **Loss of income to the coastal communities**

Acidification has increased by 30% since the industrial revolution, which has reduced the quality of food available for marine organisms and corroded shells of shellfish, increasing animal mortality.

Increased ocean acidification poses a threat to marine life, coastal communities and humans.

1.2 Geographic Focus

Pacific Northwestern territories

- **High level of acidification**
- **Upwelling**
- **Well developed infrastructure and accessible**

Higher acidity expedites corrosion of shells of shellfish, and acidity levels expected to increase due to years of negligence and pollution.

Pacific northwestern territories have the most acidic water and require immediate action.

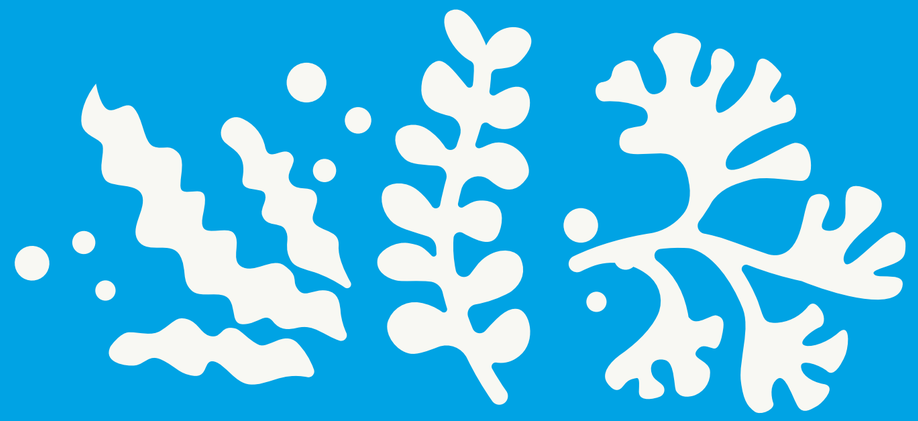
2. Business Solution

2.1 Overview

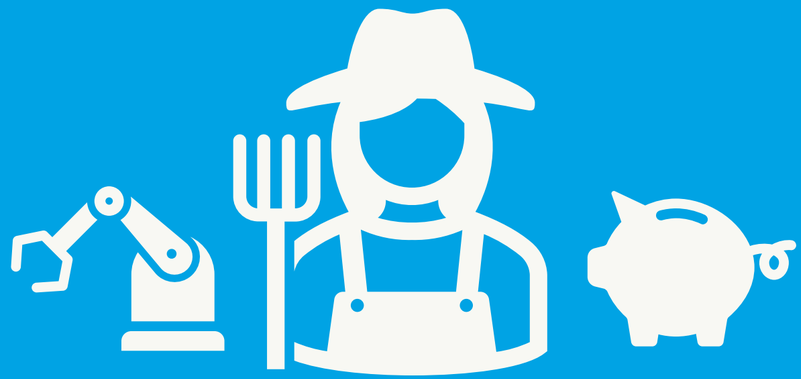
2.2 Solution

2.1 Overview: support farmers to scale up

scale up



support farmers



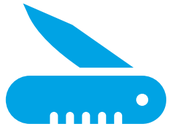
Current → 4.78X profits → Future

Unscalable
Laborious

Scalable
Efficient

Cultivating

Harvesting



Cultivating

Harvesting

2.2 Solution

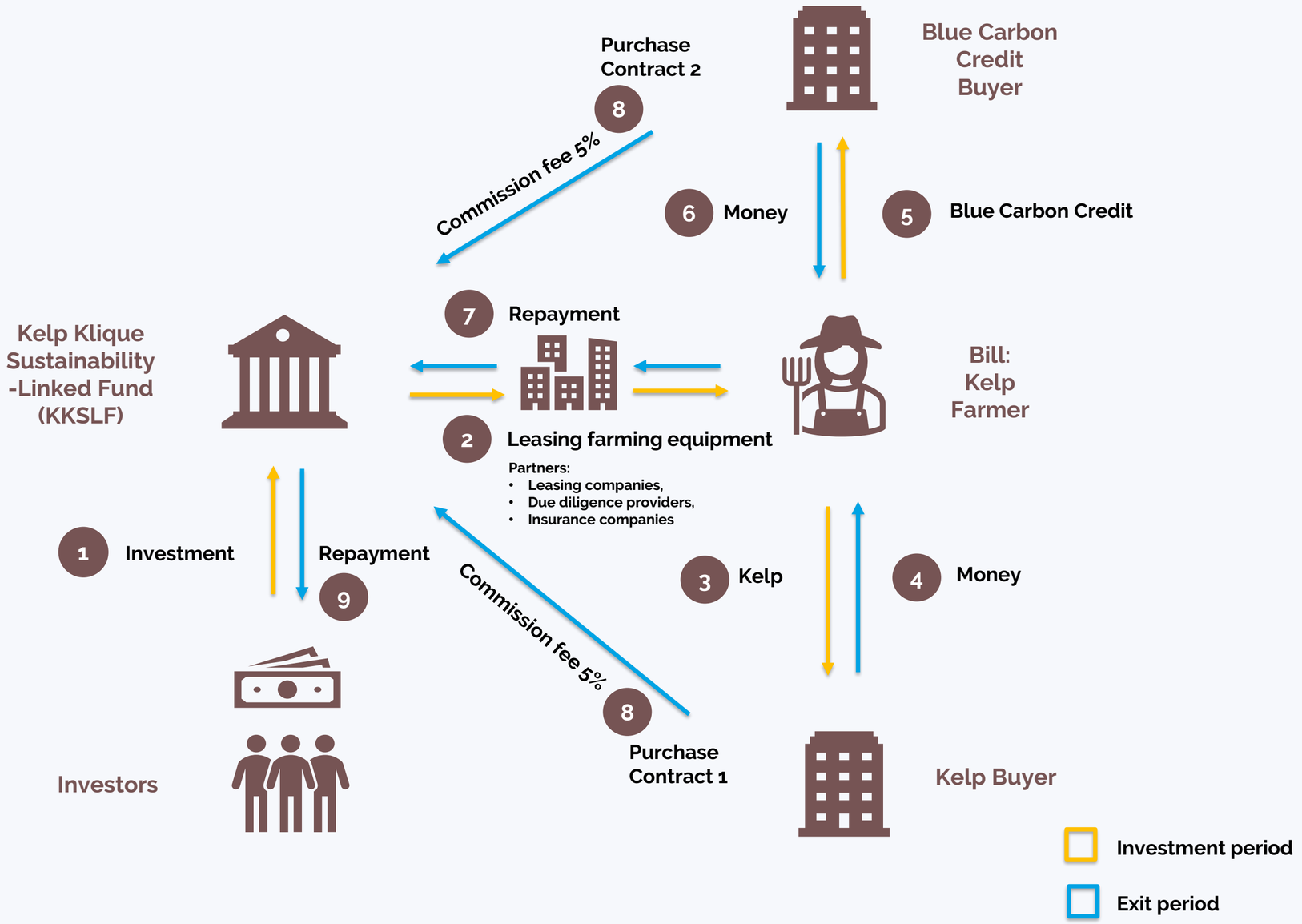
Efficient equipment improves profitability y entails initial investmer

