

**PROJECT:**



# Sustainable Future

Carbon Sequestration Project Highlights



Q2, 2024

# Vision & Mission

Creating Harmony between Humans & Nature™



## VISION

Leading global climate action by pioneering sustainable mangrove restoration, promoting ecological health and community prosperity



## MISSION

Implement impactful mangrove restoration, enhancing carbon sequestration, protecting biodiversity, and empowering communities through sustainable development



# Sustainability Statement

Magic South champion sustainability through the Carbonica mangrove plantation and preservation project, aligning with UN goals for a greener, more resilient future

- ‡ **Commitment to Sustainability.** Our commitment to environmental stewardship through mangrove plantation and preservation aligns seamlessly with the mission to mitigate climate impact. Our shared dedication to sustainability makes this potential project not only strategic but also a testament to our joint efforts in environmental conservation. Our journey began with a commitment to at least 10 out of the 17 goals of the [UN's Department of Economic and Social Affairs for Sustainable Development](#) with this unique Social Impact project called [Carbonica](#)
- ‡ **Proven Track Record.** Our proven track record, resources, and a community-first approach complement TGO's expansive vision. The mangrove plantation initiative stands as a symbol of our combined dedication to a sustainable future, offering ecological, economic, and social benefits
- ‡ **Engagement.** We are eager to take the next steps and engage in a collaborative dialogue to finalize our partnership. Together, we can set a precedent for responsible environmental management and community engagement
- ‡ **Success.** Let's embark on this journey towards a cleaner and greener future with a firm commitment to action, innovation, and shared success



# About the Founders

Led by seasoned entrepreneurs, our leadership team blends decades of experience in telecom, hospitality, and technology, driving innovative ventures like Magic South.



## Sally Shlomi Selim Benbasat

Co-Founder, CEO

An accomplished entrepreneur with over 30 years of diverse experience, highlighted by 9 figure exit from QualiTest and leading Ennovation Group with projects financing over \$500M+

His portfolio spans numerous software development companies and projects, telecom advancements with cell towers and Amdocs implementations, and diverse ventures like Social Internet, adMingle in the influencer marketing industry, Gultas in chemical trading, Enpetrol in the Oil and Gas engineering space, Enherba supplement innovator in the longevity field, Magic Travel Group out of the box hospitality amongst others.

Sally's innovative travel projects through Magic South and Magic Travel, alongside his roles in Shifftt and Turki.sh, showcase his versatile leadership across sustainability, technology, telecom, hospitality, and trade.



## Ally Ayala Benbasat

Co-Founder, Managing Partner

Ally Ayala Benbasat is an accomplished entrepreneur with 18 years of founding and leading diverse global ventures.

As Managing Director of Ennovation Group since 2019, she's spearheaded projects in sustainability and tech, overseeing investments of \$50M to \$100M+. Her entrepreneurial flair extends to co-founding Magic South and Magic Travel, blending travel with social impact in Thailand. As VP of Sales & Marketing at Turki.sh, she's elevated Turkish B2B exports.

Additionally, she founded Medis Medical, a leader in Israeli medical tourism, and Ella Communication, a PR and lobbying firm.

Ally's strategic vision and innovative approach have marked her as a leader in creating impactful enterprises.



# CONTENT

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01

THE CARBON MARKET | *6-12*

General Information about carbon market & Information about the Carbon Sequencing Project in Nakhon Si Thammarat

03

MANGROVES & CARBON CREDITS | *18-20*

Facts & Figures Re: global carbon market and Thailand in Specific

02

PROJECT CARBONICA HIGHLIGHTS | *13-17*

General Information about carbon market & Information about the Carbon Sequencing Project in Nakhon Si Thammarat

04

EMPOWERING LOCAL COMMUNITIES | *21-23*

Key matrices re: mangroves focusing on Thai Market

# 1

## The Carbon Market



# Global Carbon Cycle

“Mangroves are the most efficient carbon capture and storage systems on the planet”<sup>1</sup>

83%

GLOBAL CARBON

83% of the global carbon cycle is circulated through the ocean<sup>2</sup>

2%

COSTAL HABITAT COVERAGE

Coastal habitats cover less than 2% of the total ocean area<sup>2</sup>

50%

SEDIMENT CARBON

Coastal habitats account for approximately half of the total carbon sequestered in ocean sediments<sup>2</sup>

