



REPACKAGINGFEATURE

## Spark Infinity

# Huawei Developer Competition 2023

| July - October |

**Challenge Name:** Carbon Emission Control

**Project Name:** Carbon Offset Credit Centralised Optimising System with Machine Learning Approaches

**Team Name:** RepackagingFeature

**Organization:** Universiti Tunku Abdul Rahman

**Email/Phone:** 2000tanjingjie@gmail.com





# Overview



## Project Overview

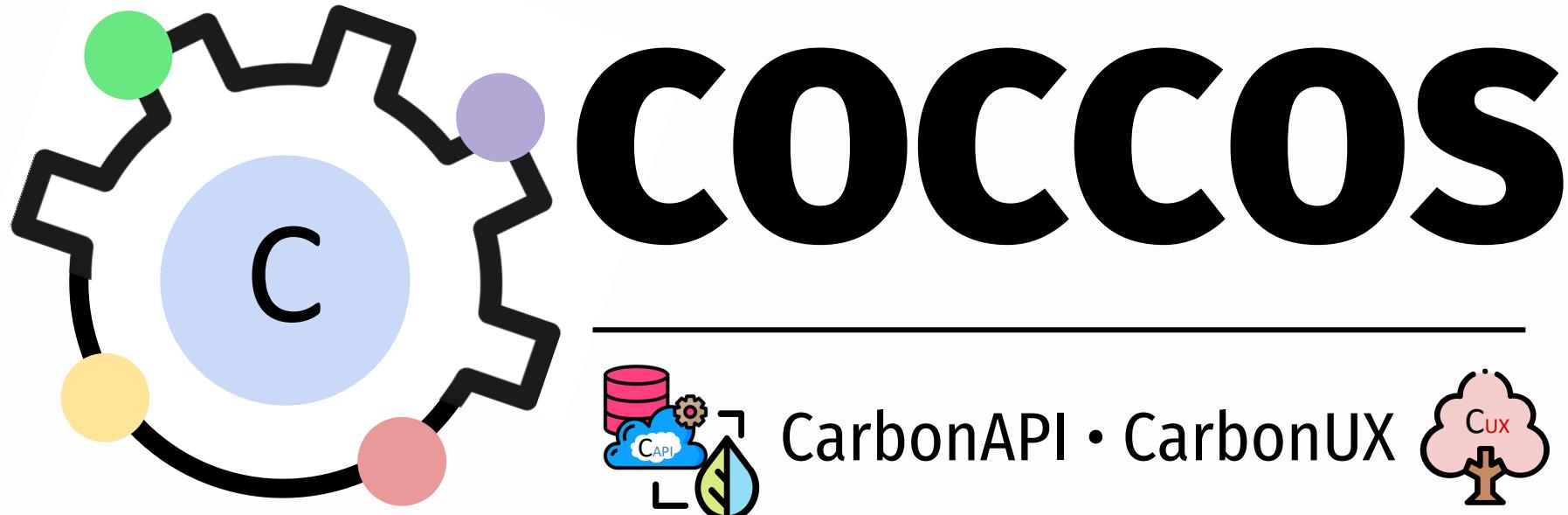


Project Name	COCCOS - Carbon Offset Credit Centralised Optimising System with Machine Learning Approaches
Team Name	RepackagingFeature
Contacts	<a href="mailto:2000tanjingjie@gmail.com">2000tanjingjie@gmail.com</a> , +601138100852 (h/p: Tan Jing Jie)
Technical Field	Carbon Emission Management, Machine Learning
Technologies	Cloud Services, Machine Learning, Big Data Analytics
Keywords	Carbon Emissions, Offset Credits, Machine Learning, Cloud-based, Analytics
Applicable Fields	Environment, Sustainability, Industries with Carbon Footprint
Description (in 500 words)	<p><i>Introducing COCCOS: Revolutionizing Carbon Emission Control through Cloud-Native Innovation</i></p> <p>COCCOS presents a groundbreaking approach to carbon emission control, transcending the limitations of static models. Existing carbon offset credit strategies lack the adaptability needed to navigate evolving environmental conditions and regulatory frameworks. COCCOS leverages cloud-native capabilities to centralize data from diverse sources like industrial processes, transportation, and energy production. This data is harnessed by cutting-edge machine learning algorithms to predict future emission patterns, offering optimal carbon offset credit strategies.</p> <p>In a rapidly evolving global landscape, the carbon trading arena faces multifaceted challenges that hinder its effectiveness, transparency, and influence. Challenges stemming from fragmented regulatory frameworks, a lack of standardized platforms, and transaction opacity hinder progress. China's National ETS demonstrated a trading volume below the EU-ETS, underscoring the power of standardization in market activation. Enter COCCOS, an innovative solution set to reshape the carbon exchange market.</p> <p>COCCOS introduces two pioneering solutions: CarbonAPI and CarbonUX. CarbonAPI seamlessly integrates disparate carbon exchange platforms, transforming complexity into streamlined efficiency. Our user-friendly interface empowers businesses with crucial insights for impactful carbon credit trading decisions. Meanwhile, CarbonUX engages the public and businesses in carbon management through gamification and education, turning sustainability into a rewarding journey. Incentivizing eco-conscious choices accelerates the shift towards impactful carbon trading.</p> <p>Our vision extends beyond problem-solving; it envisions a harmonious coexistence of commerce and environmental responsibility. COCCOS not only bridges the awareness gap but also expands carbon control's reach. We envision an inclusive carbon reduction movement, fostering an environment where sustainable choices flourish. We're committed to innovative research, integrating eco-friendly blockchain and metaverse engagement, revolutionizing the carbon trading landscape.</p> <p>Partnering with Huawei's Cloud Development Contest, COCCOS aims to propel this transformative vision forward. Leveraging Huawei's cutting-edge cloud technologies, COCCOS is set to disrupt the carbon trading domain. Join us in creating a greener, sustainable future. COCCOS isn't just a solution; it's an opportunity to leave a lasting impact. Together, we redefine carbon emission control for a better world.</p>

# Contents



- 1 Team Introduction**
- 2 Project Introduction**
- 3 Technical Architecture**
- 4 Functions**
- 5 Innovations**
- 6 Business Value**



Redefine Your Experience in Carbon Emission Control



REPACKAGINGFEATURE

# Team Introduction



# Team Introduction

## Execution Member



**Tan Jing Jie**  
**CEO (Leader)**

### Education

Current : Ph.D - Engineering, Robotics, UTAR.

2022 : Bachelor - Computer Science, AI, UTAR.

### Experience & Awards

Champion, PayHack 2023 Hackathon

1<sup>st</sup> Runner-up, Tune Protect Hackathon 2023

3<sup>rd</sup> Runner-up, Amazon Web Service (AWS) Hackathon 2020

1<sup>st</sup> Runner-up, Huawei ICT Competition 2021



**Chong Siow Yen**  
**COO**

### Education

2022 : Bachelor - Software Engineering, UTAR.

### Experience & Awards

Microsoft Certified Azure AI fundamental, 2022.

2<sup>nd</sup> runner-up in Samsung Development Day Hackathon, Treasurer of UTAR Sustainable Development club, 2022.

Chairperson of UTAR IT society, 2022.



**Lai Yu Liang**  
**CIO**

### Education

Current : Master in Engineering (Natural Language Processing), UTAR.

2022 : Bachelor - Computer Science, UTAR.

### Experience & Awards

Proposed CATCH, an innovative overspeeding detection system utilizing advanced machine learning, to enhance speed enforcement efficacy.



**Chan Jia Lin**  
**CFO**

### Education

Current : Master in EngScience (Cryptography, GPU, NN), UTAR.

2022 : Bachelor – Software Engineering, UTAR.

### Experience & Awards

Research Assistant at UTAR - Innovative problem-solving & collaborative teamwork contributing to beneficial breakthroughs.

Certified LCCI level 2, 2016



**Oluwatimilehin Illedadewa**  
**CTO**

### Education

Current : Masters in Computer Science, Natural Language Processing, UTAR.

2022 : Bachelor - Computer Science, AI, UTAR.

### Experience & Awards

Champion, Vitrox FICT Competition, 2020.

2<sup>nd</sup> runner up, FICT FYP Competition, 2020

2<sup>nd</sup> Runner up Samsung UI/UX Hackathon 2023



## Team Introduction

# Our Consultant & Advisory Panel



**Assoc. Prof Dr Shee Yu Gang**  
Ph.D in Communication & Network Engineering  
UPM, Malaysia

**Area**  
IT infrastructure Advisor and Legal Advisor

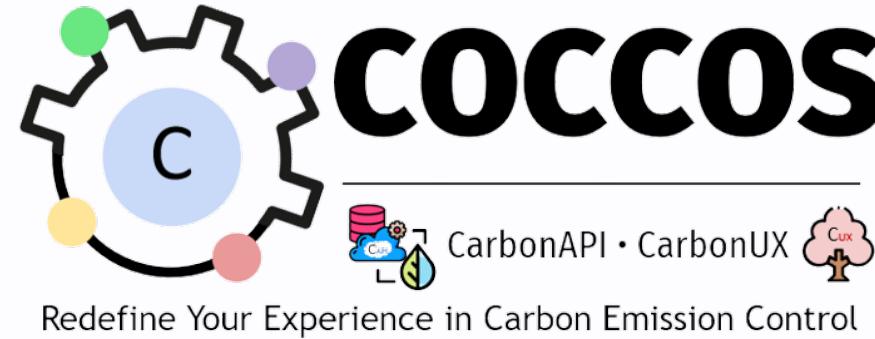
**Experience & Achievement**  
Best Paper Award, VICFCNT-2021  
H3C Certified Network Engineer, 2021-2024  
2nd ICMRSI Session Chair, Feb 2023