3. Financial Structure

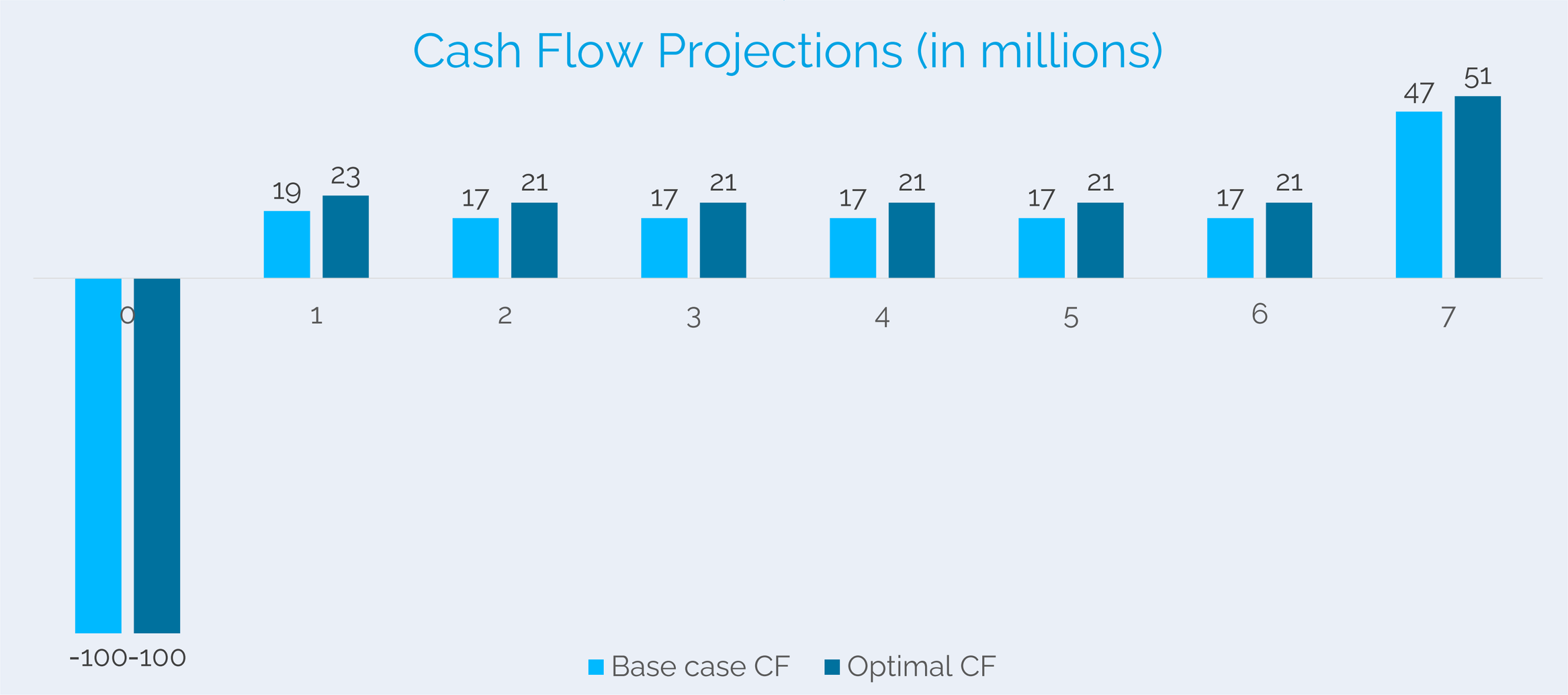
3.1 Fund Diagram
3.2 Cash Flow To Investors
3.3 Fund Profile
3.4 Projections

3.1
Fund Diagram

Achieve shared value through multiple stakeholders



3.2 Cash Flow To Investors



Fund type	Special Purpose Vehicle and Private equity
Geography	The northwest pacific region
Fund size	USD $100M
Fund life	5y (investment period) + 2y (grace period)
Target IRR	10-15% (Gross)
Fees	1.5% management fee; 8% return hurdle + 10% carry
Target investors	The U.S. and Canadian Federal governments, World Bank, impact-oriented investors, family offices and institutional investors
Revenue	Origination Fee 2%, Leasing fee 6% APR, brokerage fee 5%, sales of equipment
Investment criteria	1. Lease kelp farming equipment through service providers 2. Minimum contract size of $100,000 3. Kelp purchase contract as a guarantee 4. Brokerage service for kelp sales and blue carbon credit sales 5. Insurance included mitigating the risk of equipment damage

