CPP

GHG Report 2023

CPP Sustainability Goals

Heart: Living Right

SUSTAINABILITY ASSURANCE

Global Reporting Initiative™

AccountAbility AA1000

DEVELOP POTENTIAL WITH PARTNERS

BAYER

Health: Living Well

DEVELOPMENT SYSTEM

Safety International Standards

International Organization for Standardization ISO 45001:2018

EXCELLENCE MANAGEMENT SYSTEM

(CP Excellence)

CPexcellence

Home: Living Together

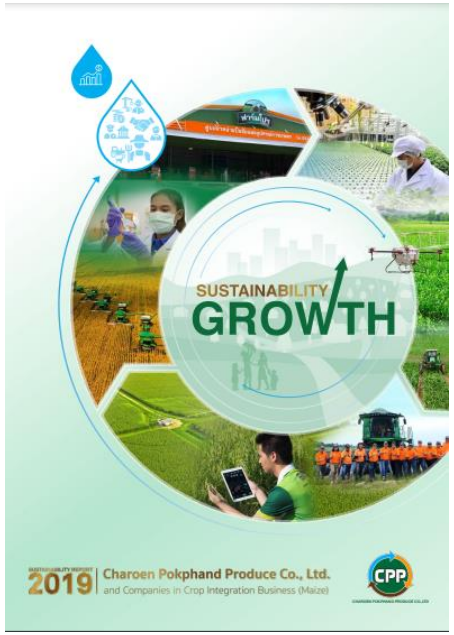
PROMOTE REFORESTATION PROJECTS

Target 2024 : 8,700 Tree

TRACEABILITY SYSTEM

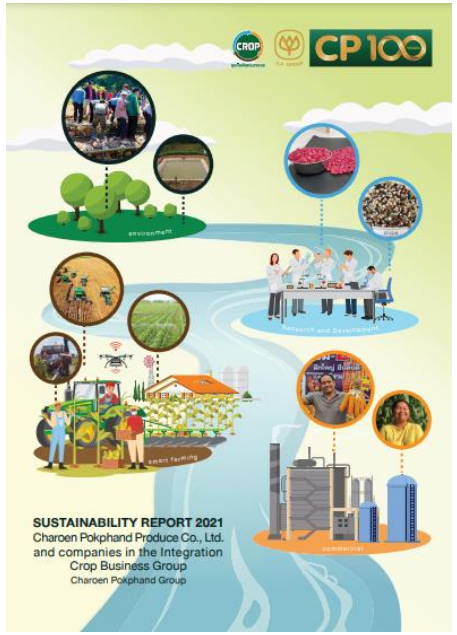
Sustainability Report

รายงานความยั่งยืน



Report 2019

Report 2020



Report 2021

Report 2022

Dow Jones Sustainability Index

ผลการประเมิน Dow Jones Sustainability Index ของ CP CROP

Criterion & question	Score	Y-o-Y	Per...	Y-o-Y	Avg...	Bes...	Wei...	Pot...	Rel....	Wei...
Total	36	+2	83	0	22	83	-47	64	43%	100

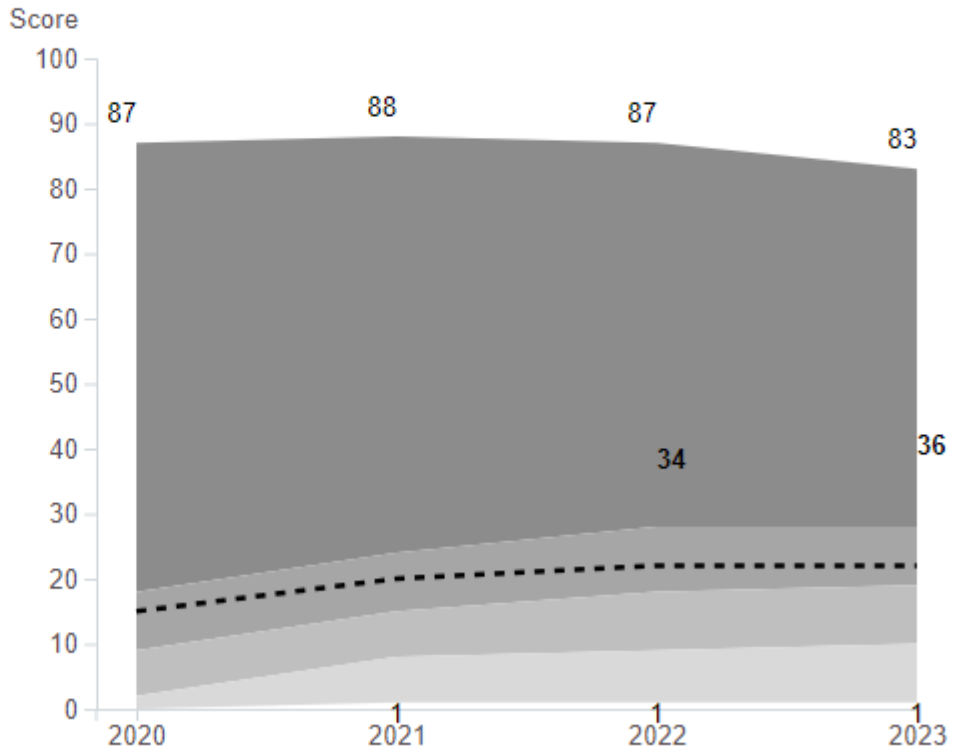
Export results table | Export chart

Score	Company Name
83	Charoen Pokphand Food...
81	Thai Union Group Public...
80	Grupo Nutresa S. A.
78	Pulmuone Corporate
76	CJ Cheiljedang Corporat...
...	
36	IOI Corporation Berhad
36	Premier Foods plc
36	Charoen Pokphand Pro...
35	BRF S.A.
35	Conagra Brands, Inc.

Previous 1 Next

Showing 1 to 11 of 387

Sustainability scores: Company vs. Selected benchmark



คะแนน

- 2022 : 34
- 2023 : **36**

Percentile

- 2022 : 83
- 2023 : **83**

เป็นลำดับที่ **66** ของโลก

กลุ่ม FOA Food Products

จาก 387 บริษัท

Charoen Pokphand Produce Company Limited ESG Score

Ticker: N/A **Industry:** FOA Food Products **Location:** Kingdom of Thailand

Notification: For the Methodology Year 2023 onwards, the S&P Global ESG Score incorporates question-level scores based on modeling approaches in the absence of disclosure. For more information, please refer to the methodology documentation.