**Assist. Prof Dr Kwan Ban Hoe**  
Ph.D in Engineering  
UM, Malaysia

**Area**  
Machine Learning Consultant

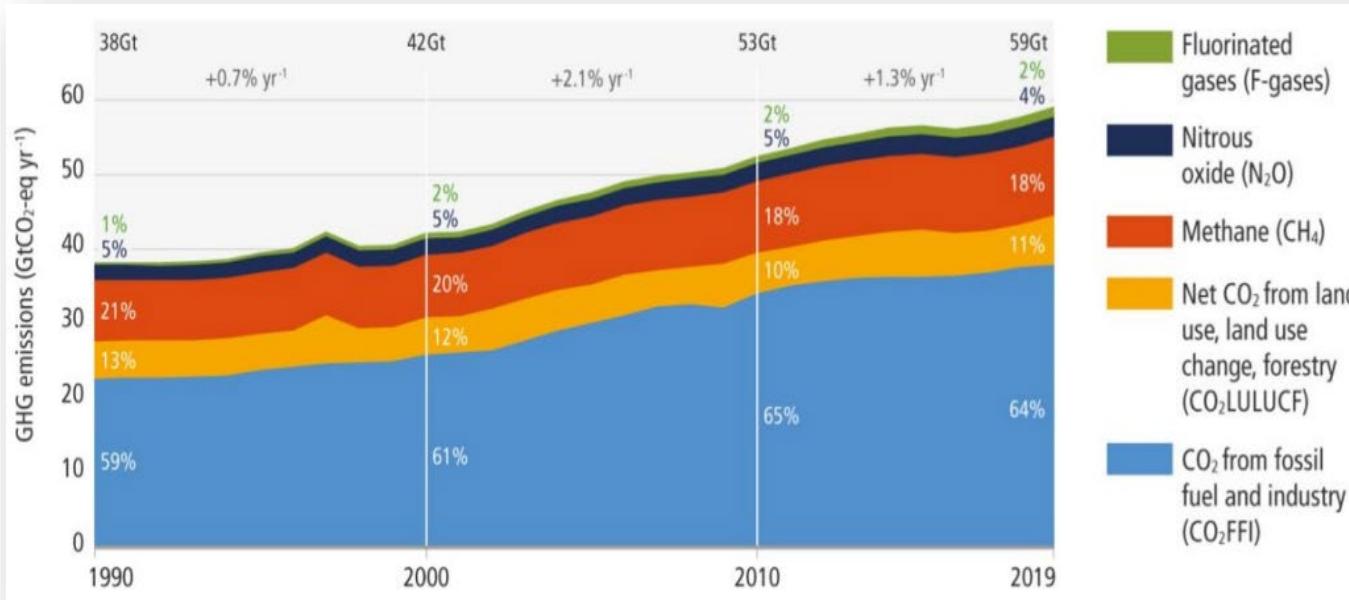
**Experience & Achievement**  
8 years of consultation experience with diverse portfolio, including renewable energy, automation, IoT development, and electrical engineering



# Project Introduction

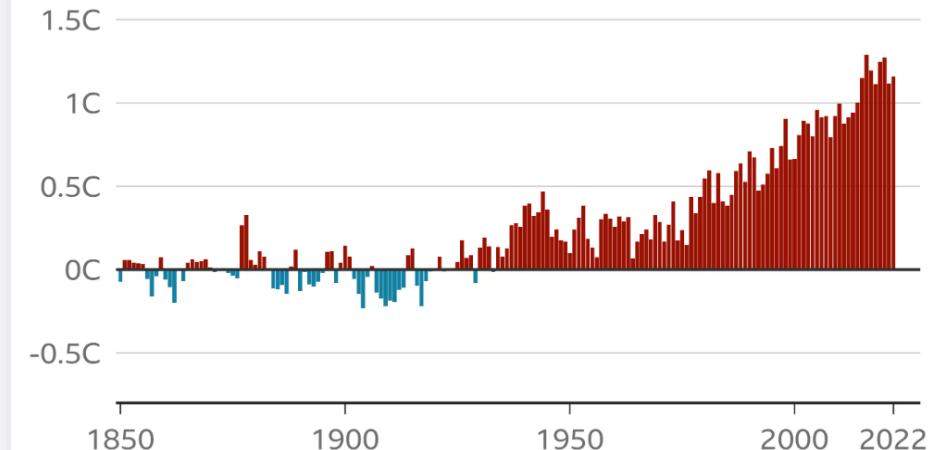
# Project Introduction

## Immediate action needed to prevent escalating global warming



### The world has been getting warmer

Change in annual average global temperature from pre-industrial levels (1850-1900) in degrees C



**“Carbon budget will be exhausted within 10 years, temperature increment of 1.5°K. Hence, mitigation of climate change is urgent and requires immediate action. [1] ,”**

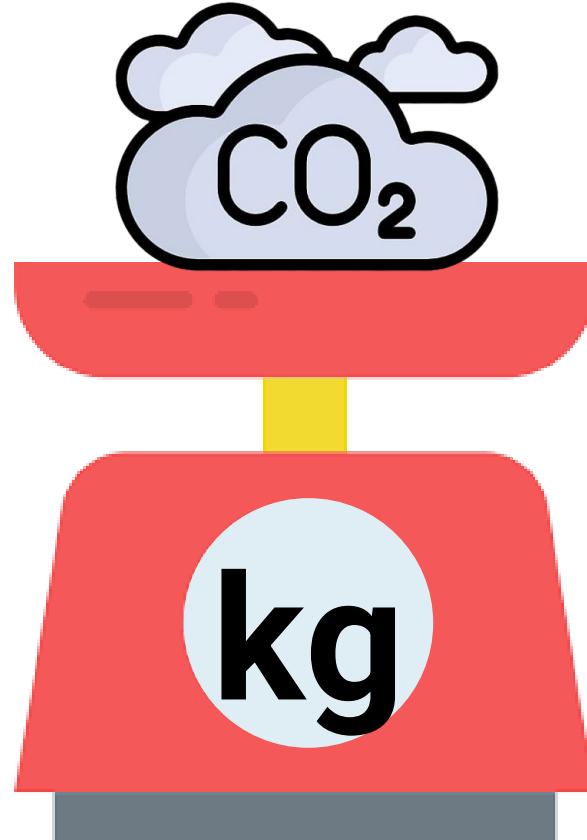
[1] IPCC (2023) Chapter 2 — Global Warming of 1.5 °C - IPCC, *Mitigation pathways compatible with 1.5 °C in the context of sustainable development*. Available at: <https://www.ipcc.ch/sr15/chapter/chapter-2/> (Accessed: 30 July 2023).

[2] Matt.M, 2022, *Global warming set to break key 1.5C limit for first time*. BBC News. Available at :<https://www.bbc.com/news/science-environment-65602293> (Accessed: 12 August 2023).



## Project Introduction

# Action Taken: Quantifying carbon in units and trade [3]



### User friendly unit

Using **standardized units** like kilograms ensures consistency and comparability of emissions data across various industries, regions, and countries. This allows for better tracking of progress in emission reduction efforts.

### Regulatory Compliance

Many countries have **established regulations and emissions trading schemes** to limit carbon emissions. Expressing emissions in kilograms helps businesses and industries comply with these regulations and participate in emissions trading markets.

### Target setting

When assessing different technologies for carbon capture and reduction, expressing emissions in kilograms allows for a **fair comparison** of their effectiveness and efficiency in reducing CO<sub>2</sub> emissions.



# Mechanism background for carbon credit exchange [4]

## Mechanisms for “pricing” carbon

### Emissions Trading System (ETS)

- The European Union (EU) extensively employs the ETS.
- EU's ETS covers 40% of the region's emissions.
- ETS efficient in encouraging companies to invest in cleaner technologies to meet their emission allowances economically.

### Voluntary Carbon Markets (VCM)

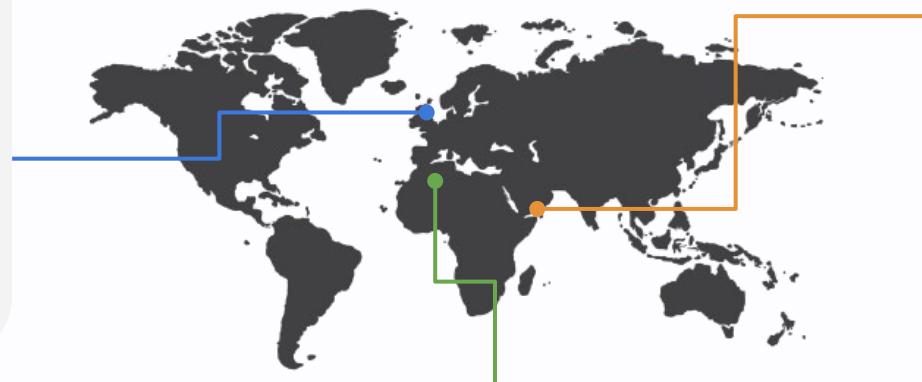
- China is the biggest carbon credit supplier in the global VCM.
- In first quarter of 2020, global VCM accounted for 20.8% of 68 million tons of Carbon-Dioxide Equivalent (MtCO<sub>2</sub>e).
- VCM projects often involve local communities, leading to positive social and economic impacts in addition to environmental benefits.

### Carbon Tax (CT)

- Sweden levies the highest carbon tax rate in the world.
- In year 2022, Sweden has a value of €117.30 which accounted 14% of carbon tax rate.
- Carbon tax can have social and economic implications as it lead to increased energy prices, encourage clean technologies, and contribute a transition to a more sustainable economy.

## Policy Background - International

In February 2022, the **London Stock Exchange (LSE)** announced that it would create a new market designation for funds operating in the global **Voluntary Carbon Markets (VCM)**. The main goal is to increase the supply **of quality worldwide** and increase **the flow of financing** into projects that will directly act to reduce the carbon in our atmosphere. [5]



**South Africa** implemented a **carbon tax** in June 2019, becoming the first country in Africa to do so. The tax aimed to **incentivize emission reductions** and support the country's transition to a **low-carbon economy**. [7]

The **UK** has its own emissions trading system, which was established as a result of Brexit. The UK ETS is modeled after the **EU ETS** and covers sectors previously regulated by the EU ETS. It aims to maintain a **price on carbon emissions** and ensure **continued emission reductions**. [6]

[5] London Stock Exchange (2023). *The Voluntary Carbon Market*. Available at: <https://www.londonstockexchange.com/raise-finance/equity/voluntary-carbon-market> (Accessed: 30 July 2023).