3.3
Fund Profile

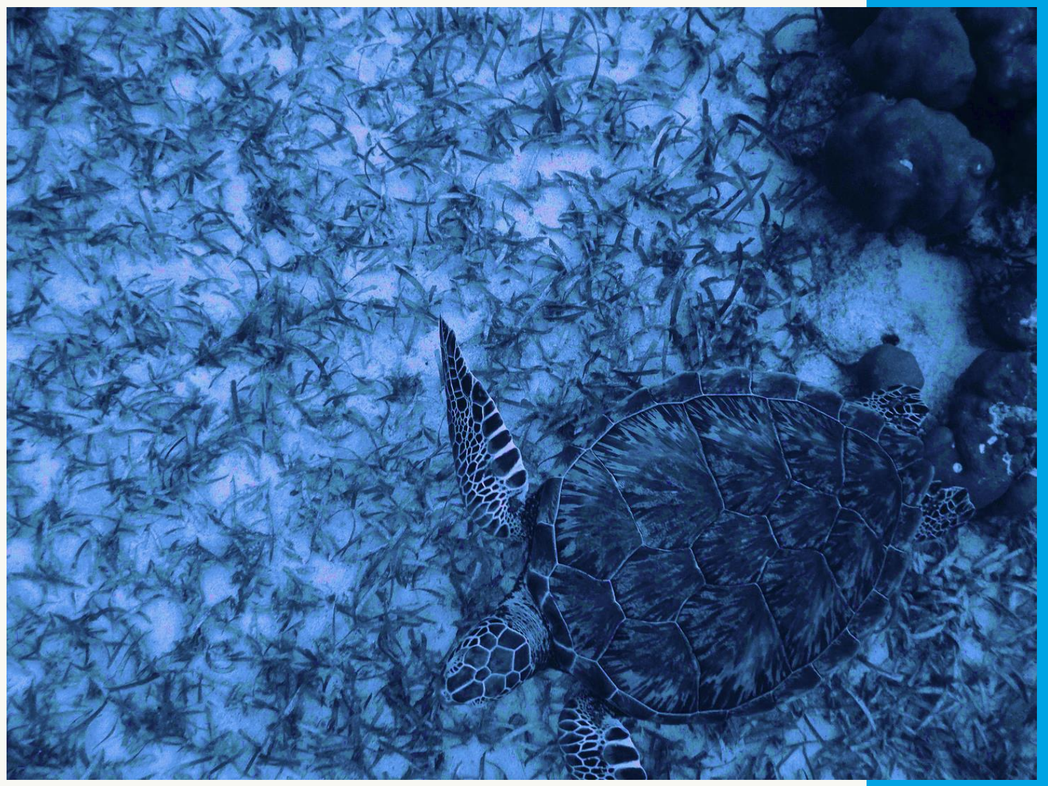
Positive impact with
IRR 10-15%

3.4 Projections

Assumptions

- Conversion factor of wet-to-dry: **0.53**
- CO_2 removed: **4.3** tons per hectare per year
- Carbon offset prices: $**35**/ton
- Kelp price: $**1.7k**/ton

	Farmer	KKSLF (Fund)
Total Revenue from selling kelp for farmers	$1.00B	$50M
Total Carbon Credit Revenue for farmers	$0.036B	$1.8M
Total Revenue Generated for farmers	$1.04B	$52M



4. Scalability, Risks, and Impact

4.1 Scalability

4.2 Risks and Mitigation

4.3 Impact and Metrics

4.1 Scalability

Current Focus

Pacific Northwest

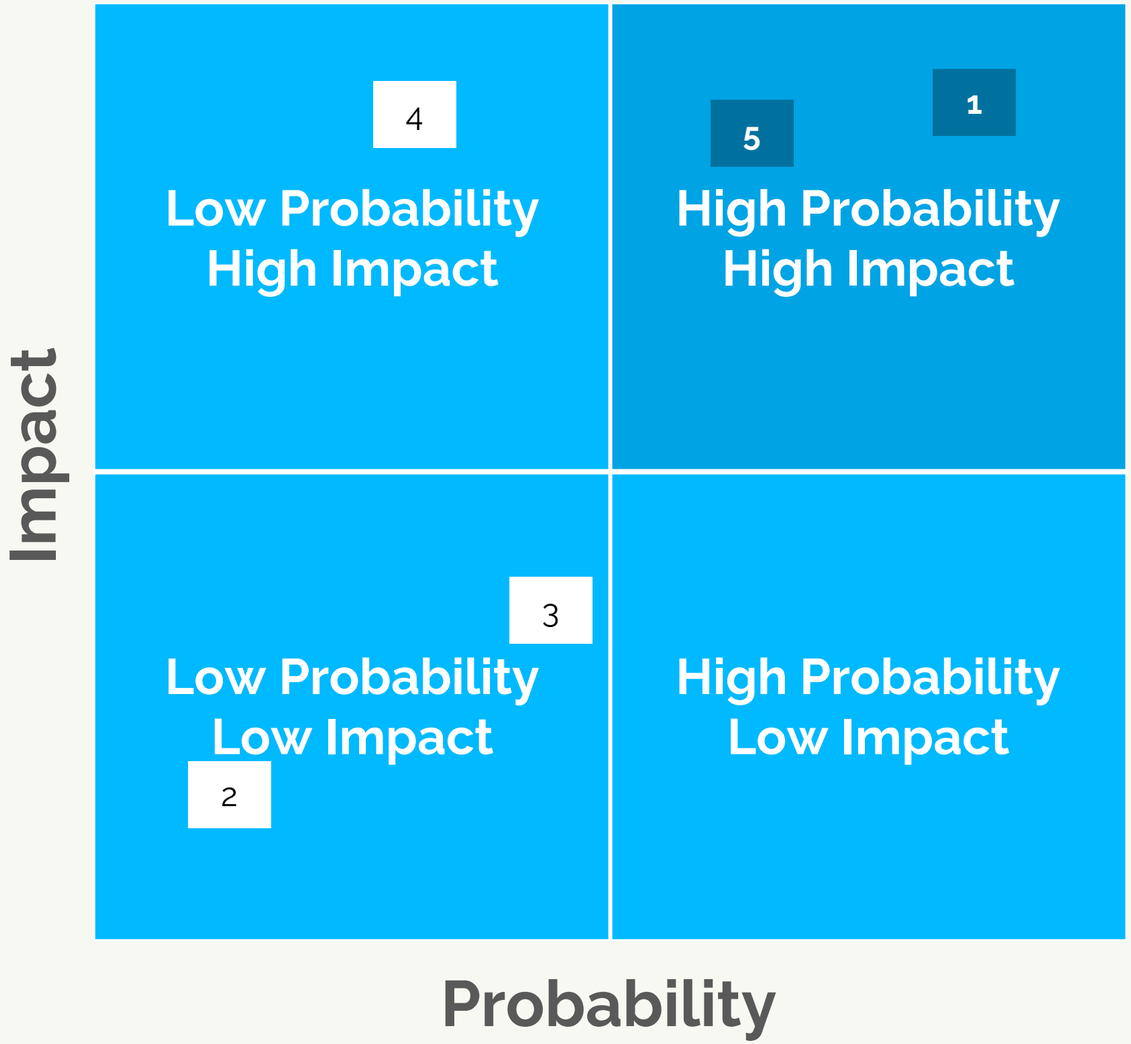
Future Focus

Africa, Australia, South and Southeast Asia, Europe

Scalability Drivers

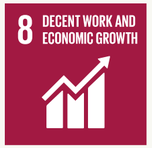
- Kelp is native to most of the world's coastlines
- Blue Carbon Credits
- Increasing demand for new food sources

4.2 Risk and Mitigation



	Risk	Mitigation
1	Lack of community support	Approach the community heads and get their buy-in and make them the ambassadors. Educate and promote the idea of leasing equipment.
2	Difficulty in obtaining certification for blue carbon credits	Increasing share of revenue from sale of kelp. Revenue from blue carbons is low and will not have a significant impact on returns.
3	Variable production of kelp due to external factors, i.e., disasters, weather, etc.	Use of advanced method reduces dependence on weather for survival of kelp. Use insurance to hedge risk.
4	Default risk i.e., the leased equipment is not returned	All the equipment be insured thus enabling us to recover the value of the asset.
5	Operational risk and lack of know-how	Partnerships with specialists who can provide training and education to farmers to ensure safe and optimum use of equipment.