*A day to remember*

**July 26 is set to be the International Day for the Conservation of the Mangrove Ecosystem**



<sup>1</sup> UFGCC Climate Champions <https://climatechampions.unfccc.int/last-best-chance-for-global-action-to-protect-mangroves/>  
<sup>2</sup> Global Mangrove Alliance, State of Mangroves PDF: [https://www.mangrovealliance.org/wp-content/uploads/2022/09/The-State-of-the-Worlds-Mangroves-Report\\_2022.pdf](https://www.mangrovealliance.org/wp-content/uploads/2022/09/The-State-of-the-Worlds-Mangroves-Report_2022.pdf)



# Carbon Capture & Sequestration (CCS) Market

## Driving the Future of Climate Action: The Carbon Capture & Sequestration Market

### ‡ Global Initiative for raising awareness

- ‡ 192 World's nations signed the Kyoto Protocol Treaty since 1997 of the United Nations Framework Convention on Climate Change (UNFCCC)<sup>1</sup> and the follow-up update through its Paris Agreement (December 2015)<sup>2</sup> aiming to reduce the global warming caused by humans to well below 2°C above pre-industrial (Year of 1750) levels aiming at 1.5°C temperature increase (today it is 1.1°C above pre-industrial temperature)

### ‡ Carbon Emission Market Size (Government-granted carbon allowances)

- ‡ 2023 Market Value: USD\$334.8 billion<sup>3</sup>
  - ‡ 2023 CCS Market: USD\$7.75 (CGAR:+10.9%)<sup>4</sup> estimation for 2024: USD\$11.11 billion<sup>5</sup>
- ‡ 2030 expected Market Value: USD\$1,51 trillion<sup>3</sup>
  - ‡ 2032 expected CCS Market: USD\$19.66 billion<sup>4</sup>

### ‡ Key Drivers

- ‡ Favorable Government Policies supporting a complete decarbonization by 2050 having 2030 as a step in the process in doubling the energy efficiency and cutting the global greenhouse gas emissions by 43%
- ‡ In Abu Dhabi COP28 UN Climate Change Conference, since December 2023<sup>6</sup> a consensus Agreement was signed by 154 heads of state that followed this conference signaling the “Beginning of the End” of the Fossil Fuel Era by focusing of nuclear energy production, investment in technologies and collaborations between nations<sup>7</sup>

### ‡ Regional Insights

- ‡ North America is currently leading the CCS market driven by substantial investments in Technology, funding and governmental support<sup>8</sup>
- ‡ Asia Pacific and Europe are also prominent payers with several large-scale projects and government initiatives<sup>8</sup>

### ‡ Challenges & Opportunities

- ‡ Major challenges include the high costs associated with capturing and storing CO<sub>2</sub> and technological hurdles in efficiently managing and scaling CCS operations<sup>9</sup>
- ‡ Opportunities lie in the growing global commitment to reducing carbon footprints and the potential for new technologies to lower costs and increase efficiency<sup>10</sup>

Carbon Capture And Storage Market - Growth Rate by Region



Source: Mordor Intelligence

<sup>1</sup> Kyoto Protocol PDF: <https://unfccc.int/resource/docs/convko/kpeng.pdf>

<sup>2</sup> 2015 UNFCCC's Paris Agreement - PDF: [https://unfccc.int/sites/default/files/resource/parisagreement\\_publication.pdf](https://unfccc.int/sites/default/files/resource/parisagreement_publication.pdf)

<sup>3</sup> GlobeNewswire, Coherent Market Insights: <https://www.globenewswire.com/news-release/2023/08/18/2727794/0/en/Emissions-Trading-Market-to-Hit-1-510-Billion-by-2030-Coherent-Market-Insights-CMI.html>

<sup>4</sup> Expert Market Research: <https://www.expertmarketresearch.com/reports/carbon-capture-and-sequestration-market>

<sup>5</sup> Global Carbon Sequestration Market <https://www.researchandmarkets.com/reports/4995223/global-carbon-capture-and-sequestration-market-by>

<sup>6</sup> Abu Dhabi COP28 UN Climate Change Conference: <https://unfccc.int/cop28>

<sup>7</sup> Abu Dhabi COP28 UN Climate Change Conference: <https://unfccc.int/news/cop28-agreement-signals-beginning-of-the-end-of-the-fossil-fuel-era>