[6] UK In A Changing Europe (2021). *UK and EU Greenhouse Gas Emissions Trading Schemes*. Available at: <https://ukandeu.ac.uk/explainers/uk-eu-emissions-trading-schemes/> (Accessed: 30 July 2023).

[7] South Africa Carbon Pricing and Climate Mitigation Policy (2023). Available at [https://www.elibrary.imf.org/configurable/content/journals\\$002f002\\$002f2023\\$002f195\\$002farticle-A003-en.xml?t:ac=journals%24002f002%24002f2023%24002f195%24002farticle-A003-en.xml](https://www.elibrary.imf.org/configurable/content/journals$002f002$002f2023$002f195$002farticle-A003-en.xml?t:ac=journals%24002f002%24002f2023%24002f195%24002farticle-A003-en.xml) (Accessed: 30 July 2023).

# Project Introduction

## Policy Background - ASIA

**China** launched its national **Emission Trading System (ETS)** in 2020, initially covering the power sector. As the world's largest carbon market, it is expected to **expand** to include other industries over time. [8]



**Japan** was considering implementing a **Carbon Tax (CT)** to help achieve its climate goals. As of 2021, the government was exploring the possibility of introducing a **tax** on companies and industries exceeding certain emission thresholds. [10]

In Budget 2022, the **Government of Malaysia (GoM)** announced the implementation of a **voluntary carbon market (VCM)** as one of the key initiatives to address the **climate change agenda**. [9]

[8] *China's Emissions Trading System Will Be The World's Biggest Climate Policy. Here's What Comes Next* (2023). Available at: <https://www.forbes.com/sites/energyinnovation/2022/04/18/chinas-emissions-trading-system-will-be-the-worlds-biggest-climate-policy-heres-what-comes-next/?sh=62767f592d59> (Accessed: 30 July 2023).

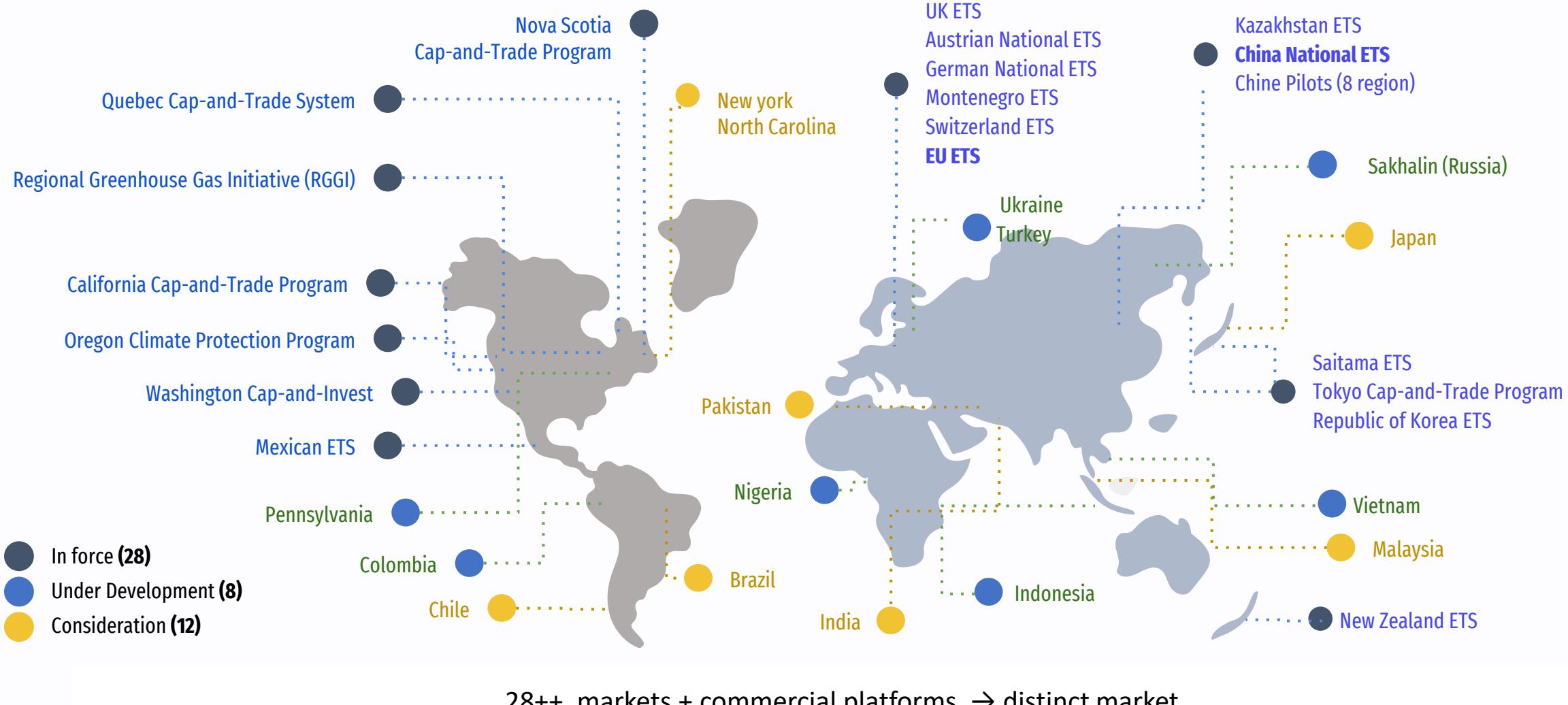
[9] *Malaysia's bourse to launch voluntary carbon market by year-end* (2022). Available at: <https://www.reuters.com/business/malaysias-bourse-launch-voluntary-carbon-market-by-year-end-2022-08-15/> (Accessed: 30 July 2023)

[10] *The Financial Impact of Carbon Taxation on Corporates: Japan* (2023). Available at:

<https://www.elibrary.imf.org/view/journals/018/2023/034/article-A001-en.xml> (Accessed: 30 July 2023)

# Project Introduction

## Carbon emission trading worldwide [11]





## Project Introduction

# Market Challenges & solution for standardization and simplification



## STANDARDIZATION

“ China's National ETS had a trading volume of 2%-3%, significantly lower than the EU-ETS which recorded a trading volume of approximately 500%. [12] ”

### Lack of standardization across different platforms.

Different platforms complicate regulatory compliances and credit validation.

### Low market visibility

Inconsistency in carbon credit measures, exchange and reported, eventually hard to access the data.

### Lack of transaction transparency

Introduce inconsistency and variation in trading practices, challenging to compare credit across different platforms.

Impacts exchange market activation

## SIMPLIFICATION

“ Transaction simplification is one of the market dissatisfaction. [13] ”

### Counterparty risk

Deter investor confidence for credit exchange.

### Fragmented Carbon market regulation

Regulations in different markets, making compliance difficult

### Challenges in trading diverse credit carbon

Difficult to verify credit quality and authenticity in different markets.

Limited market participation

## SOLUTION



CarbonAPI

Your all-in-one solution for **seamless integration** across **diverse carbon exchange platforms**. Enjoy hassle-free regulatory compliance while receiving powerful **market insights** to empower your business in the carbon credit trading landscape. Simplify your carbon credit exchange journey effortlessly with **CarbonAPI**.

## FEATURES

Unified marketplace

Market Intelligence and Insights

Transparent Reporting and Trading

Trade Assistance, and Regulatory Updates

Empowering Ecosystem: Data-Driven Sustainability Insights

[12] 中国碳市场回顾与展望(2023) (2023) 能源经济预测与展望研究报告 - Beijing Institute of Technology. Available at: <https://ceep.bit.edu.cn/docs/2023-01/78387560e3084e0d8c2d5bd3e3ebff7e.pdf> (Accessed: 30 July 2023).

[13] Exploring the future of the Voluntary Carbon Market (2022) Shell Global. Available at: <https://www.shell.com/shellenergy/othersolutions/carbonmarketreports/shell-voluntary-carbon-market-reports.html> (Accessed: 30 July 2023).



## Project Introduction

# Market Challenges & solution for awareness & advocacy



### AWARENESS & ADVOCACY

“ China's National ETS had a trading volume of 2%-3%, significantly lower than the EU-ETS which recorded a trading volume of approximately 500%. [12][14]

#### Lack awareness of global climate change / impact

Limited public awareness hinders carbon control effort.

#### Limited Adoption and Engagement

Hinder effectiveness of the market participation.

#### Restrict eco-solution opportunity

Miss opportunities to develop, apply and invest in technologies, practices and products that contribute to environment conservation.

#### Slow Sustainable Growth

### SOLUTION



#### CarbonUX

A revolutionize solution for carbon management to the **public and businesses**. Our application allows continuous **tracking** of carbon quotas, emissions, regulations, and credit **exchange** options. We engage in gamification and education to drive low-carbon product adoption. Moreover, **businesses** can utilize our service to create **eco-friendly offerings**, while consumers receive **incentives** for purchasing such products, fostering a **self-sustaining ecosystem**.

### FEATURES

Credit exchange

Promotes eco-friendly offerings

Gamification and Education

Quota, emission tracking

App Assistance, and market updates

CarbonWatch: Report & Redeem

Empowering Ecosystem: Data-Driven Sustainability Insights

# Project Introduction Growth Strategies

## CarbonAPI

### Market Expansion and Insights [12, 15]

**First stage:** exchange platforms in the nation and expand to EU-ETS

**Expand Global Reach:** Collaborate with more market.

**EcoMarket Insights:** Provide valuable insights to governments and NGOs aligning with international carbon agreements, enhancing transparency, cooperation, and advocating for supportive policies.

## CarbonUX

### Carbon Control Coverage [12,15]

**First stage:** transport and electricity with smart detection system

**Expand Carbon Control:** Extend coverage for comprehensive emission tracking, empowering eco-lifestyle practices.

**AI-powered Algorithms:** Machine learning for real-time data analysis, providing personalized carbon reduction recommendations to consumers.