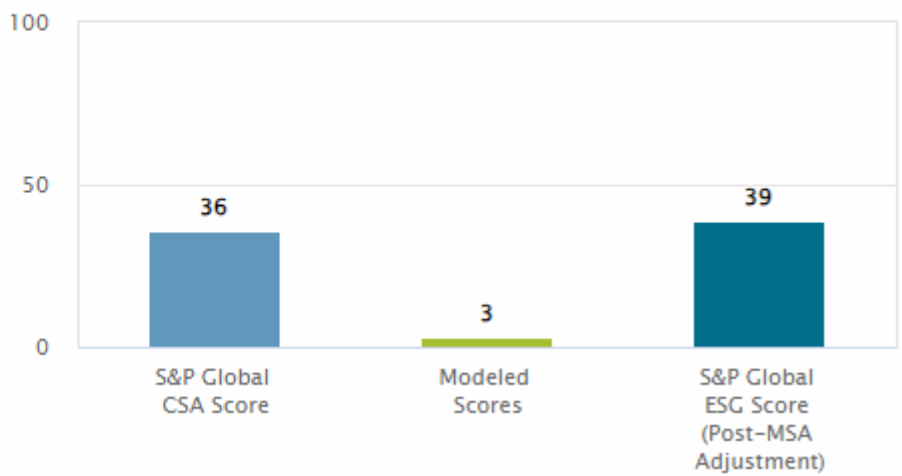
S&P Global ESG Score

39

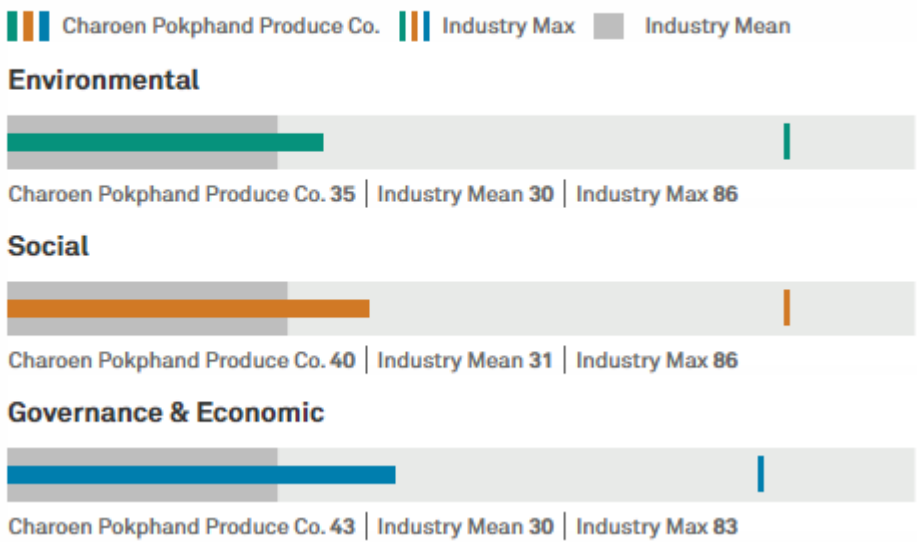
Data Availability : **Very High**

Methodology Year: 2023
Updated annually or in response to major developments

Score Composition



Score Breakdown



C.P. GROUP | CP FOR SUSTAINABILITY ซีพี...เพื่อความยั่งยืน | CPCRT

CPP

Carbon Credit

Carbon Credit Overview

"Global capital follow into 3 areas
- Digitalization
- Deglobalization
- Decarbonization"

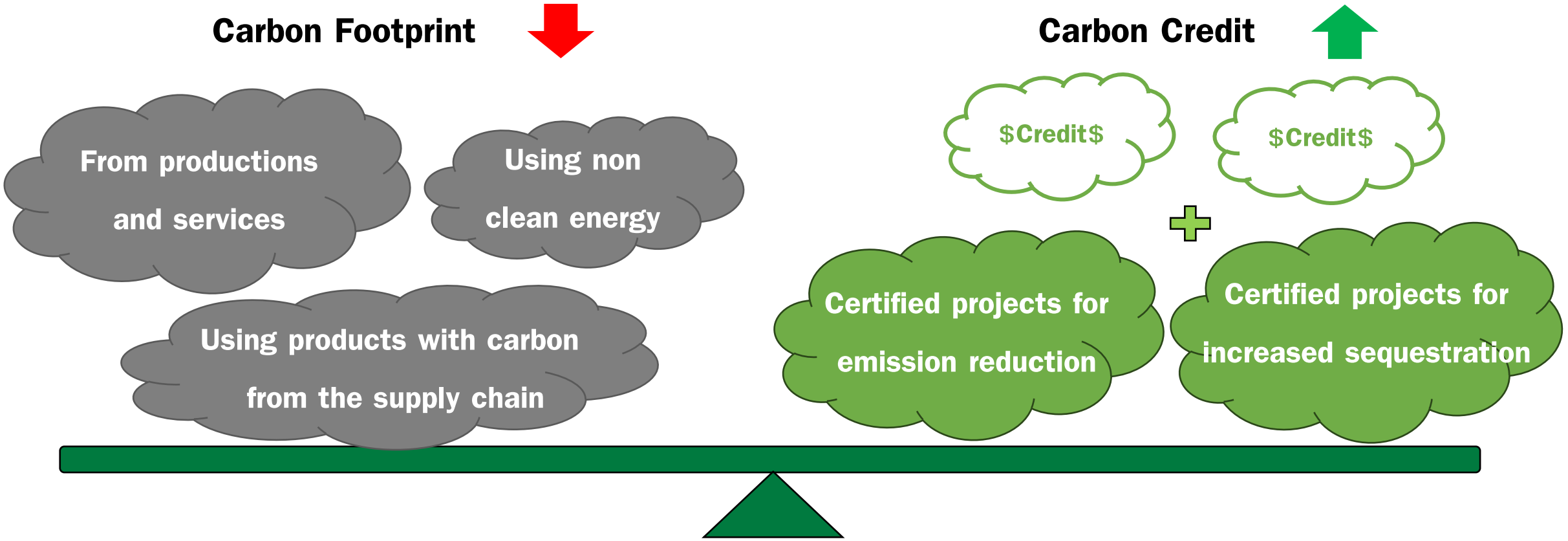
Mr. Suphachai Chearavanont

Chief Executive Officer

Charoen Pokphand Group

C.P. GROUP
CP 100 YEARS
FOR A BETTER TOMORROW

Creating Carbon Neutrality



By 2030, CP Group need to purchase 1 million tons of carbon credits, equivalent to 200,000 rai of forestation