<sup>8</sup> Mordor Intelligence Report, Carbon Capture & Storage Market Size & Share Trends (2024-2029) <https://www.mordorintelligence.com/industry-reports/carbon-capture-and-storage-market>

<sup>9</sup> Energy Technology Perspective 2020 of the International Energy Agency (IEA) PDF: [https://iea.blob.core.windows.net/assets/181b48b4-323f-454d-95fb-0bb1889d95a9/CCUS\\_in\\_clean\\_energy\\_transitions.pdf](https://iea.blob.core.windows.net/assets/181b48b4-323f-454d-95fb-0bb1889d95a9/CCUS_in_clean_energy_transitions.pdf)

<sup>10</sup> Global CCS Institute Opportunities Executive Summary PDF: [https://www.globalccsinstitute.com/wp-content/uploads/2024/01/GSR23-Executive-Summary\\_PDF.pdf](https://www.globalccsinstitute.com/wp-content/uploads/2024/01/GSR23-Executive-Summary_PDF.pdf)



# Mangrove | Carbon Sequestration Market

Revitalizing Ecosystems: The Mangrove Carbon Sequestration Market

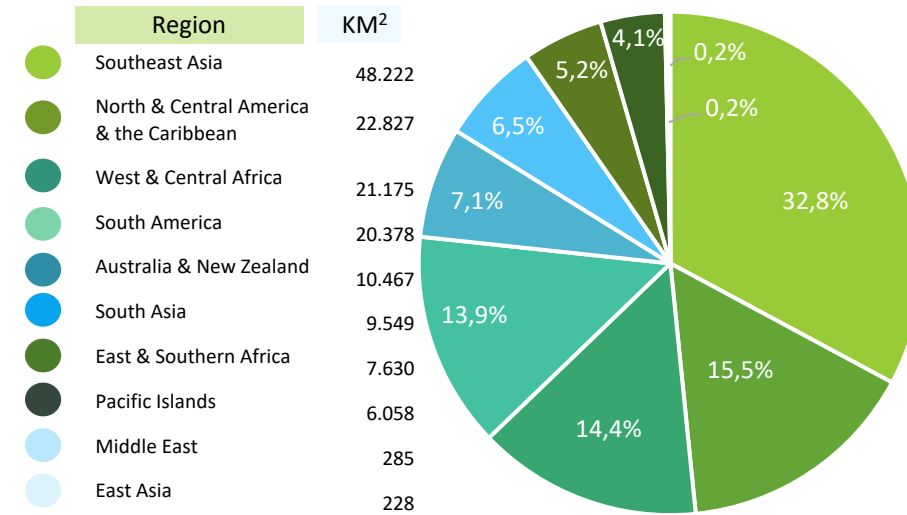
## 🌿 Global Coverage of Mangroves

- 🌿 Global Mangrove Watch Show 147,539 Sqm<sup>2</sup> which is 0.7% of the Globe's land reflecting on 14% of the total world emission<sup>1</sup>
- 🌿 With total potential of restoration of 1.27 gigatons of CO<sub>2</sub><sup>1</sup>
- 🌿 4.1 million fishers depend on mangrove that bring due to its unique eco-system nearly 600 billions of your shrimps as well as 100 billions of crabs and bivalves

## 🌿 Mangrove Global Storage Capacity and Commercial Value

- 🌿 Global Mangrove population's carbon capture and storage is equal to 21 billions tones of CO<sub>2</sub><sup>1</sup>
- 🌿 If we account, the global average value of 1 ton captured by Mangroves for: \$USD5.1 / ton it reflects a market valuation with trade potential of over \$107 billion in value.