## Long term goal

### Empowering Users for Environmental Impact

**Enhanced User Experience:** Optimize platform usability, foster engagement, and build trust through transparent governance.

**Continuous Public Engagement and Awareness:** Encourage community input to address environmental issues, promoting national responsibility and collective action.

**Data-Driven Carbon Management:** Empower government strategies with comprehensive data for sustainable carbon management.

### Innovative Technology Integration

**Eco-Friendly Blockchain Implementation:** Invest in sustainable blockchain integration, minimizing carbon footprint for an energy-efficient trading system. [16]

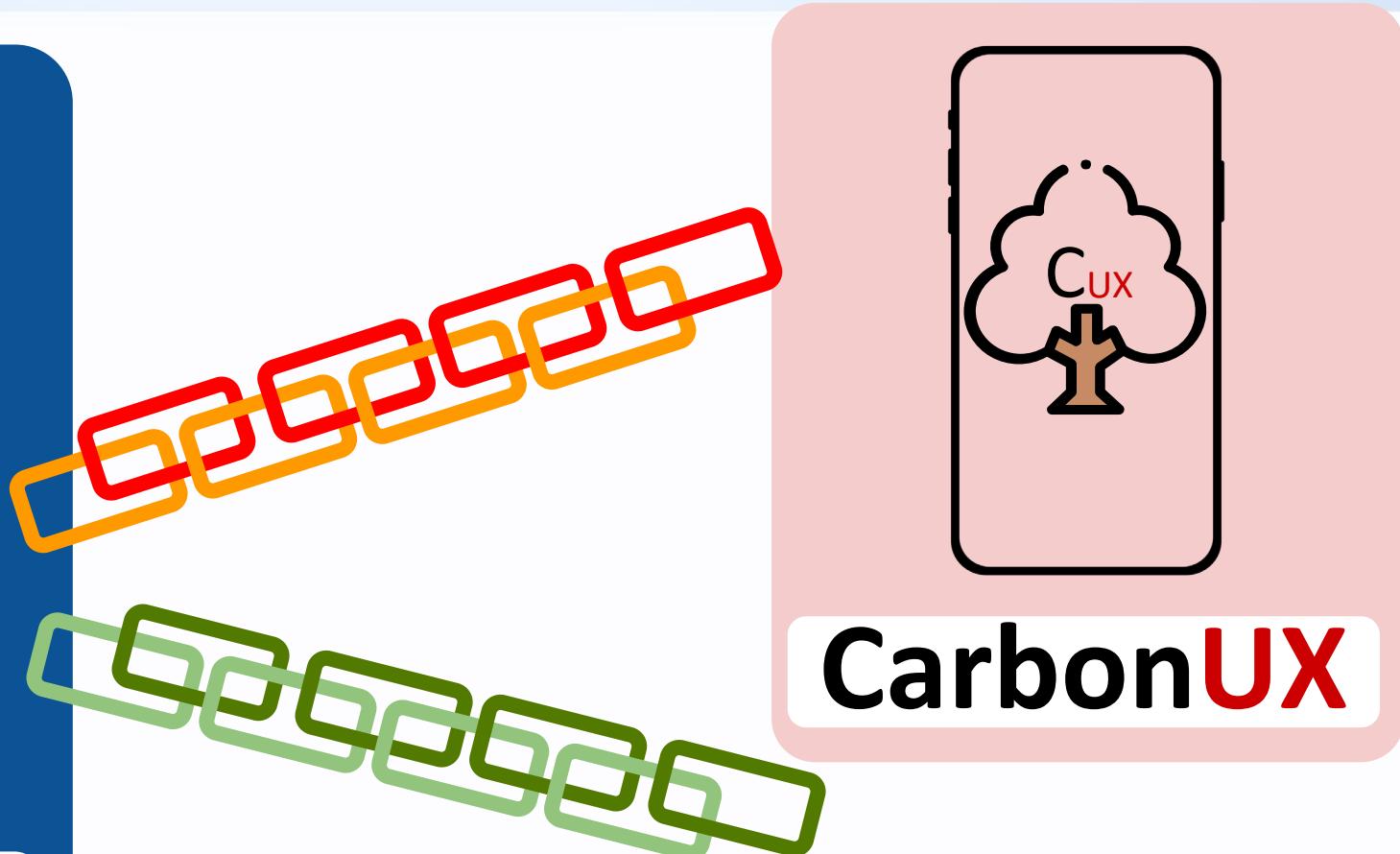
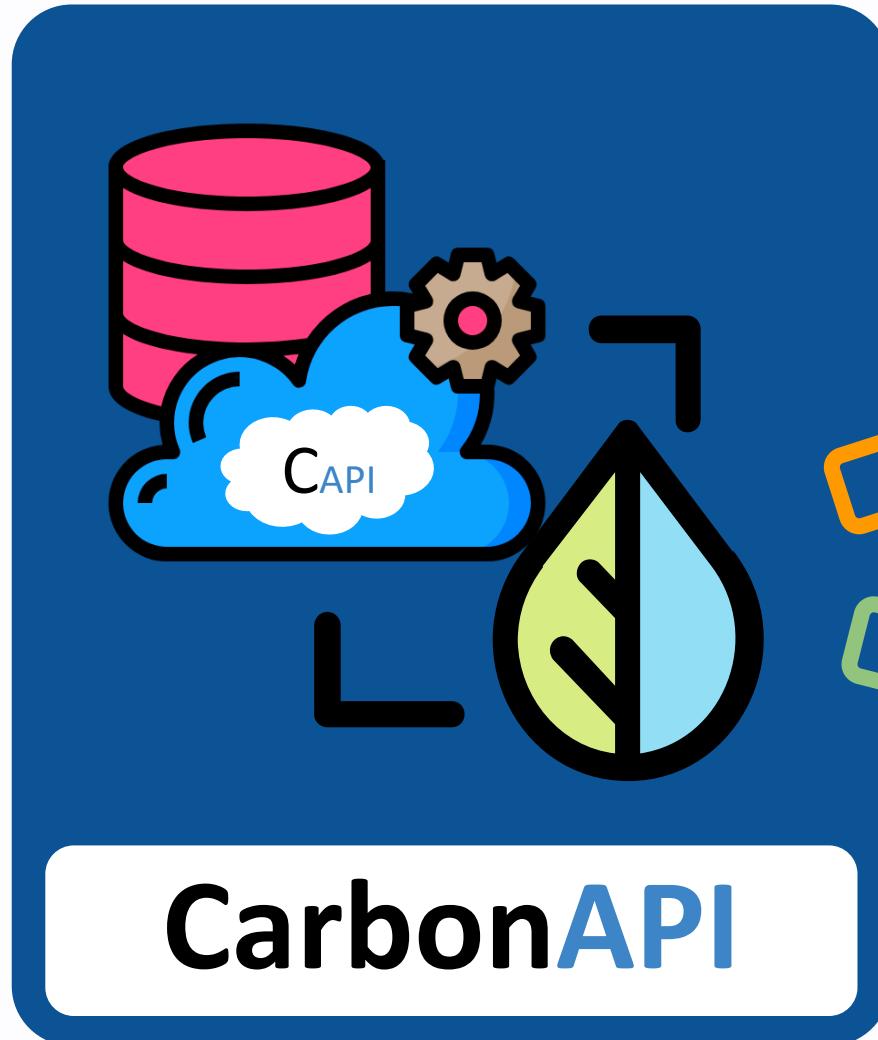
**Metaverse Market Engagement:** Utilize metaverse technologies to create immersive experiences, educating users and fostering a sustainable future.[17]

# Technical Architecture

[15] *Understanding Carbon Markets in China - KWM* (2021) Kings&Wood Mallesons. Available at: <https://www.kwm.com/hk/en/insights/latest-thinking/carbon-markets-in-china.html> (Accessed: 30 July 2023).

[16] 区块链赋能 "碳达峰碳中和"白皮书 (2023). Available at: <http://221.179.172.81/images/20220325/96861648191523266.pdf> (Accessed: 30 July 2023).

[17] 元宇宙 数字孪生 碳中和 (2022). Available at: <https://www.digitwin.com/newsinfo/4304108.html> (Accessed: 30 July 2023).



CarbonUX

... (Other 3rd party)

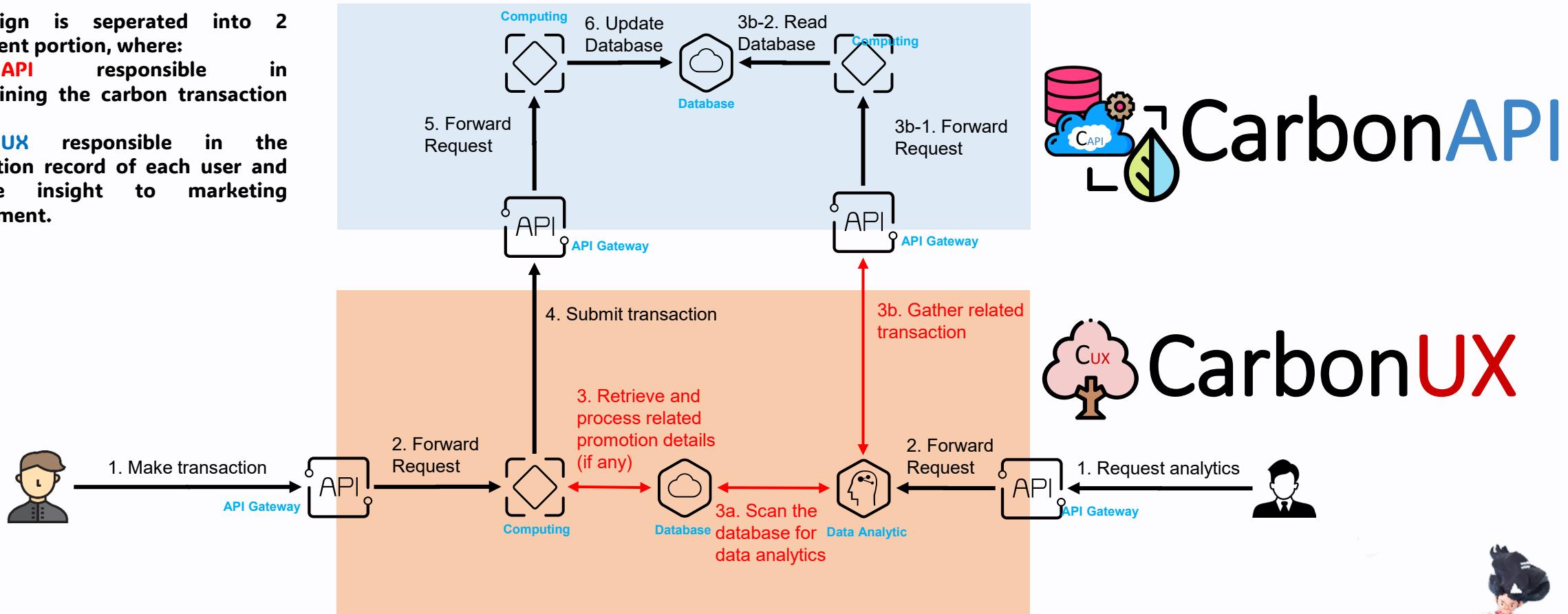


# Technical Architecture

## Deployment Architecture

The design is separated into 2 independent portion, where:

- **CarbonAPI** responsible in maintaining the carbon transaction record.
- **CarbonUX** responsible in the promotion record of each user and provide insight to marketing department.



The core **transaction** and **analytic** feature.

\*\* Other features include chatbot, gamification are developed and extended under this core architecture.



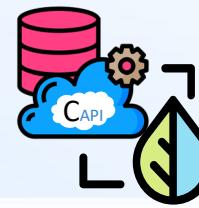
# Technical Architecture

## Technical Maturity Assessment

Infrastructure Scalability and Performance	Availability and Reliability	Security and Compliance	Data Management and Storage	Networking and Connectivity
<p>Assess the cloud service's ability to scale resources up or down based on demand.</p> <p>Evaluate its performance in terms of latency, response times, and throughput for various workloads.</p>	<p>Examine the cloud provider's data centers' uptime guarantees and past performance.</p> <p>Investigate their disaster recovery and failover mechanisms to ensure business continuity.</p>	<p>Evaluate the security features provided by the cloud service, such as encryption, identity and access management, and network security.</p> <p>Check if the service complies with relevant industry standards and regulations (e.g., GDPR, HIPAA).</p>	<p>Assess the types of storage options available, their scalability, and performance characteristics.</p> <p>Evaluate data backup, replication, and restoration capabilities.</p>	<p>Evaluate the cloud provider's networking infrastructure for low latency and high throughput.</p> <p>Assess the availability of features like virtual private clouds, load balancing, and content delivery networks.</p>



# Functions



# CarbonAPI



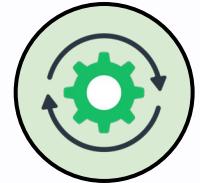
## Management

- CarbonAPI is a comprehensive **repository** for carbon offset credits generated by projects, organizations, or individuals.
- CarbonAPI enables the **tracking**, verification, and certification of these credits to ensure their authenticity and **compliance** with international standards.



## Transparency

- CarbonAPI ensure data integrity and **build trust** among users, employs robust security measures to protect sensitive information and transactions.
- CarbonAPI provides data transparency on **carbon offset credit usage**, trading trends, fostering accountability and the data- driven decision-making process.



## Open Integration

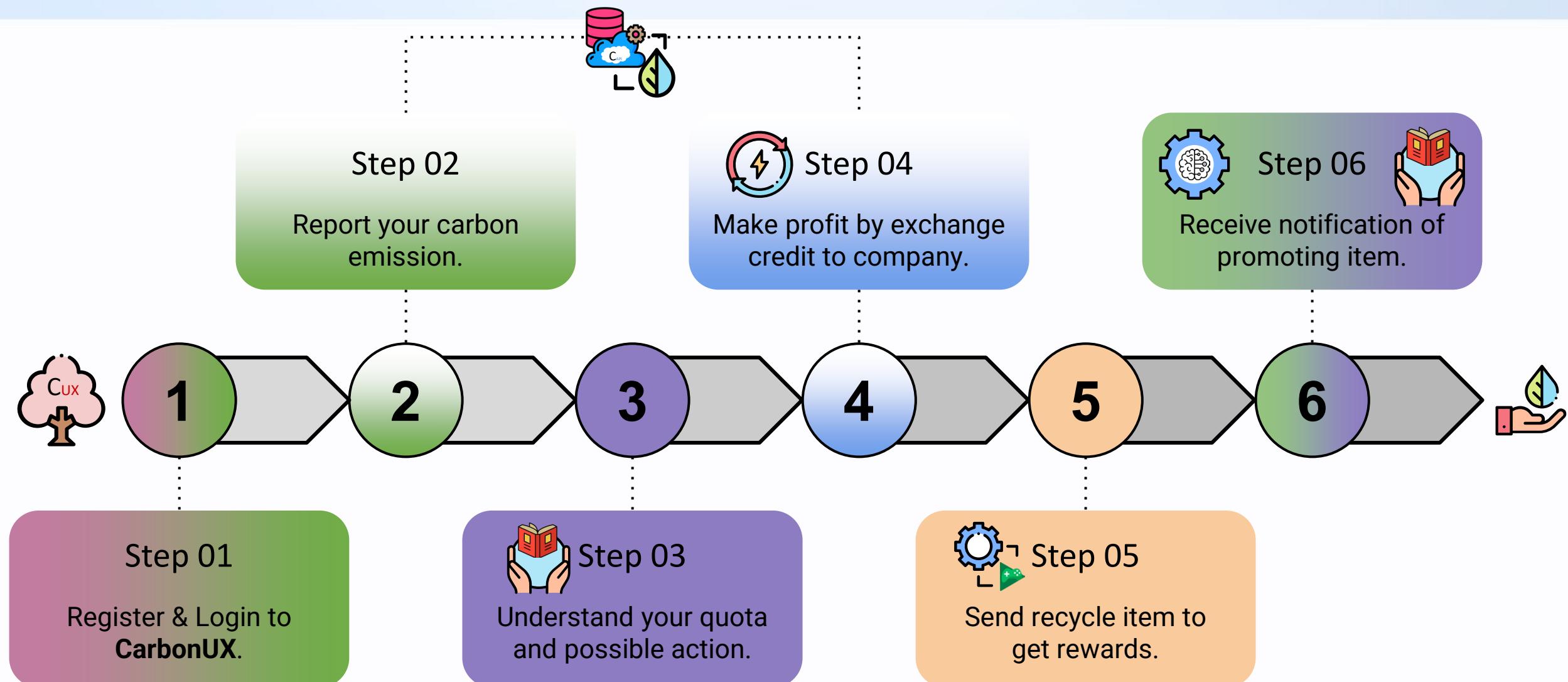
- CarbonAPI is designed with an **open integration platform**, which allowing third-party developers, companies, and organizations to seamlessly integrate their services and solutions into the platform.
- CarbonAPI provide integration capability to promote **collaboration and innovation** in the field of carbon offsetting.



## Opportunity

- CarbonAPI offers a **digital marketplace** where carbon offset credits can be bought, sold, and traded among corporations, governments, NGOs, and even individual carbon-conscious consumers.
- CarbonAPI promote **startup opportunity** as well as occupation opportunity. This improving the country economy.

# How it work?



# Demonstration

**Welcome**



**Welcome to CarbonUX!**  
Redefine Your Experience  
in Carbon Emission Control.

**Continue**

**Create Account**



**Hello!**  
Create a **CarbonUX** Account

Full Name

Email Address

Password

Confirm Password

**Create Account**

Forgot Password

Have an Account? Sign In Instead

**Sign In**



**Welcome Back!**  
Sign in to your **CarbonUX** Account!

Email Address

Password

**Sign In**

Forgot Password

First time here? Create a Free Account

**Sign-in with Google**

**Homepage**



Hi, Julie! 92 Points Check-In

Claim Share Chatbot Forem

Statistic Rewards Apply Events

**News**

22/07/2023 10:39 am  
Lorem ipsum dolor sit amet consectetur. Integer ornare arcu turpis placerat accumsan duis proin. Gravida porttitor sed...

22/07/2023 10:39 am  
Lorem ipsum dolor sit amet consectetur. Elementum ultrices egestas dolor urna. At dui metus turpis ornare. Ut proin consectetur...

Home Chatbot Profile



# Demonstration



The image displays a horizontal collage of five mobile application screens, each with a blue header bar and a light gray background. The screens are arranged side-by-side.

- Claim:** A screen for claiming credit. It features a red circular icon with a document symbol, a text input field labeled "Key in the claiming code.", and a QR code scanner icon. Below are buttons for "Reports", "Description", "Location", "Time", and "Supporting Document". At the bottom, there's a section titled "Estimate Claiming Credit [Edit]" showing "0.002 kg" with a small tree icon, and a large blue "Submit" button.
- Share:** A screen for sharing credit. It has a red circular icon with a share symbol. It shows "Your remaining credit: 5.692 kg" with a tree icon. Below are fields for "Send to:", "Amount:" (kg), "Type:", and "Remark:". At the bottom is a blue "Submit" button.
- ChatBot:** A screen for interacting with a chatbot. It features a red circular icon with a cloud and tree symbol. It shows a message from "CarbonUX Chatbot" and several user messages with timestamps (10:39). It includes a transcription of a message and a small image of a person signing a document. At the bottom is a text input field "Ask your legal questions..." with a microphone icon.
- Forum:** A screen for a forum discussion. It has a red circular icon with two people symbols. It shows a post by "Cecilia" with a timestamp of 2 hours ago, containing a link to "https://cocos.jingjetan.com". Below are "Vote" up and down buttons, a count of 120, and a share icon with 281 shares. Another post by "Julie" is shown below. At the bottom is a "Vote" button.
- Statistics:** A screen for viewing statistics. It has a red circular icon with a chart symbol. It shows a heading "Lorem ipsum dolor" and a short text snippet. Below is a line graph with three data series: "Lorem" (red), "Lorem" (yellow), and "Lorem" (blue). The x-axis ranges from 1 to 9, and the y-axis ranges from 0 to 9.