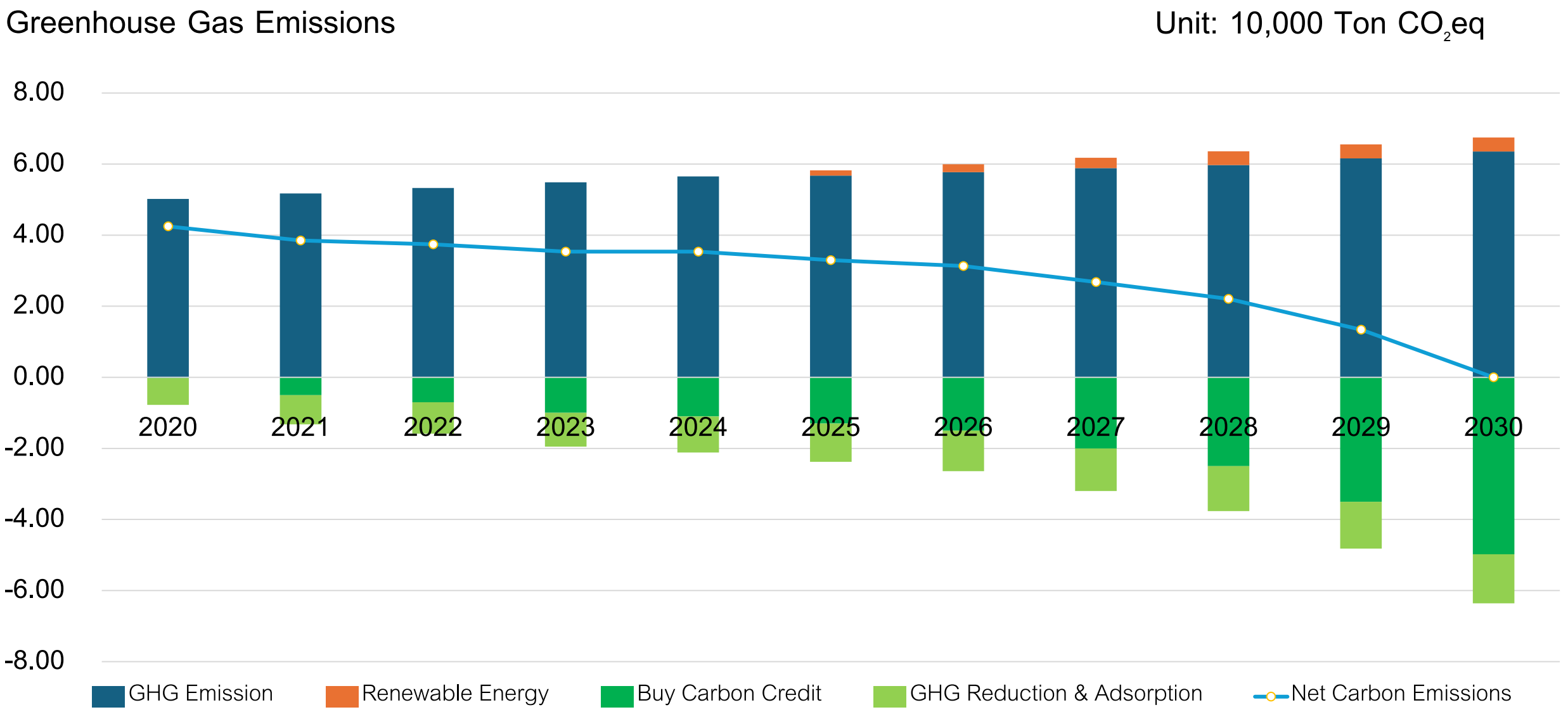
แนวทางสู่ Carbon Neutral 2030 (Scope 1&2)

ต้องลดการปล่อยก๊าซเรือนกระจก **91,571** ตัน CO_2e

GHG Reduction	Tons CO_2e	%
Solar Energy	25,524	20%
Energy Efficiency	18,232	17%
Biomass / Biogas	4,558	5%
Green Transportation	2,735	3%

ต้องการ Carbon Credit	40,522

CPCRT Pathways to Net Zero



Project for GHG emissions reduction

Target	:	100,000 ตันคาร์บอน/ปี
Plan	:	600,000 ตันคาร์บอน/ปี

RENEWABLE ENERGY : 20,000 ตันคาร์บอน

- Solar Energy
- Biomass

FORESTATION : 50,000 ตันคาร์บอน

- Plant Tree
  - โครงการป่าในบ้าน : 5,000 ไร่
  - ธุรกิจยาง : 20,000 ไร่
  - ธรรมชาติปลอดภัย : -

ENERGY CONSERVATION : 5,000 ตันคาร์บอน

- High Efficiency Air Compressor
- High Efficiency Lighting

AGRICULTURE : 500,000 ตันคาร์บอน

- Carbon Sequestration
  - ข้าวโพด 500,000 ไร่
- Reducing emissions from farms
  - ข้าว 500,000 ไร่

WASTE MANAGEMENT : 10,000 ตันคาร์บอน

Innate precision packaging resins by DOW

- Sustainable rice packaging
- Food loss and Food waste

TRANSPORTATION : 15,000 ตันคาร์บอน

- Increase present of water transport

Carbon Credit Overview

Strategies Must Consider the Entire Ecosystem

Roles which CP Group can play

1. Investors

2. Landowners

3. Carbon Developer

4. Verifier/ 3rd Party Auditor

5. Market (Buyer–Sell)

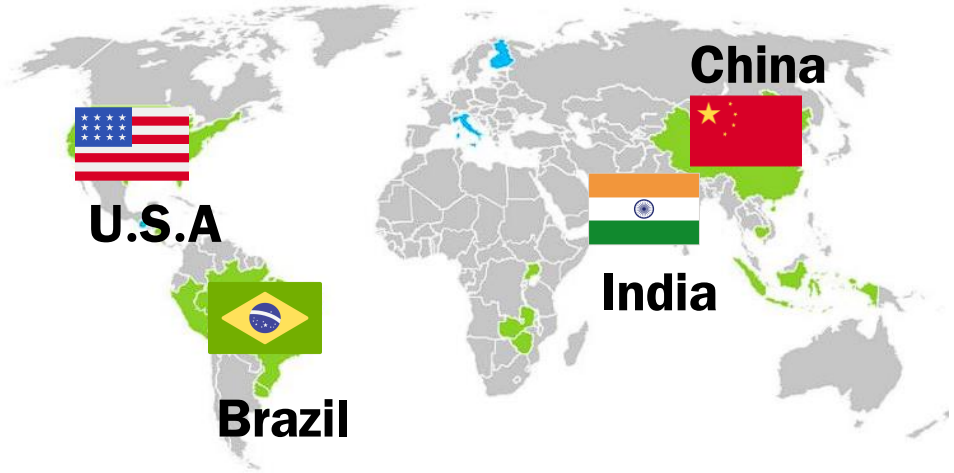
6. Certification Standard

Start with benchmarking and collaborating with relevant global companies.