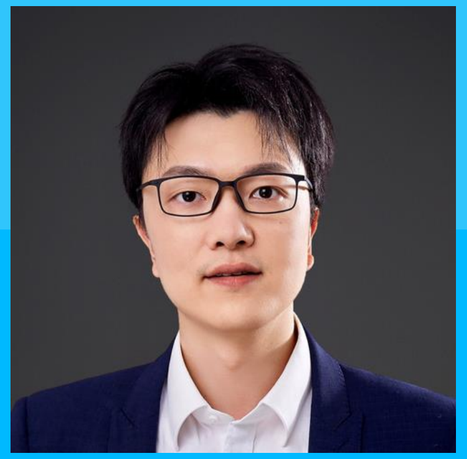
4.3 Impact and Metrics

		Impact Area	Key Performance Indicator (KPIs)
Environmental		**Deacidification Of Water Due To Carbon Dioxide Removal By Kelp**	• Tracking the **pH level** of water and percentage decrease • Auditing and measuring the **blue carbon capture**
		**Increase In The Population Of Dwindling Biodiversity**	• Monitoring increase in the **population** of affected species of biodiversity
Social		**Development of a New Food Source**	• Tracking the **supply** of kelp to the food and beverage industry
		**Increased Job Opportunities**	• Tracking the **employment** rate in the local community in kelp related industries
Economic		**Increased Market Opportunities**	• Tracking the **correlation** of growth in various industries, including food & beverage, cosmetics, biofuel etc., in relation to the kelp production

Thanks

Apoorva Shastry

Aviral Magan



Eric Mao

Lusong Liu


Questions?

Frequently Asked Questions

- Is there an underlying assumption for why carbon credits are not considered a significant source of revenue in this project, or how can they potentially generate a substantial revenue stream?
- Can you provide information on whether any intermediaries have been identified in relation to the project that was mentioned earlier?
- Regarding the proposed solution, is there any assurance that it aligns with the desires of the farmers, and whether it has the potential to make a positive financial impact, as well as whether they are willing to adopt it?
- Regarding the fund that was discussed earlier, has there been any examination or consideration of the legal aspects and potential issues surrounding it?

References

Scan QR code or click for references

Advisors

Lilian Ng, Schulich School of Business

Joe Fayt, Schulich School of Business

Christine Reynolds, Orrick

Alex Markham, Renewable Resources Group

Kirsten Travers-UyHam, River Cam Partners

Haowei Zhao, Raghav Tandon, Brendon Grant, Team Indigenous Sustainability Fund (2022)