Stats: Global Distribution of Blue Carbon (BC) Ecosystems

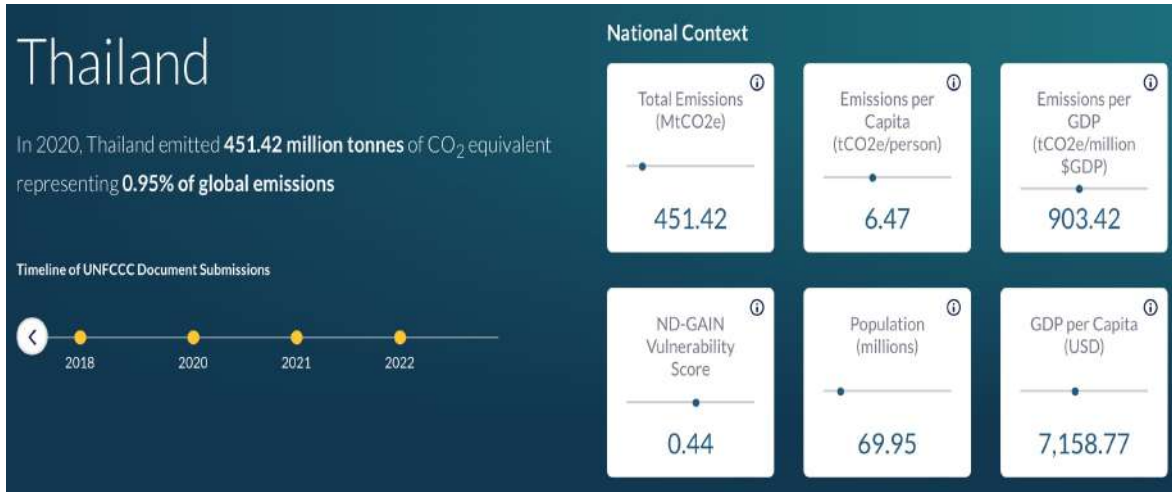


Map: Global Distribution of Blue Carbon Ecosystems



# Thailand Mangrove Population Data

Thailand's 2020 emissions totaled 451.42 MtCO<sub>2</sub>e, representing 0.95% of global emissions, highlighting the critical role of mangrove populations in mitigating climate impact.



### MANGROVE SPECIES BY RED LIST STATUS

Thailand has **35** species of mangroves. Of them, **2** are considered threatened by the IUCN Red List.

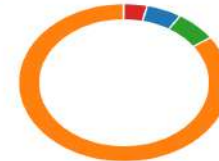
- Critically Endangered
- Endangered
- Near Threatened
- Least Concern
- Data Deficient



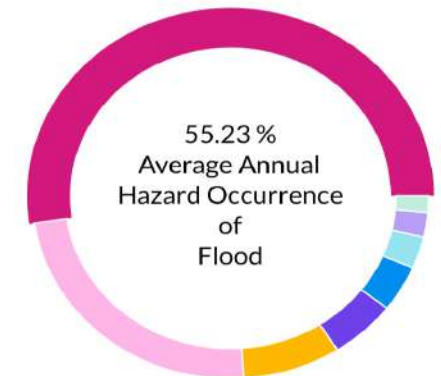
### CARBON MARKET POTENTIAL

The extent of investible blue carbon (ha) at **\$5/ton** in Thailand is **8800 ha**

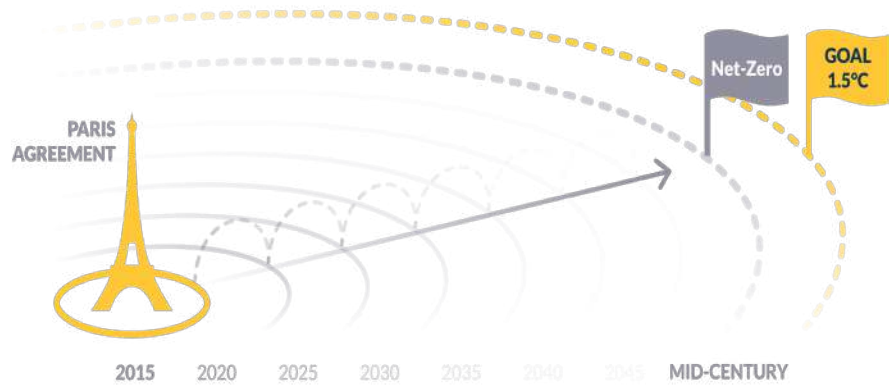
- at \$5/ton: 8800 ha
- at \$10/ton: 13300 ha
- Protected: 15894 ha
- Remaining: 214805 ha



### Natural Hazard Occurrence



- 55.24 % Flood
- 24.48 % Storm
- 7.69 % Drought
- 4.9 % Epidemic
- 3.5 % Earthquake
- 2.1 % Landslide
- 1.4 % Extreme temperature
- 0.7 % Wildfire