Best Practice from Benchmarks

Bayer, a leading carbon credit company with activities worldwide

Project developer, co–investor, and largest carbon project participation in the world



Smart Digital Carbon Project Business Model

21,000 participating farmers

8 countries

11 MRai Worldwide

Creating income opportunities in 3 ways

- Carbon assets
- Selling products
- Carbon services

Best Practice from Benchmarks

Covering all dimensions

Including plant varieties, management, and future cultivation methods

India

- Rice cultivation
- Small–scale farmers
- Water management

Brazil

- Soybean and corn cultivation
- Big scale farmers
- Soil management

U.S.A.

- Cultivation innovations
- Future cultivation methods
- Smart digital business

Best Practice from Bayer

Best Practice from Bayer's India

1) Best Practice: Methodology

- Rice cultivation using alternating wet and dry methods to reduce waterlogging
- Rice cultivation using direct seeding methods to reduce water usage

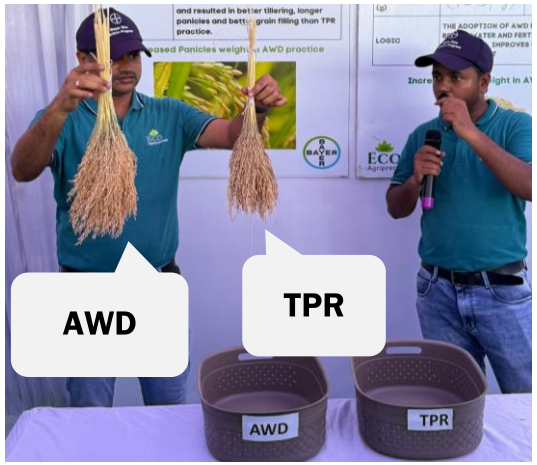
2) Best Practice: Stakeholder Engagement

- Hire reliable and trusted representatives by small-scale farmers
- Explain the process and build confidence in changing cultivation methods

Best Practice from Bayer

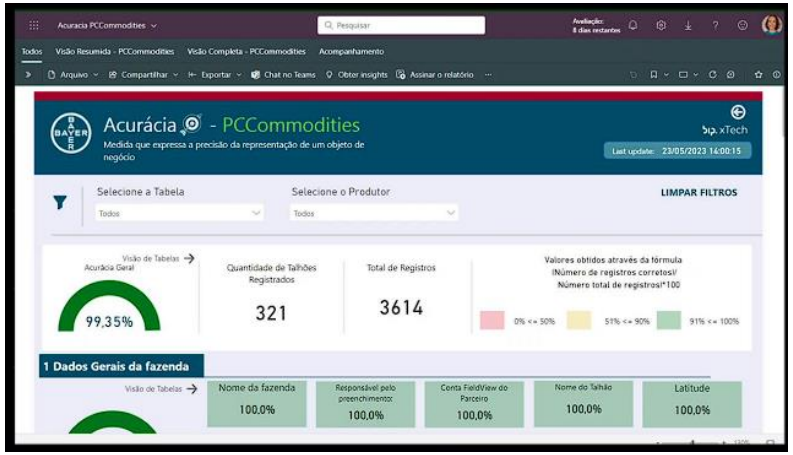
Best Practice from Bayer's India

3) Farmer's Benefits



- Farmers achieve a 7% increase in yield
- Farmers reduce costs by 9%
- Receive upfront payment for participating in the project

4) Company's Benefits

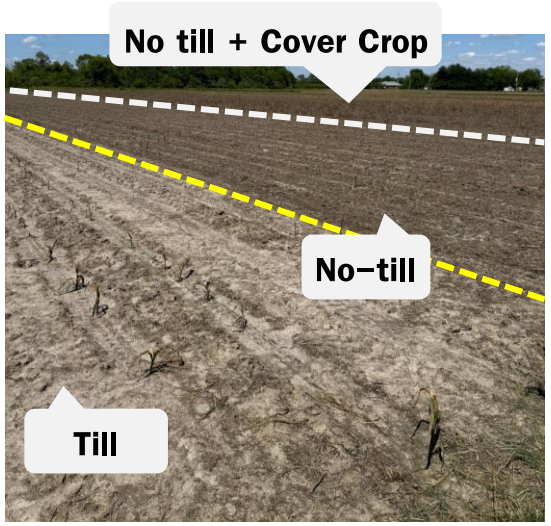


- Income from selling carbon credits
- In-depth farmer data stored in the cloud to further business develop

Best Practice from Bayer

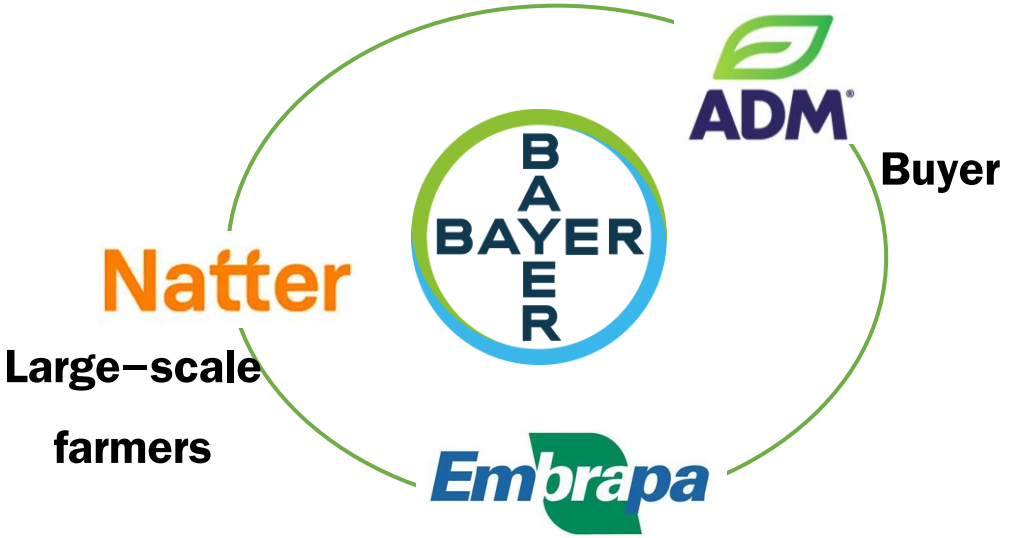
Best Practice from Bayer's Brazil

1) Best Practice: Methodology



- No tilling to avoid disturbing topsoil
- Alternate planting cover crops instead of field crops throughout the year
- Increase yield by 21%