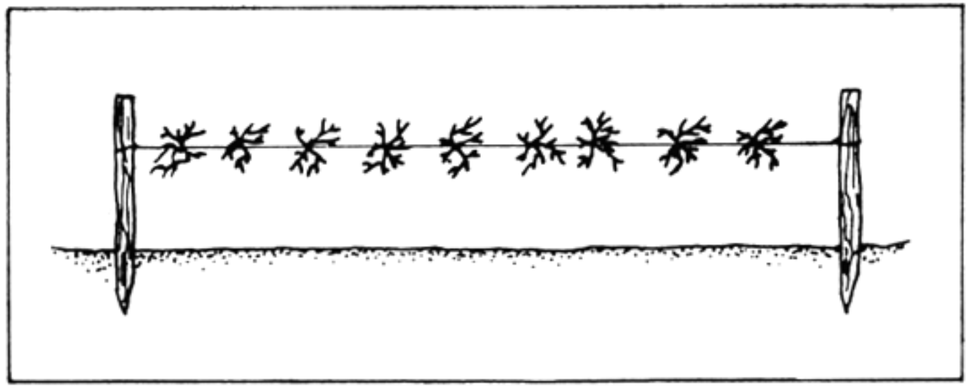
Jesse Zhang, Airtrek Dehydrator

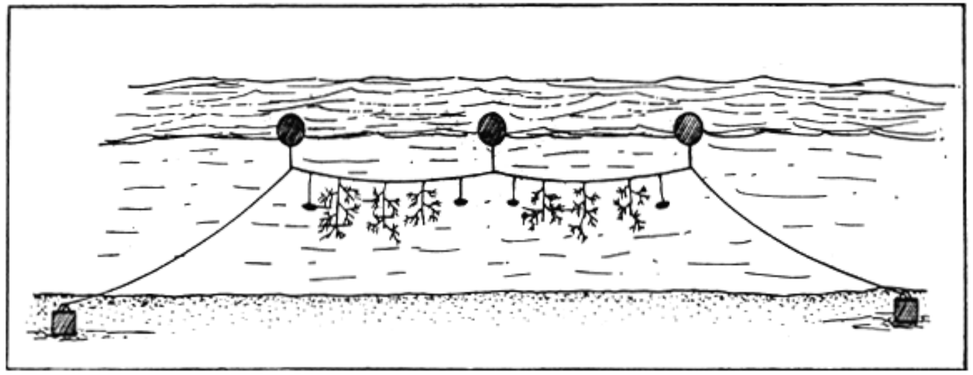
Mike Faber, Lake Weeder's Digest

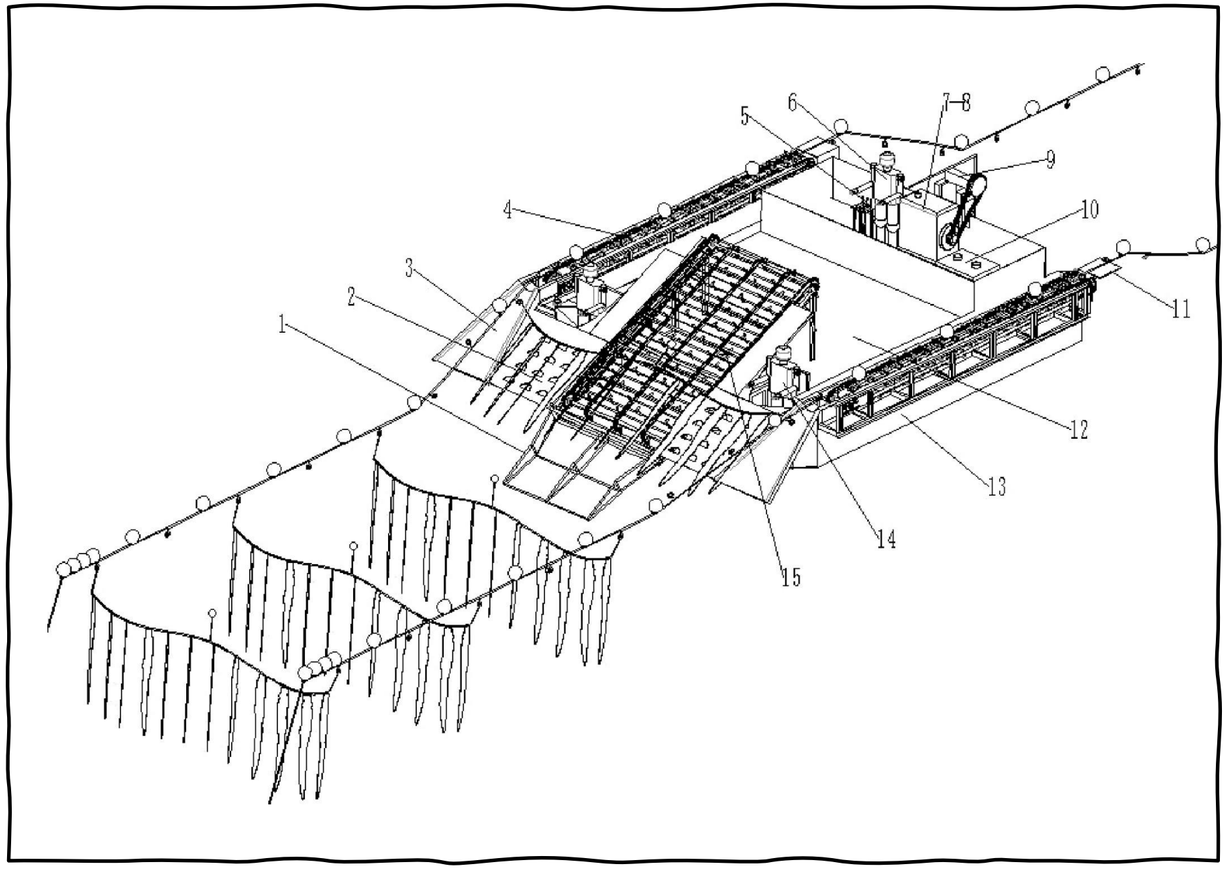
Claire Pluard, Carbon Yield

Appendix

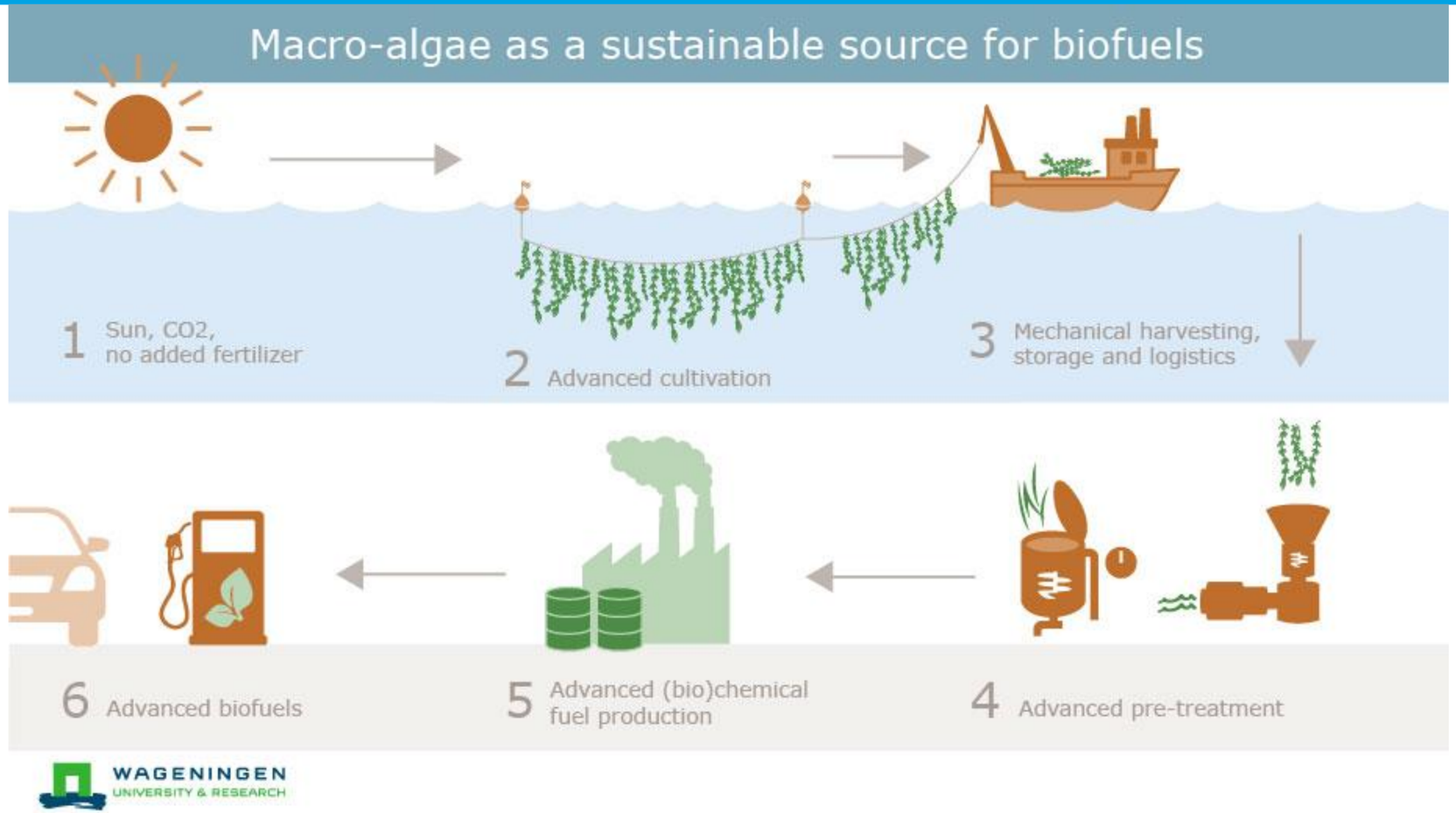
Farming Equipment







Kelp for Bio fuels



Financials – Cashflows

7-year Pro Forma (Base case CF)