### Long Term Strategy

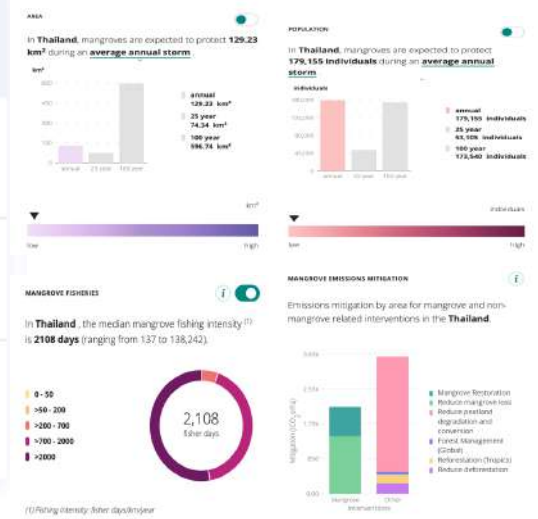
Quantified Long-Term Emissions Goal

Carbon neutrality by 2050 and net-zero emissions by 2065

Submission Date: 11/7/2022

Long-Term Strategy Document

Thailand's Long-term Low Greenhouse Gas Emission Development Strategy (Revised version)



# Benefits of Mangrove Plantations (BC1)

- ‡ **High Carbon Sequestration Rates** | compared to terrestrial ecosystems
  - ‡ This project type enters to most notable sequestration project i.e. Blue Carbon (BC)
- ‡ **Long-term Carbon Storage** | anaerobic conditions of waterlogged soils
- ‡ **Coastal Protection & Biodiversity** | protect coastline while providing livelihoods of coastal communities
- ‡ **Threat to Coastal Ecosystems** | an ecosystem under constant threat
- ‡ **Climate Change Mitigation & Adoption** | Sequestering carbon reducing greenhouse gasses (GHG)
- ‡ **Initiative & Policies** | Recognition the importance of BC: reduction of GHG 20% by 2030 & Governments' commitment to Net Zero by 2050
- ‡ **Economic & Social Benefits** | Support fisheries, tourism, cosmetic & other local community benefits



<sup>1</sup> Blue Carbon (BC): Carbon captured by the world's oceanic and coastal ecosystems, primarily mangroves, seagrasses, and salt marshes, which play a key role in climate change mitigation



# Mangroves Eco-System

Mangroves are our planets' natural carbon sinks



- Natural Carbon Sinks**
- Oxygen Generation
- Carbon Capture

- Source of Goods**
- Fishery
- Cosmetic Goods
- Honey
- Medical Roots

- Source of income**
- Ecotourism
- Lodging
- Food & Beveridge
- Arts & Crafts



- Environment Protection**
- Coastal Region Protection
- Water Cycle Regulation
- Erosion Reduction

- Biodiversity conservation**
- Fishery, Carbs & Sea Food
- Birds Diversity
- Other protected animals

Mangroves ecosystem are not only vital for biodiversity but are also natural carbon sinks, crucial in the fight against climate change, however, only 0.1% of our planet's land host mangroves

1 Mudskippers are remarkable fish that exhibit a fascinating link to the evolutionary transition from sea to land animals. Their adaptations allow them to navigate both aquatic and terrestrial environments, echoing prehistoric times when the first vertebrates emerged onto land from the ancient seas.



# 2

## Project Carbonica Highlights



# Project Carbonica Highlights 1/3

Pioneering Sustainable Growth in Nakhon Si Thammarat through Mangrove Plantation, Preservation and Community Empowerment

- ‡ **Project Carbonica Location** : Nakhon Si Thammarat
  - ‡ **Sub-Location:** Tha Sala
  - ‡ **Project Type:** *Carbon Sequencing* using mangrove plantation and preservation
- ‡ **Community Contribution:** Engagement with local community of Tha Sala via creating new economy through tourism, cosmetics, fishing and more enhances the project's value
- ‡ **Project Execution:** Step-by-step growth ensures adaptability and measurable progress, attracting further investors and community buy-in.
- ‡ **Proven Track Record:** Proven sustainability related business track record, resources, and a community-first approach that complements TGO's expansive vision. The mangrove plantation initiative stands as a symbol of our combined dedication to a sustainable future, offering ecological, economic, and social benefits
- ‡ **Success:** Let's embark on this journey towards a greener future with a firm commitment to action, innovation, and shared success



# Project Carbonica Highlights 1/3

Pioneering Sustainable Growth in Nakhon Si Thammarat through Mangrove Plantation, Preservation and Community Empowerment