2) Best Practice: Stakeholder Engagement

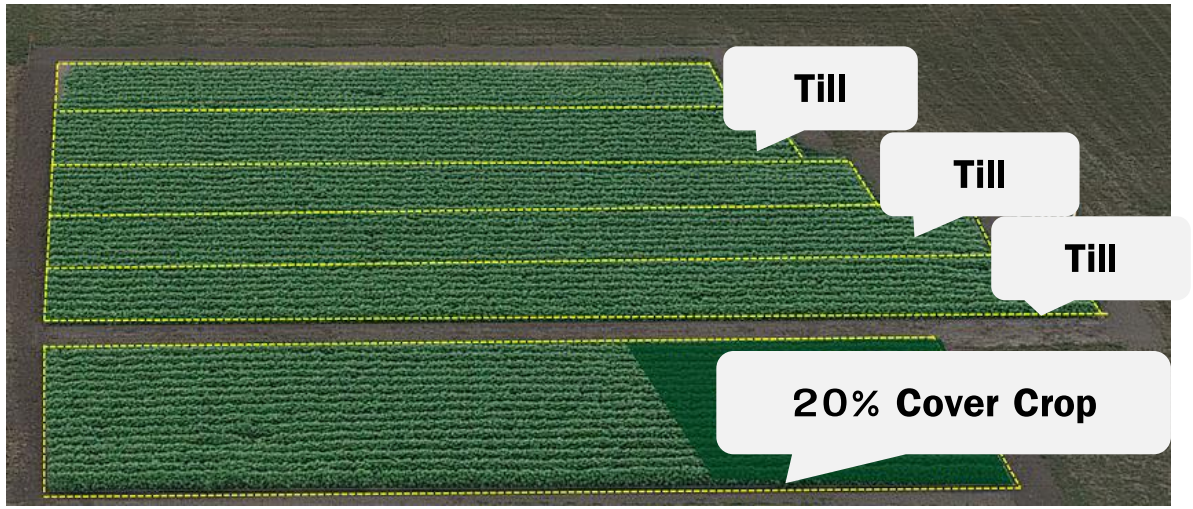


- Create an ecosystem among large-scale farmers, buyers, government researchers, and digital program developers

Best Practice from Bayer

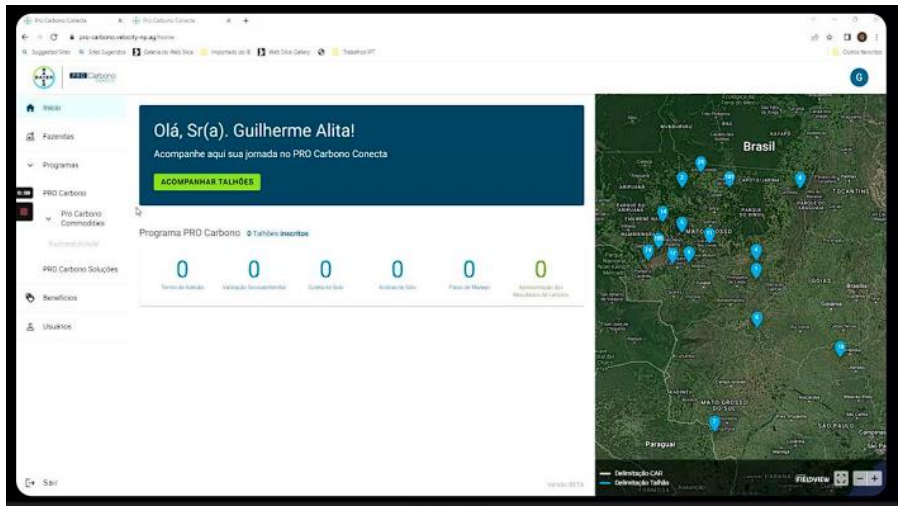
Best Practice from Bayer's Brazil

3) Farmer's Benefits



- Increased yield and received carbon credits
- Access to information and have advisors to improve agricultural practices

4) Company's Benefits



- Collect service fees and operational cost
- In-depth farmer data stored in the cloud to further develop business development, such as selling seeds to farmers

Best Practice from Bayer

Best Practice from Bayer's U.S.A

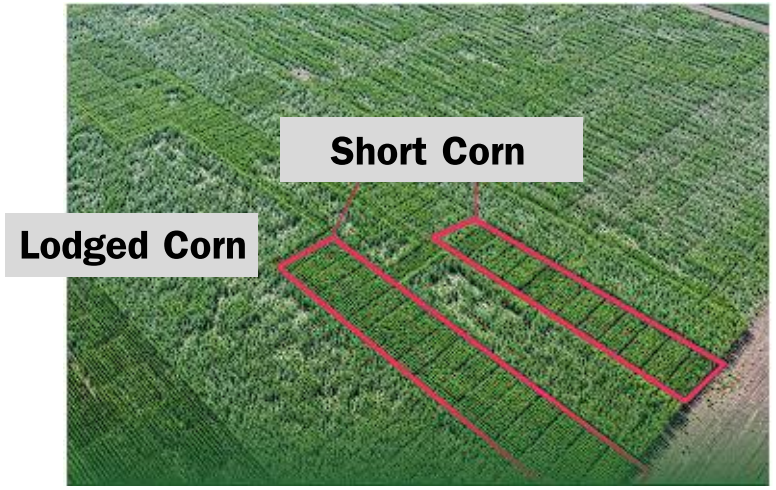
1) Improve varieties to increase yield and reduce carbon

Short Corn

- Short Corn 1.8 m.
- Lodged Corn 3.0 m.