Year	0	1	2	3	4	5	6	7
Interest income		14,071,185.77	14,071,185.77	14,071,185.77	14,071,185.77	14,071,185.77	14,071,185.77	14,071,185.77
Origination Fee		2,000,000.00						
Sales commission(Kelp & blue carbon credit)		4,352,017.02	4,352,017.02	4,352,017.02	4,352,017.02	4,352,017.02	4,352,017.02	4,352,017.02
Sale of equipments								30,000,000.00
Partnership expenses		(500,000.00)	(500,000.00)	(500,000.00)	(500,000.00)	(500,000.00)	(500,000.00)	(500,000.00)
Insurance premiums		(1,000,000.00)	(1,000,000.00)	(1,000,000.00)	(1,000,000.00)	(1,000,000.00)	(1,000,000.00)	(1,000,000.00)
Upfront investment	(100,000,000.00)							
Base case CF	**(100,000,000.00)**	**18,923,202.79**	**16,923,202.79**	**16,923,202.79**	**16,923,202.79**	**16,923,202.79**	**16,923,202.79**	**46,923,202.79**
IRR	**10%**							

7-year Pro Forma (Optimal CF)

Year	0	1	2	3	4	5	6	7
Interest income		14,071,185.77	14,071,185.77	14,071,185.77	14,071,185.77	14,071,185.77	14,071,185.77	14,071,185.77
Origination Fee		2,000,000.00						
Sales commission(Kelp & blue carbon credit)		8,704,034.04	8,704,034.04	8,704,034.04	8,704,034.04	8,704,034.04	8,704,034.04	8,704,034.04
Sale of equipments								30,000,000.00
Partnership expenses		(500,000.00)	(500,000.00)	(500,000.00)	(500,000.00)	(500,000.00)	(500,000.00)	(500,000.00)
Insurance premiums		(1,000,000.00)	(1,000,000.00)	(1,000,000.00)	(1,000,000.00)	(1,000,000.00)	(1,000,000.00)	(1,000,000.00)
Upfront investment	(100,000,000.00)							
Optimal CF	**(100,000,000.00)**	**23,275,219.81**	**21,275,219.81**	**21,275,219.81**	**21,275,219.81**	**21,275,219.81**	**21,275,219.81**	**51,275,219.81**
IRR	**15%**							

Financials – Projections

Without Leasing

Harvest cycle	3
Total hectare	5
Production (per hectare)	4.75
Revenue (per hectare)	**4,206.21**
Setup Cost	1,369.45
Boat Cost	20,000.00
Kelp Dryer Cost	50,000.00
Harvesting Equipment Cost	118,998.00
Fixed costs	**190,367.45**
Labour Cost (per hectare)	418.00
Insurance Cost (per hectare)	700.00
Variable costs (per hectare)	**1,118.00**
Gross profit	**29,893.57**

477.95 % ***profit*** increase even when production increase isn't considered

With Leasing

Harvest cycle	3
Total hectare	5
Production (per hectare)	4.75
Kelp price (per hectare)	4,206.21
Blue carbon credit price (per hectare)	150.42
Revenue (per hectare)	**4,356.63**
Setup Cost	1,369.45
Boat Cost	20,000.00
Kelp Dryer Cost	50,000.00
Fixed costs	**71,369.45**
Labour Cost (per hectare)	418.00
Insurance Cost (per hectare)	700.00
Variable costs (per hectare)	**1,118.00**
Gross profit	**159,620.00**
Interest repayment	-$16,744.43
Gross profit after debt	**142,875.57**
Gross profit growth (without production increase	**477.95%**

Financials

Leasing Details

Fund amount	$100,000,000.00
Leasing terms	7 years
APR	6%
Leasing amount	118,998.00
Depreciation rate	10%
Residual value	35,699.40
Monthly payment	-$1,395.37
Annual payment	-$16,744.43
Origination Fee	2%

Blue Carbon Estimates

Carbon Credit per hectare per year	4.2978
Blue Carbon Credit Prices	$ 35.00

Leasing Partnership Model

Potential Leasing Partners

MACKENZIE LEASING

CREST CAPITAL

LeaseQ™ Powered By TimePayment

BALBOA CAPITAL

Due Diligence Providers

STATE STREET

NORTHERN TRUST

SS&C

APEX

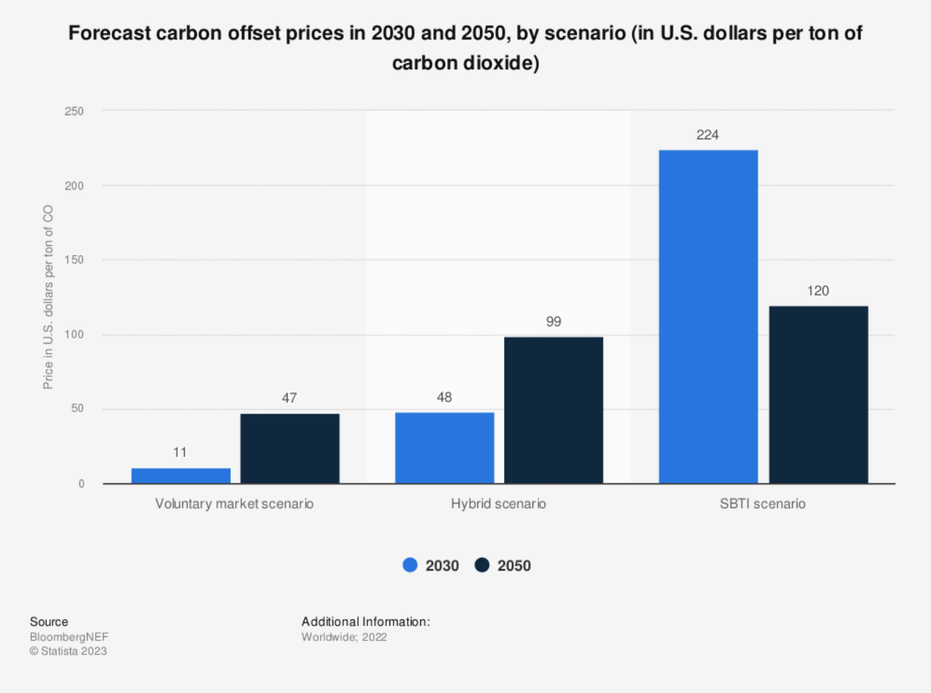
Specialist Partners

KELP FOREST FOUNDATION

GREENWAVE

The Nature Conservancy

Carbon Credit Market



- Additionality and permanence are key to the carbon markets, and our solution will target these factors.
- There is a potential increase in demand for carbon credits in the future, which could drive up the price of offsets up to $224/ton in 2030
- Our project aims to pivot towards obtaining high-quality carbon certification and entering the voluntary market with favorable contracts.
- As a result of obtaining higher-quality certification, we anticipate a significant increase in revenue from carbon credits.