## ✦ Certificate of Community Enterprise Registration

✦ Owner: Mangrove Forest Conservation Group Community Enterprise

## ✦ License Given Date: 30 January 2024

✦ According to Enterprise Promotion Act 2005

## ✦ Signed By

✦ Acting District Agriculture Representative, Agriculture Office, Tha Sala District, Nakhon Si Thammarat Province

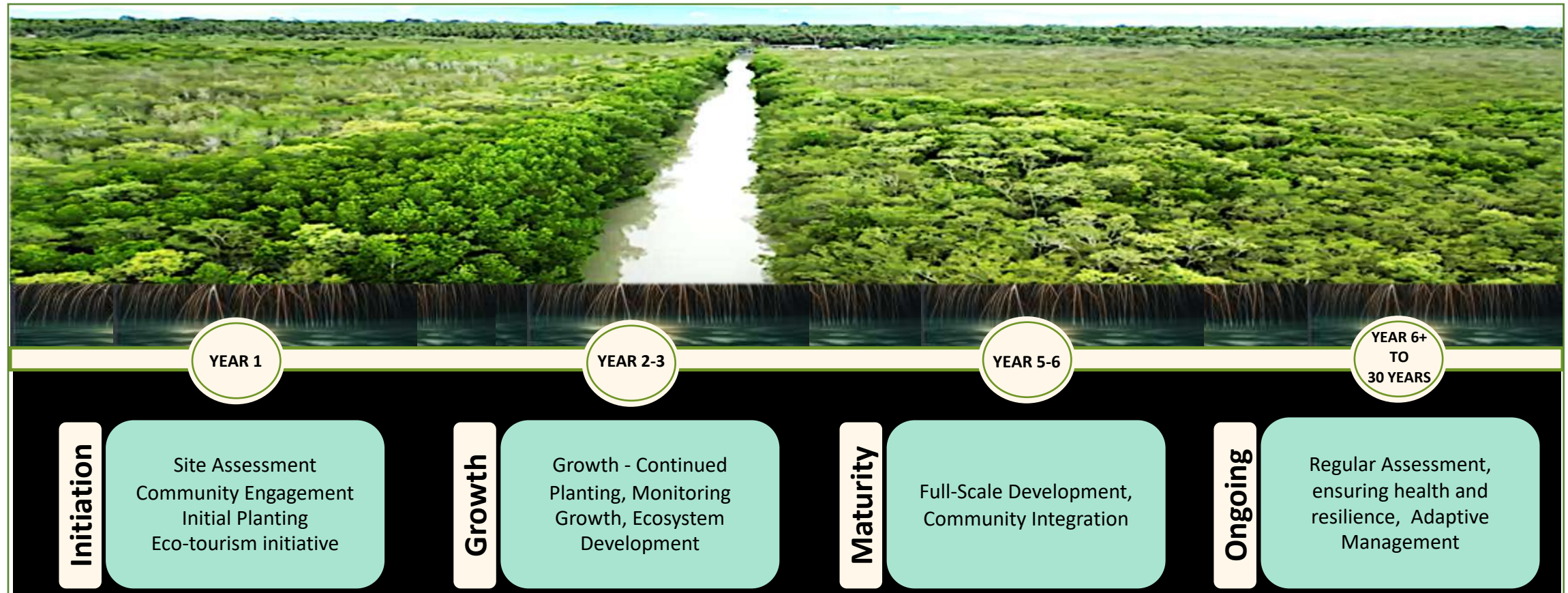
## ✦ Current Village Main Occupation

- ✦ Fishing
- ✦ Very Lean Local Tourism and related activities
- ✦ Cultural and local tourism support for local schools and communities
- ✦ Basic Cosmetics
- ✦ Basic Mangrove Preservation
- ✦ Basic Mangrove Plantation
- ✦ Providing Mangrove seeds/baby plants for plantation



# Project Carbonica Highlights 1/3

Pioneering Sustainable Growth in Nakhon Si Thammarat through Mangrove Plantation, Preservation and Community Empowerment





# Carbon Sequester & Emission Calculation | Risk Factors



Accurate carbon sequestration calculations consider tree specifics, environmental factors, and regulatory changes to adapt and refine pricing models

‡ The items included in the standard<sup>1</sup> may be:

- ‡ Above Ground: the auditing and calculation of carbon sequestration by trunk, branches and leaves, age, density and species of the tree.
- ‡ Below Ground: the auditing and calculation of carbon sequestration by roots, soil carbon accumulation factors
- ‡ CO2 sequestering > emission in mangrove trees
- ‡ The type of Tree Maturity Phase
- ‡ Salinity, nutrient availability, and temperature.
- ‡ Such as selective thinning or replanting,
- ‡ climate change, extreme weather events, or human activity
- ‡ Consistent Carbon stock measurements and verifications should be conducted regularly to adjust the model to actual conditions
- ‡ Supply and Demand Condition
- ‡ Regulatory Change
- ‡ Market Maturation
- ‡ Technological Advancement
- ‡ Annual Price Increase 2-5%
- ‡ Urgency in climate action may affect the price by 5-10%
- ‡ Better measurement and verification methodologies
- ‡ Regulatory Changes
- ‡ Buyer Preference
- ‡ Local demand of investors in /carbon credit market



<sup>1</sup>Note: Risk Factors for pricing Yield will depend on the selected auditing standard



# 3

## Information: Mangroves & Carbon Credits



# Mangroves in Thailand | Fun-Facts

Thailand's Mangroves: Covering 2,815 km of coastline with 87 species, these vital ecosystems are key to ecological balance and community development

- ‡ Thailand's Coast: 2,815KM out of which Mangroves cover 1,878KM or 47.32% are and especially in the Gulf of Thailand
- ‡ On 10 May 1991, King Rama 9 declared the first Thai **“National Mangrove Forest Day”**
- ‡ Thailand has 87 mangrove plant species belonging to 41 families
- ‡ Nakhon Si Thammarat (NST) province is one of the major areas on mangroves around shallow sea in Thailand
  - ‡ NST Received 2,000mm of annual rainfall (50%; Nov-Jan), Annual Temperature Average and humidity audited as: 27.2°C with 83% humidity
  - ‡ NST receives fresh water from 4 main rivers:
    - ‡ Pak Panang River, Bang Chak, Pak Nakhon and Pak Phaya
  - ‡ Other important Mangrove areas include Surat Thani, Songkhla, Samut Sakom and Chantaburi
  - ‡ NST preserved Mangrove Forests has mainly Water-front zone that consists of Avicennia marina, A. alba and A. officinalis4. types of mangrove trees
    - ‡ Stature varies from a few meters to 10 m in height
- ‡ Mangrove extinction areas were converted to Shrimp Farms, Settlement area, Agriculture areas amongst others (1975 to date) and new efforts such as project Carbonica are helping to revive this incredible creation of nature and by that sequestering the carbon emission as well helping local communities to thrive.



# Diverse Methods for Selling Carbon Credits

Harnessing global platforms, direct partnerships, and innovative exchanges to monetize carbon sequestration and propel climate action



1

**Direct Sales to End Buyers:** Engaging directly with businesses, governments, or individuals interested in offsetting their emissions

2

**Carbon Registries:** Utilize platforms that issue, register, and track the ownership of carbon credits, ensuring transparency

3

**Carbon Brokers:** Leverage brokers to market credits, negotiate prices, and manage transactions.

4

**Online Carbon Trading Platforms:** List and trade credits on platforms like the Carbon Trade Exchange (CTX).

5

**Carbon Auctions:** Participate in auctions to sell credits to the highest bidder.

6

**Supply Chain Integration:** Integrate credits into corporate supply chains for enhanced sustainability.

7

**Peer-to-Peer Networks:** Utilize blockchain technology for decentralized trading of credits.

# 4

## Empowering local communities



# Community Engagement Impact 2/2

Our commitment to sustainability shapes our core operations, reflecting our dedication to environmental stewardship and community upliftment

- ✦ In Nakhon Si Thammarat, we've transformed community life by promoting cleanliness, enhancing local amenities, and equipping the area to excel in eco-tourism.
- ✦ Our initiatives merge environmental sustainability with economic and social growth, illustrated by these early snapshots from Project Carbonica



# Community Engagement Impact 2/2

Our commitment to sustainability shapes our core operations, reflecting our dedication to environmental stewardship and community upliftment

- † Initiating and launching eco-tourism initiatives to test and improve our facilities and services through direct feedback. Additionally, these tours have empowered the local community to develop new products, such as unique cosmetics and soaps derived from natural mud.





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**Creating Harmony  
between  
Humans & Nature™**