Reduce field damage

- Resistant to wind and storms
- Reduce damage by 15%



Increase sustainability

- Reduce fertilization and water cost
- Use less land for cultivation

Best Practice from Bayer

Best Practice from Bayer's U.S.A

2) Develop systems and tools to support future cultivation with smart digital technology

More than 500m subscribed rai

CLIMATE FIELD VIEW™

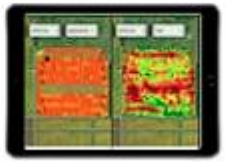
Operates in **23** Countries

Largest database of grower

More than 70 partners on platform

Wide range of data collection

Performance Visualization



Performance Evaluation

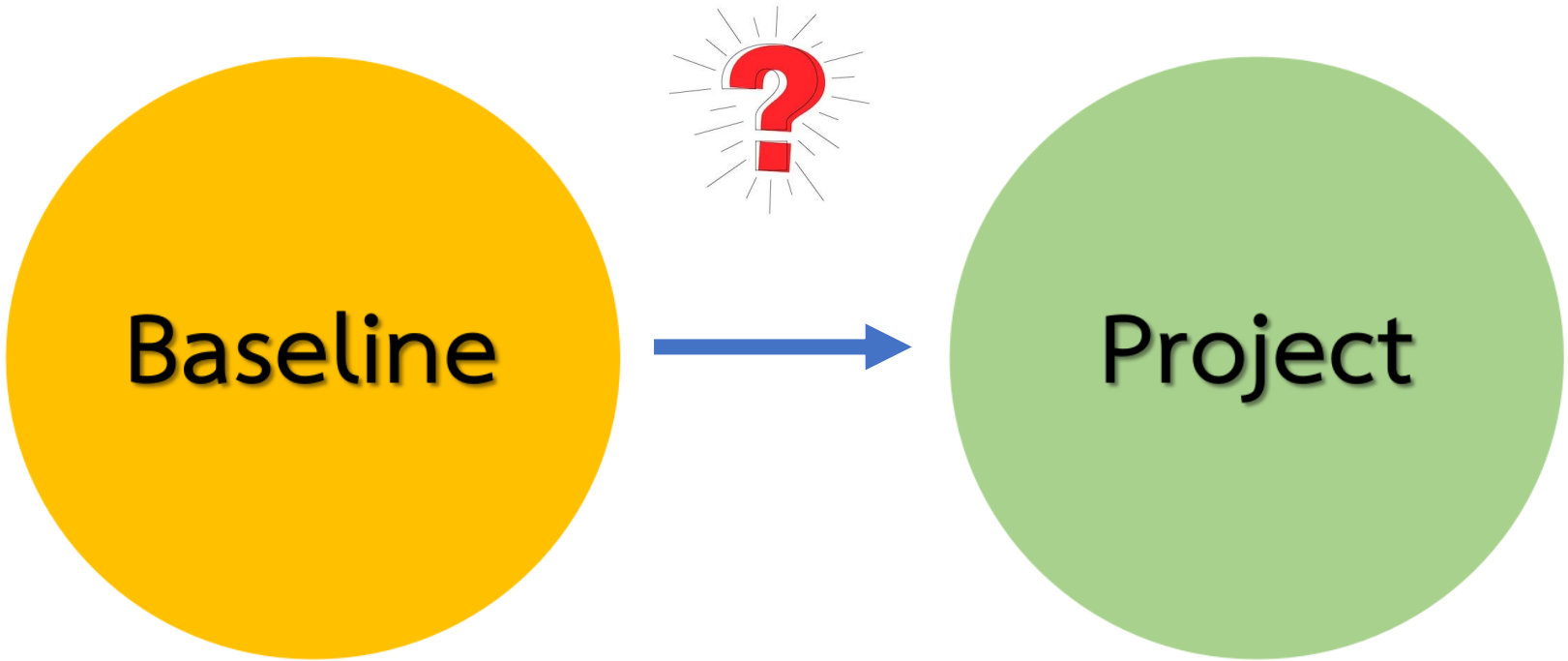
Field Health Images

Accurate Data Rendering


Verified Carbon
Standard
A VERRA STANDARD


Gold Standard®
for the Global Goals

Project planning



Business as usual = BAU

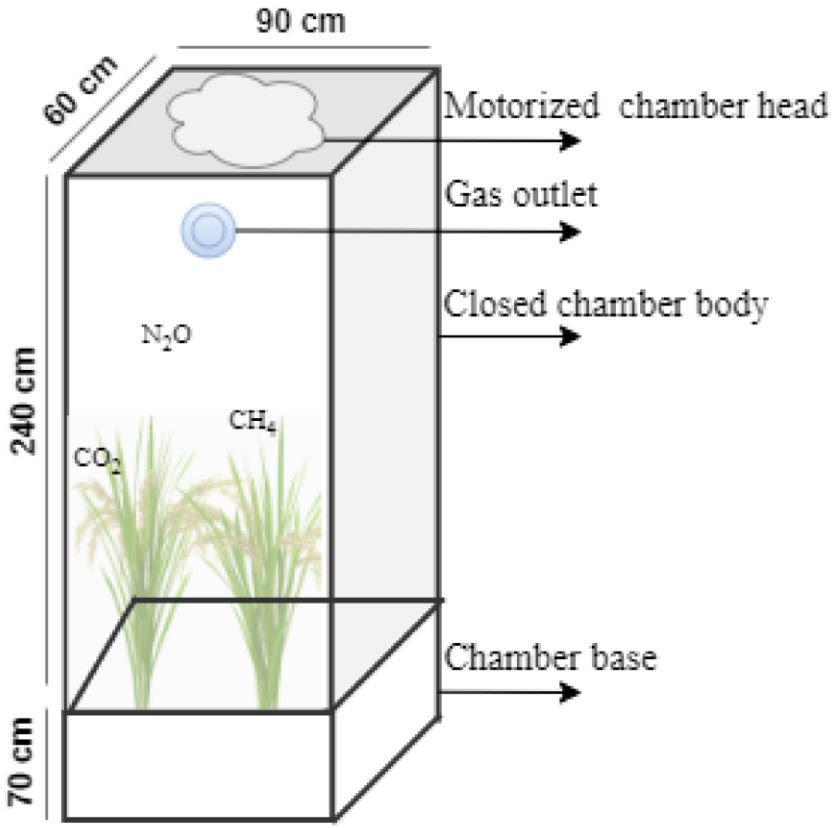