CDR credits buyer lists (Companies and Transactions)

Key Markets Carbon Credits

Compliance Carbon Credit Markets:

- Compliance carbon credit markets are created because of national or international legislation, and corporations are required to follow them.
- The Kyoto Protocol led to United Nations Clean Development Mechanism (CDM) program which is the most active compliance carbon offset scheme.
- Cap-and-trade systems from California, Canada, the United Kingdom, China, New Zealand, Japan, and South Korea are among the other well-known compliance carbon markets.
- There are 30 compliance carbon markets throughout the world, accounting for over a fifth of global greenhouse gas emissions and worth more than $850 billion in 2021.

Voluntary Carbon Credit Market:

- The voluntary carbon market is based on the voluntary issuing, purchase, and trading of carbon credits.
- It is far smaller than the compliance market but experienced remarkable growth in 2021, reaching a value of $2 billion, four times that of 2020.
- The market is expected to grow from $10 billion to $40 billion by 2030.
- The carbon pricing range is caused due to the low-quality Carbon Credits.
- Following Paris Agreement voluntary market carbon pricing expected to increase to 100$ per tonne/carbon.
- Voluntary carbon market is a 'negotiated contract', prices are not publicly disclosed.

Nature Based CDR and Kelp

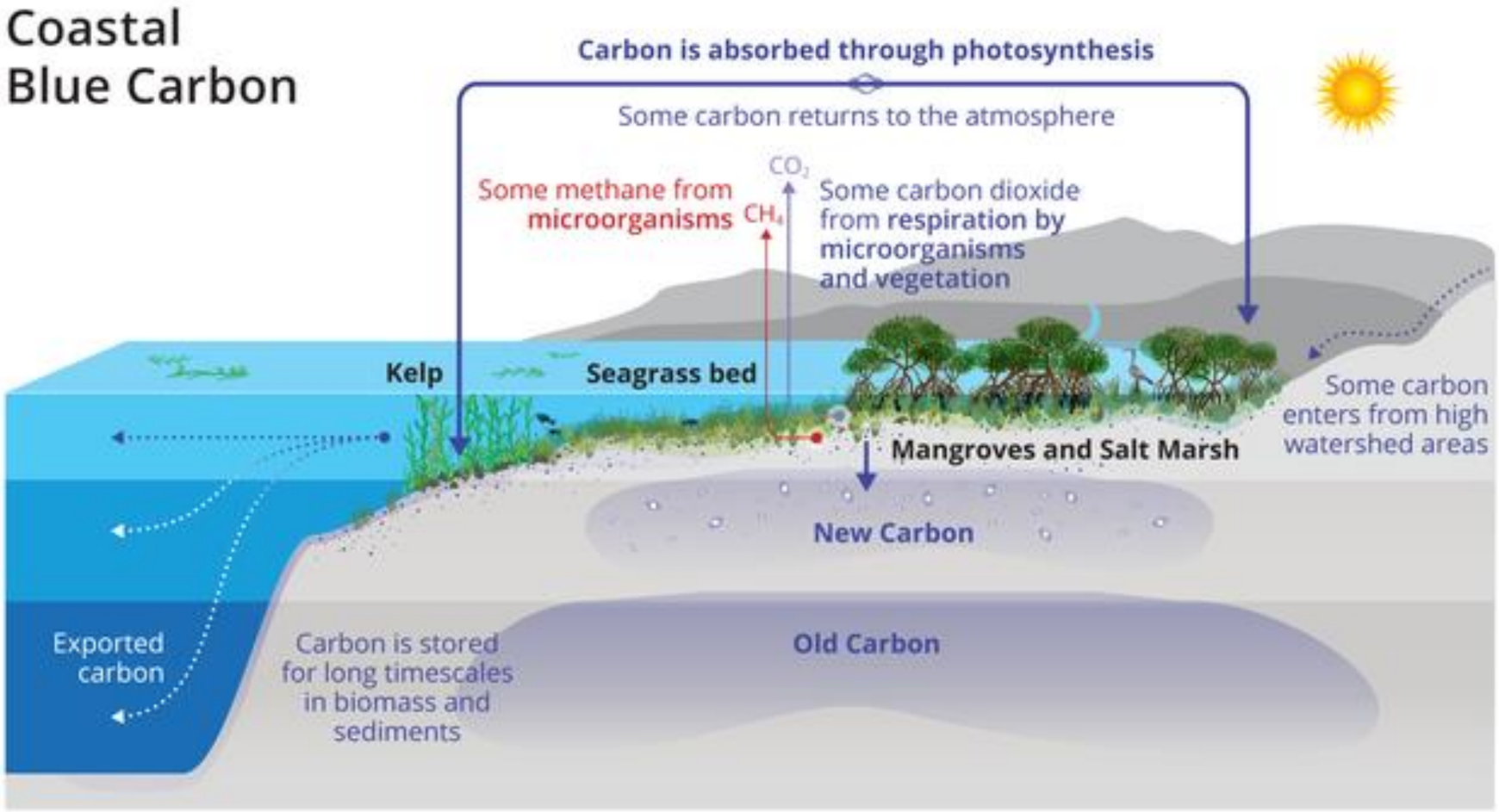
Nature-based CDR:

- Involves using natural ecosystems to remove carbon from the atmosphere
- Examples include afforestation/reforestation, soil carbon sequestration, and blue carbon
- Can have co-benefits such as biodiversity conservation and improved water quality
- Can be cheaper and more sustainable than engineered solutions
- Challenges include measuring and verifying carbon removal, potential for reversibility, and land-use competition