# Demonstration

**Events**

Events

Lorem ipsum dolor sit amet consectetur. Ornare tellus aliquet.

Lorem ipsum dolor sit amet  
Lorem ipsum  
Lorem ipsum dolor sit amet consectetur.

Lorem ipsum dolor sit amet consectetur. Ornare tellus aliquet.

Lorem ipsum dolor sit amet  
Lorem ipsum  
Lorem ipsum dolor sit amet consectetur.

**VACCINE**  
**SET FREE**

Set Free

Lorem ipsum dolor sit amet consectetur. Ornare tellus aliquet.

Lorem ipsum dolor sit amet  
Lorem ipsum  
Lorem ipsum dolor sit amet consectetur.

Home Chatbot Profile

**Apply**

Apply

Ads Events

Event Name

Description

Location

Time

Link

Submit

Home Chatbot Profile

**Daily Check In**

Check-In

**Daily Check-In**

Discover daily surprises: Unwrap the joy of gifts, one check-in at a time!

Day 1 Day 2 Day 3 Day 4 Day 5 Day 6 Day 7

CUX

Invite a friend to play together.

Home Chatbot Profile

**Rewards**

Rewards

Julie @juliesavingtheearth

Your progress

Win Rewards How to Play ? Play Now!

Home Chatbot Profile

**Profile**

Julie @juliesavingtheearth

Lore ipsum dolor sit amet consectetur. Aliquam auctor pellentesque massa tortor est aliquam porta cursus sagittis. Elementum elit gravida justo egestas pharetra. Ridiculus neque aliquam pellentesque dignissim quis faucibus tellus cursus.

Edit Profile ★ 92 Points

**Rewards**

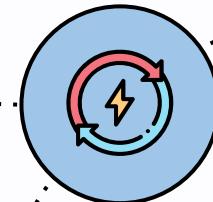
Check-In

Home Chatbot Profile

# Innovations

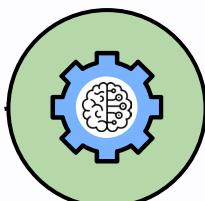
## Exchange Offset Credit

Promote fairness when using public resources in production



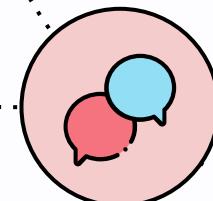
## Machine Learning

Chatbot and Recommendation



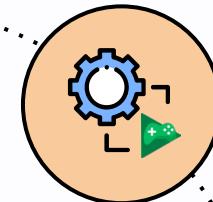
## User-Friendly Interface

Adapting Large-language Model to enhance experience



## Gamification and Rewards

Encourage user to involve in CEC with a new experience



## Pioneer & Adopter

First application under the CarbonAPI system



## Education & Awareness

Raise public awareness and promote people responsibility

# #1: Exchange Offset Credit

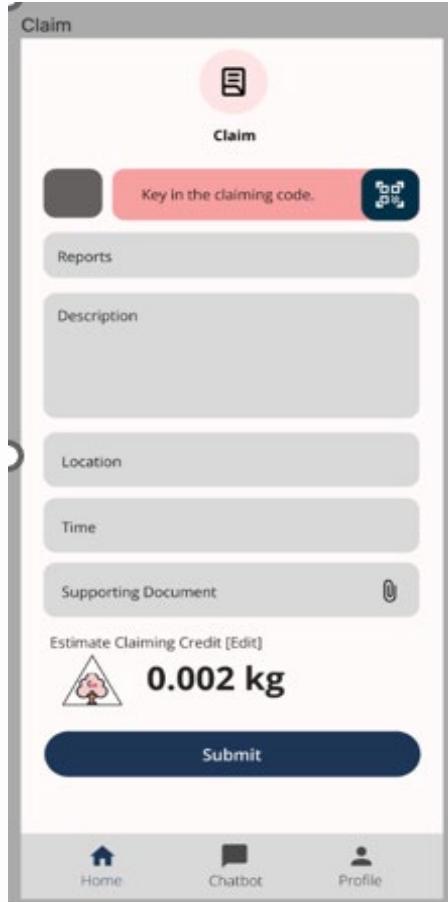


## Claiming Carbon Credit

The platform facilitates the seamless claiming and sending of carbon credits.

Users can easily submit their carbon offset claims by providing comprehensive reports detailing their carbon reduction activities.

Users can edit their credit claims before final submission.



Claim

Key in the claiming code.

Reports

Description

Location

Time

Supporting Document

Estimate Claiming Credit [Edit]

0.002 kg

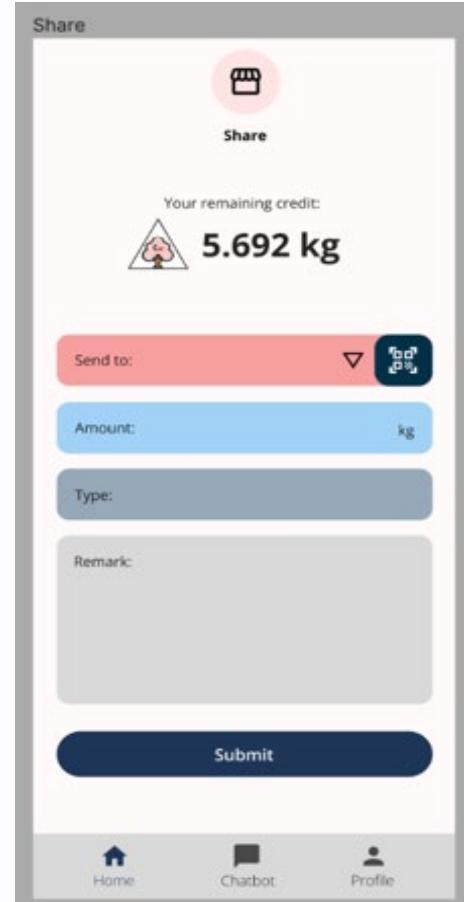
Submit

Home Chatbot Profile

## Sharing Carbon Credit

The system presents users with an overview of their available carbon credit balance, measured in kilograms of CO<sub>2</sub> equivalent.

Users have the option to transfer a portion of their carbon credits to other parties or entities.



Share

Your remaining credit: 5.692 kg

Send to:

Amount: kg

Type:

Remarks

Submit

Home Chatbot Profile

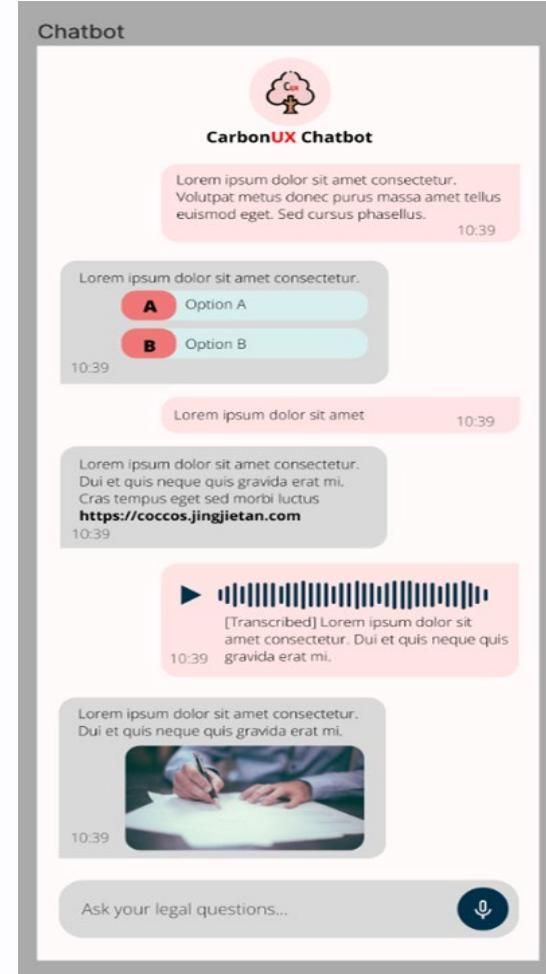


# #2: Machine Learning



## ChatBot

The chatbot has the capability to present the user with all available information, provide summarized overviews of each navigation, and exhibit requested details on demand.



## Statistics

Users interact with the chatbot to specify the types of insights they are seeking. The machine learning model processes these inputs to customize the line graph