1

Methane Reduction from Rice Cultivation

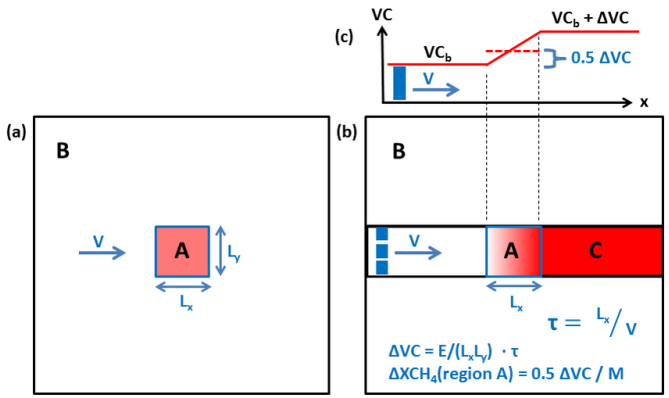
2

Agricultural Land Management

Approach 1



Approach 2



Approach 3

ipcc
INTERGOVERNMENTAL PANEL ON climate change

WMO UNEP

AUN TGO

Project planning →

2 Agricultural Land Management

Verified Carbon Standard

VCS Methodology

VM0042

METHODOLOGY FOR IMPROVED AGRICULTURAL LAND MANAGEMENT

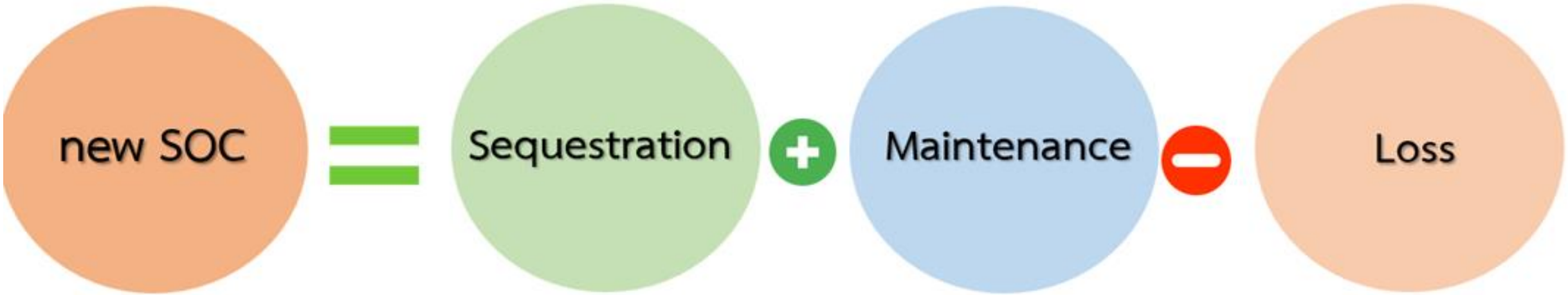
Version 2.0

30 May 2023

Sectoral Scope 14

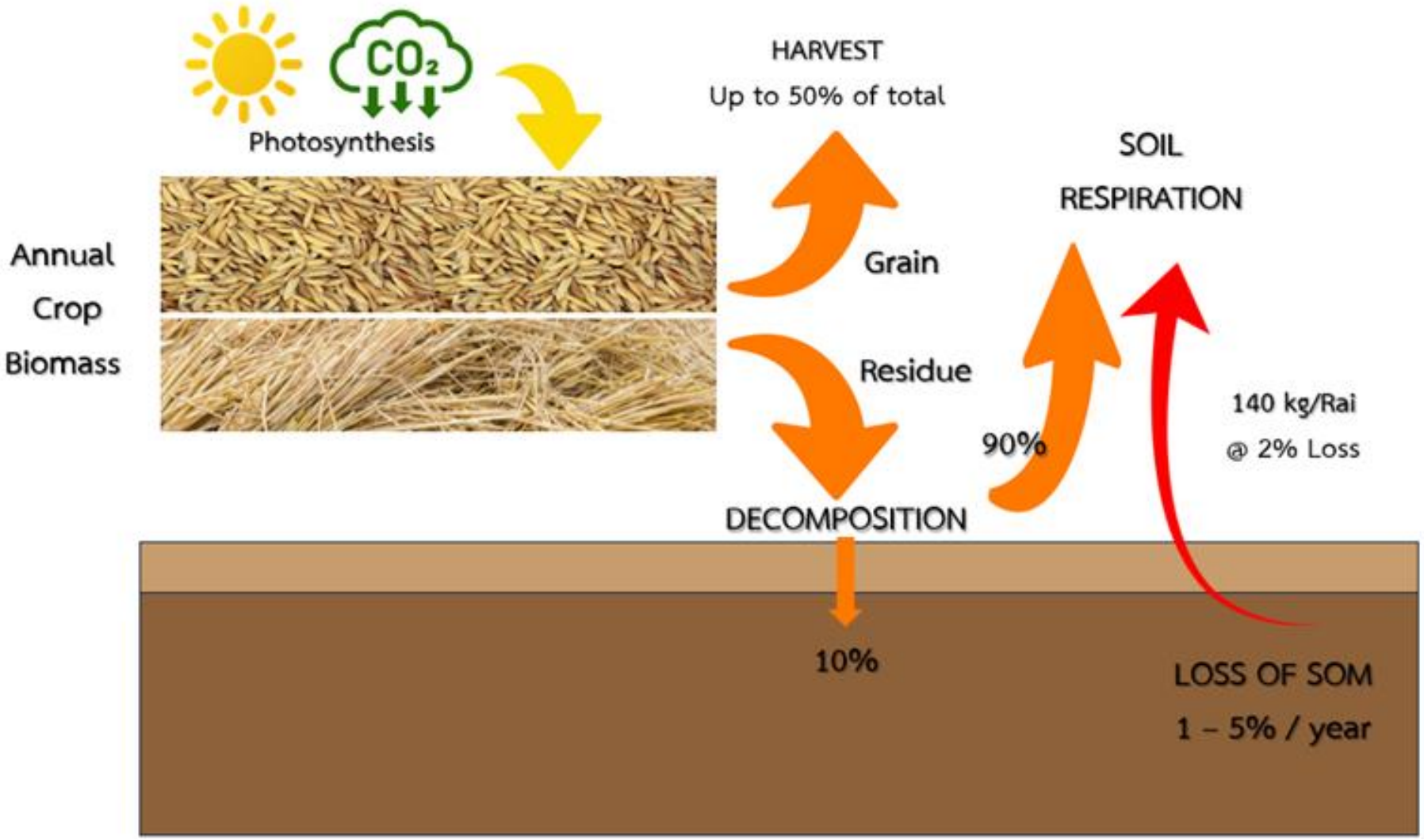
Project planning →

2 Agricultural Land Management



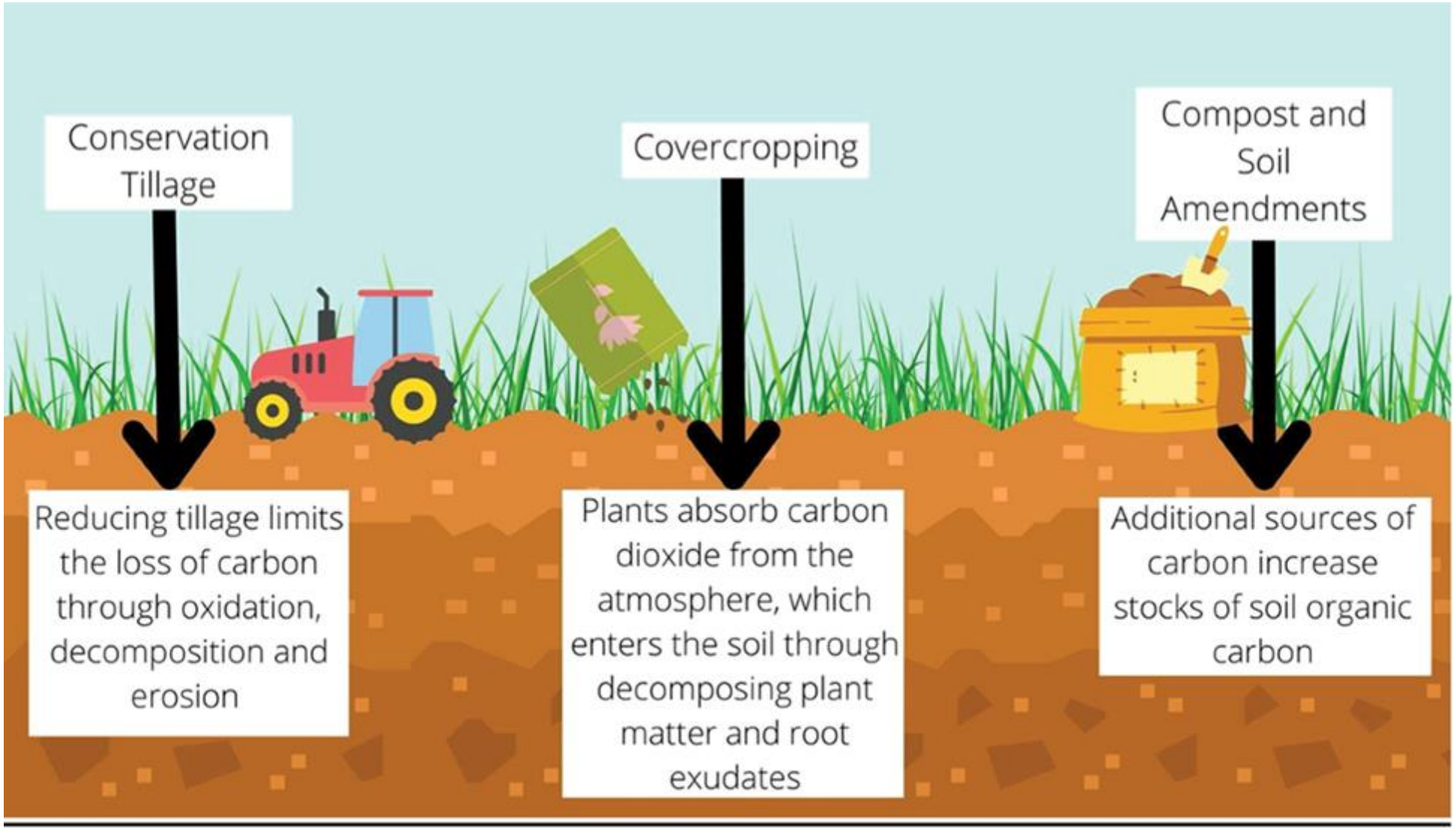
Project planning →

2 Agricultural Land Management



Project planning →

2 Agricultural Land Management



Project planning →

2 Agricultural Land Management

Activities for CO_2 Neutral Project	Carbon Credit Estimation (tonCO_2e/Rai)		