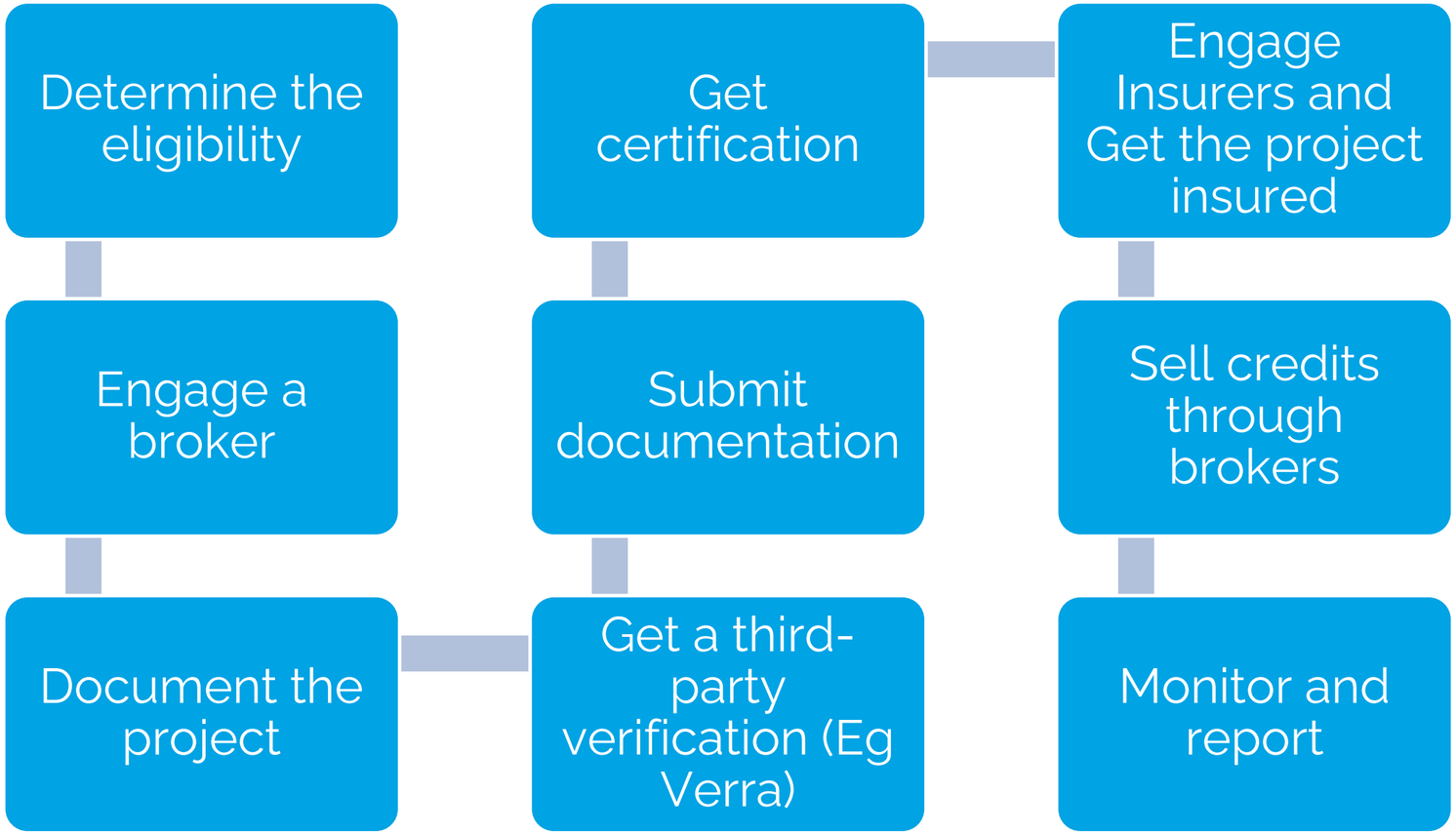
Kelp as blue carbon credits:

- Kelp is a type of seaweed that absorbs and stores large amounts of carbon
- Kelp forests can sequester carbon for decades to centuries, making them a valuable carbon sink
- Blue carbon credits are carbon credits generated from the protection or restoration of coastal ecosystems such as kelp forests, mangroves, and seagrass meadows
- Blue carbon credits have co-benefits such as biodiversity conservation, improved fisheries, and storm protection

How is carbon sequestered?



Blue Carbon Credit Process



Carbon Credit Partnerships

Standards and Registries:

Provide a set of independent methodologies to certify projects and issue credits, which are hosted and/or displayed in a registry

Brokers:

Procure and transfer or retire credits from a trader on behalf of a client. Charge a commission and do not necessarily take credit ownership

Insurance:

Insure projects, credits, or buyers against key risks, either as a broker or insurer

Legal Brief Outline - Farmers

I. Introduction

- The impact fund seeks to lease equipment for a kelp farm, with the goal of promoting sustainable aquaculture and contributing to the reduction of carbon dioxide emissions.
- To mitigate the risk of injury and prevent risk shifting, the impact fund will require the lessee to sign a waiver.

II. Risk Shifting Prevention

- The impact fund will require the lessee to sign a waiver that releases the impact fund from any liability arising from the use of the leased equipment.
- The waiver will state that the lessee assumes all risks associated with the operation and use of the equipment and agrees to hold the impact fund harmless from any claims or damages arising from the use of the equipment.

III. Legal Ownership of Credits

- The impact fund will ensure that it has legal ownership of any carbon credits or other environmental credits generated by the kelp farm, and that any revenue generated from the sale of these credits will be used to further the impact fund's mission.

IV. Fund Setup

- If the impact fund is located in the United States, it will consider setting up in Delaware due to its favorable laws for corporate entities.
- If the impact fund operates in both the United States and Canada, it will set up two separate entities to comply with the legal requirements in each country.

V. Conclusion

- The impact fund's leasing of equipment for a kelp farm is a sustainable and socially responsible business model that can contribute to positive environmental and social impacts.
- The impact fund will take steps to mitigate risk and ensure legal ownership of credits, while also complying with legal requirements in the United States and Canada.

Intermediaries Legal Clauses

Intermediary Non-Back Out Clause

- The impact fund will include a non-back out clause in its agreements with intermediaries, including leasing companies, fund service providers, carbon credit brokers, and any other third parties involved in the transaction.
- The non-back out clause will ensure that the intermediaries commit to the transaction and will not withdraw from the deal before its completion.
- The impact fund will include penalties for any intermediaries who fail to meet their obligations under the non-back out clause, including but not limited to damages, legal fees, and any other costs incurred by the impact fund as a result of the intermediary's breach of contract.
- The non-back out clause is intended to mitigate the risk of the impact fund incurring costs associated with the transaction due to the failure of an intermediary to fulfill their obligations.