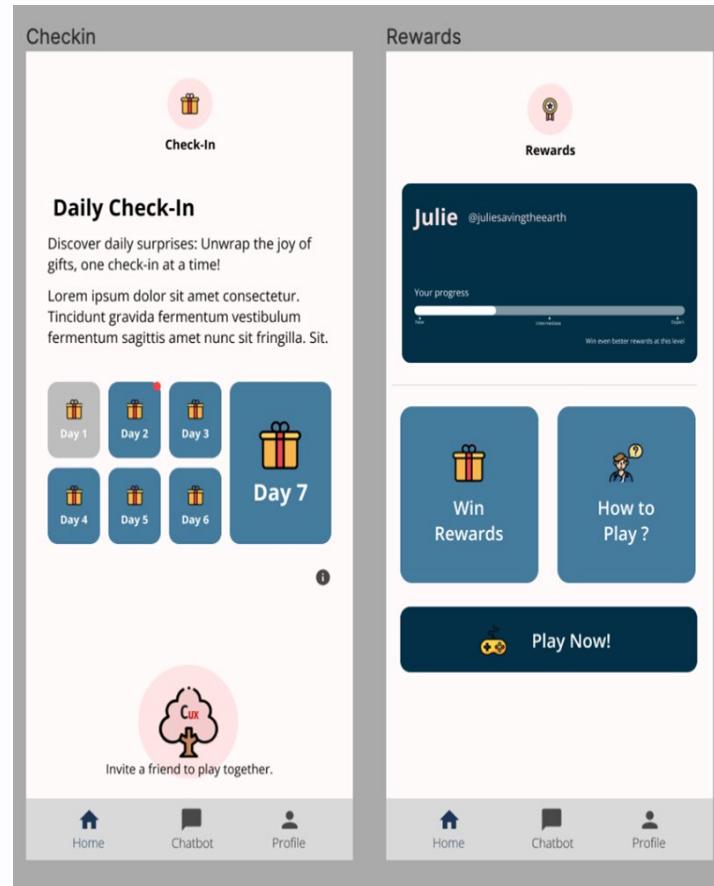


Above can be achieved through ModelArt, MindSpore by Huawei

# #3: Gamification and Rewards

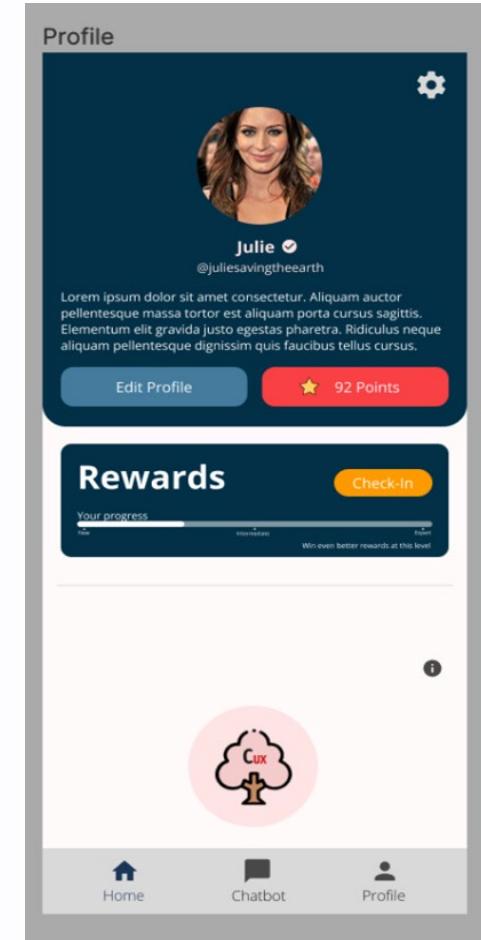
## Daily check-in and Gamification

Users engage in the daily check-in process for seven consecutive days. Each day presents a special reward.



Users are presented with the option to 'Play Now.' This introduces an element of chance, as users can win various rewards, such as points, badges, virtual items, or discounts.

## Rewards

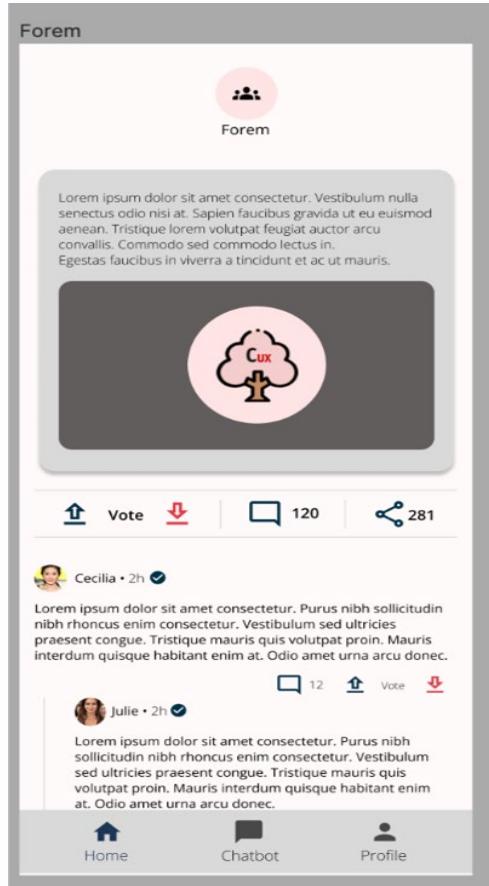


# #4: Education & Awareness



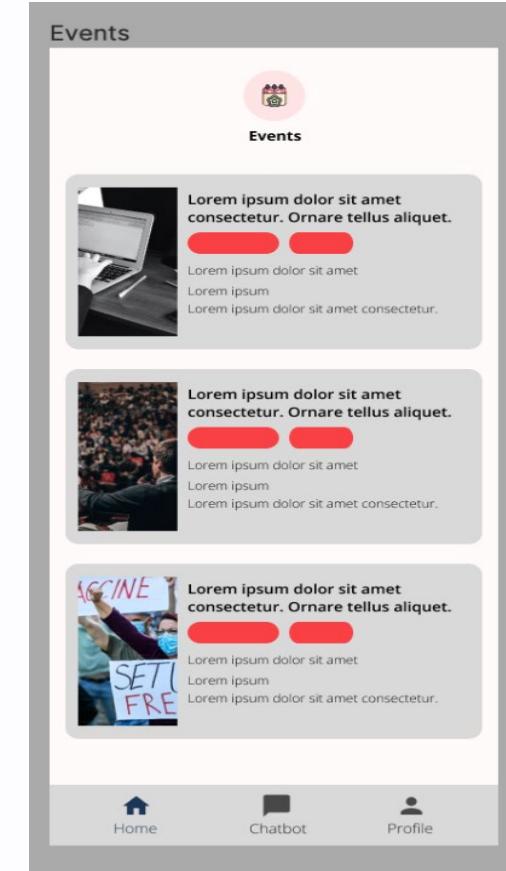
## Forum

The forum serves as a hub where individuals and organizations can ask questions, seek guidance, and participate in discussions about carbon credit projects.



## Events

The events can include webinars, workshops, seminars, and conferences, all aimed at promoting education and awareness about carbon offset strategies and their impact on mitigating climate change.



# Why COCCOS solution is better than existing system?

## PLUGINS INCLUDE:



### AirCarbon Exchange



As a **blockchain-based platform**, it could be **difficult** for some users to comprehend cryptocurrencies and blockchain technology, and itself **consume a lot electricity** too.



Transparent and secure technology allows **trustworthy transactions**



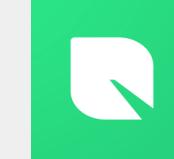
### Carbon Trade Exchange (CTX)



It offers many carbon credits, but the users are not facilitated with rewards and gamification system



It provides a **user-friendly** interface for buying and selling carbon credits globally



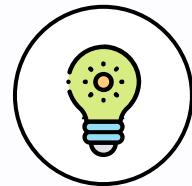
### AirCarbon



Require personal data for carbon footprint calculations or transactions, posing **data security** and **privacy problems**



Empowers individuals to **track their carbon footprint** and offset it by supporting certified carbon offset projects



**User-friendly Trading Hub for Varied Users**



**Integrated and Unified Platform**



**Facilitated application with ensuing incentives**



**Carbon Trading Platform in the Digital Revolution**

**COCCOS** solution include **ALL** aforementioned.

# Business Value

## Expected Social and Business Value



**Community Behavioural Change**



**Mitigation of Climate-Related Risks**



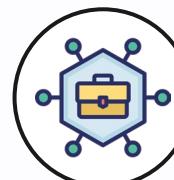
**Public Health Benefits**



**Financial Incentives**

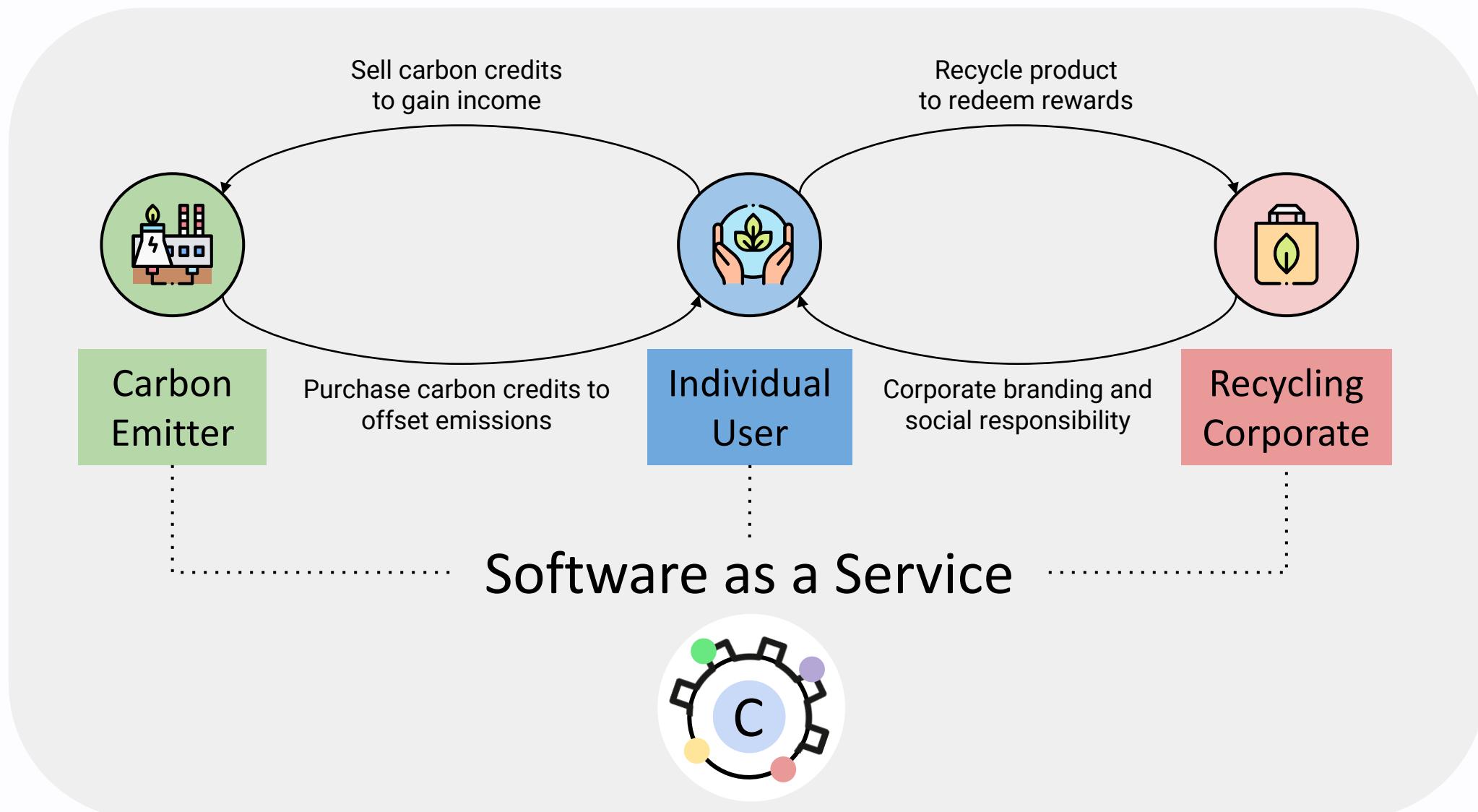


**Economic Development**



**Job Opportunities**

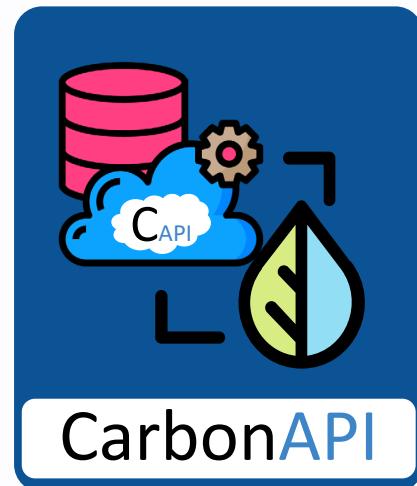
## Business Model: Software as a Service





Business Value

## Business Opportunity Identification: Target market - 3<sup>rd</sup> party platform



**Carbon TradeXchange**  
Access the world's carbon markets



› eex

**TRAYPORT**  
A TMX COMPANY

**GLOBAL  
CARBON  
COUNCIL**

 **BURSA  
MALAYSIA**

 **OECD**  
BETTER POLICIES FOR BETTER LIVES



**CNaught**

**ShiftCarbon**



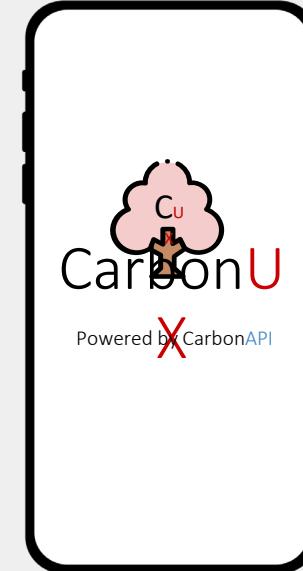
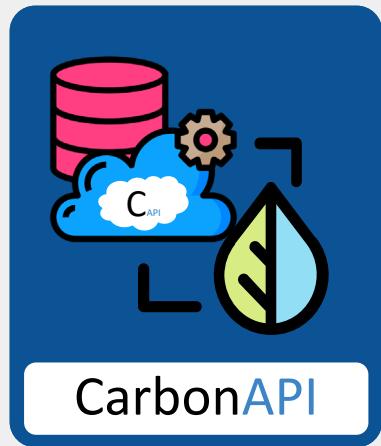
Business Value

## Technology Selection & Compliance with Laws and Regulations



Adopt **Verified Carbon Standard (VCS)**,  
a global carbon crediting mechanism that verifies carbon offset by  
issuing credits to projects that reduce or remove carbon emissions

# Production Flow



**1** Developer Team design the **CarbonAPI** architecture

**2** Adopt **Verified Carbon Standard (VCS)**, a global carbon crediting mechanism that verifies carbon offset

**3** Developer Team develop a centralised application, **CarbonUX** (powered by **CarbonAPI**)

# Business Value Budgeting

**Estimated Total Investment : \$ 100,000**

**Marketing**  
**(\$ 10,000)**

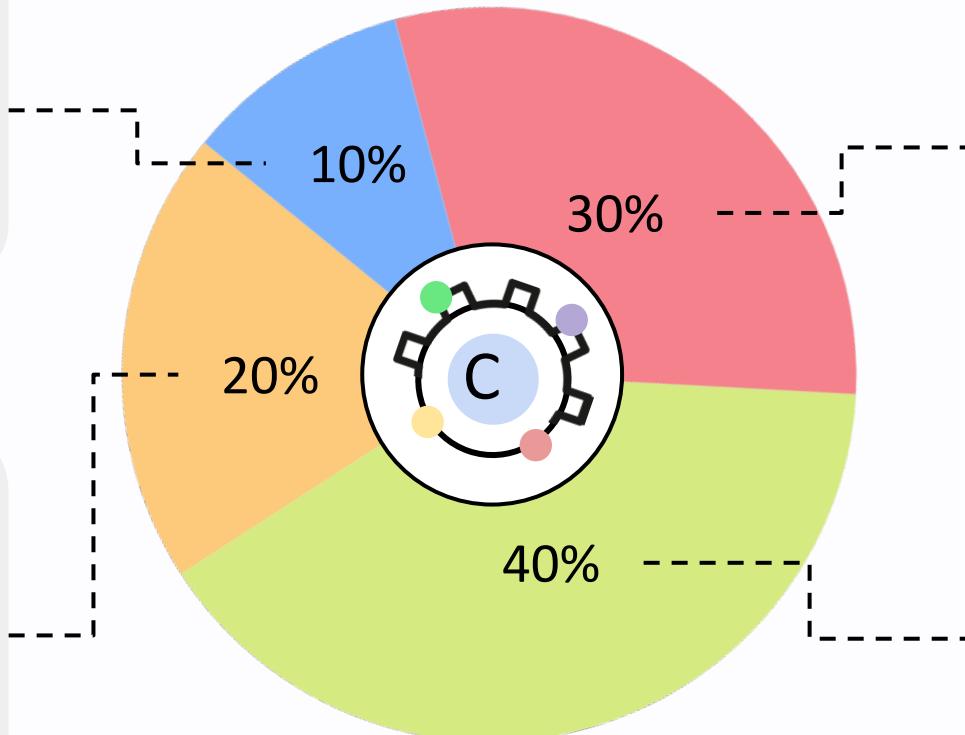
Online and offline advertising  
to promote application

**VCS Program Fee**  
**(\$ 20,000)**

Project Registration Review fee  
of \$2500 and issuance fee of  
\$0.20 per Verified Carbon Unit

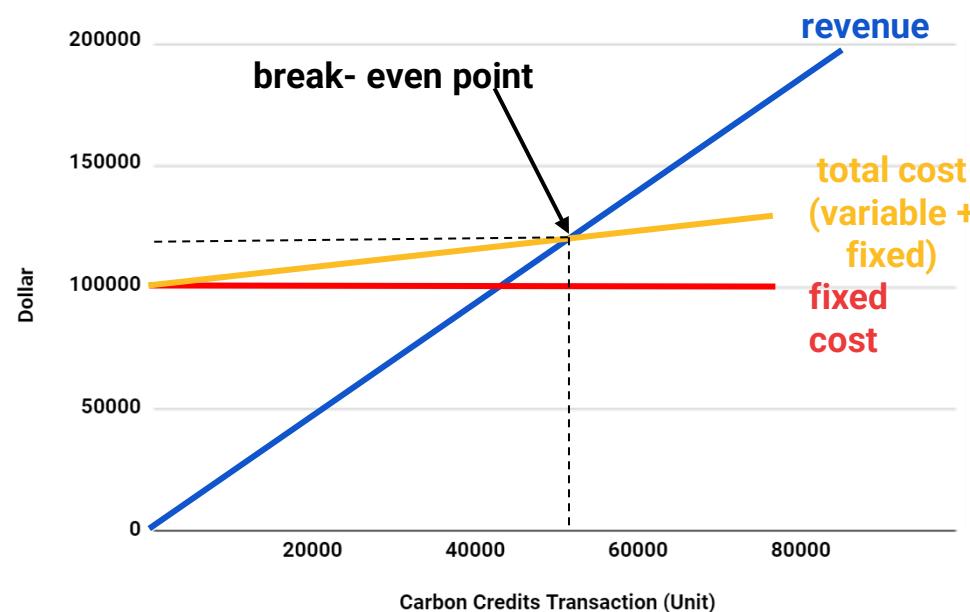
**Maintenance**  
**(\$ 30,000)**  
Customer service and  
technical support

**Production and R&D**  
**(\$ 40,000)**  
Development of COCCOS  
(CarbonAPI and CarbonUX)



# Business Value

## Break-Even Analysis



$$\text{break even point} = \frac{\text{total fixed cost}}{\text{total revenue} - \text{total variable cost}}$$

Unit of Carbon Credit Transaction	-	10000	20000	30000	40000	50000	55550	60000
Fixed Cost (\$)	100000	100000	100000	100000	100000	100000	100000	100000
Variable Cost (\$)	-	2000	4000	6000	8000	10000	11100	12000
Total Cost (\$)	100000	102000	104000	106000	108000	110000	111100	112000
Commission revenue (\$)	-	20000	40000	60000	80000	100000	111100	120000
Profit (\$)	(100000)	(82000)	(64000)	(46000)	(28000)	(10000)	0	8000

Expected ROI upon  
**55,550** carbon credit units (kg)  
transaction



# Business Value

## Laws and Regulation

### Agencies/NGOs involved



### Fulfiled SDG goals:



### In compliance with



LAWS OF MALAYSIA

REPRINT

Act 127

ENVIRONMENTAL QUALITY ACT 1974

Incorporating all amendments up to 1 January 2006

Act 725

RENEWABLE ENERGY ACT 2011

Act 709

PERSONAL DATA PROTECTION ACT 2010

As at 15 June 2016

Legal Review

Privacy by Design

Data Collection and Consent

Transparency

User Control

Training and Monitoring



# THANK YOU

Brought to you by:



REPACKAGINGFEATURE