	GHG Reduction	Carbon Sequestration	Total
Cultivation Techniques			
(A) No Burning	0.020	-	0.031
(B) No Tillage	0.006	0.270	0.276

Project planning →

2 Agricultural Land Management

Fertilizations and Soil Amendments			
(C) Residue retention	-	0.155	0.155
(D) Effective Fertilization	0.017	-	0.017
(E) ปุ๋ยหมัก (เกรด 1)	-0.003	0.064	0.061
(F) ปุ๋ยอินทรีย์	-0.006	0.064	0.058
(G) ปุ๋ยอินทรีย์เคมี	-	0.032	0.014
(H) Rice Husk	-	1.470	1.470
(I) Rice Husk Biochar	-	1.800	1.800

Project planning →

2 Agricultural Land Management

Organic Carbon

1 composite sample

2 zones

- 0-30 cm
- 31-50 cm

1 composite sample

2 zones

- 0-30 cm
- 31-50 cm

Bulk Density

1 sample

2 zones

- 0-30 cm
- 31-50 cm

1 sample

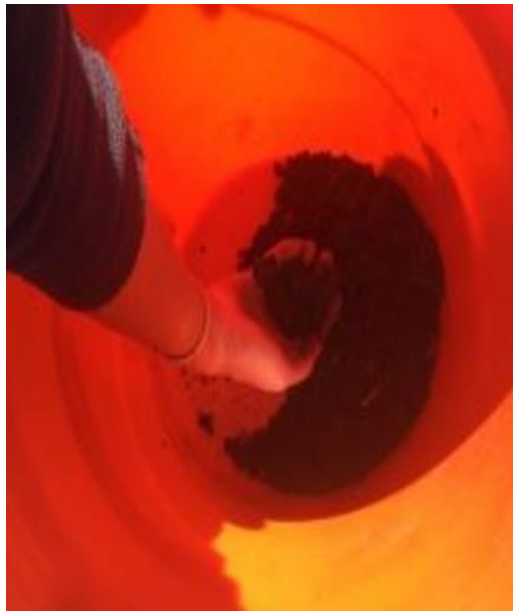
2 zones

- 0-30 cm
- 31-50 cm

Organic Carbon

1

2

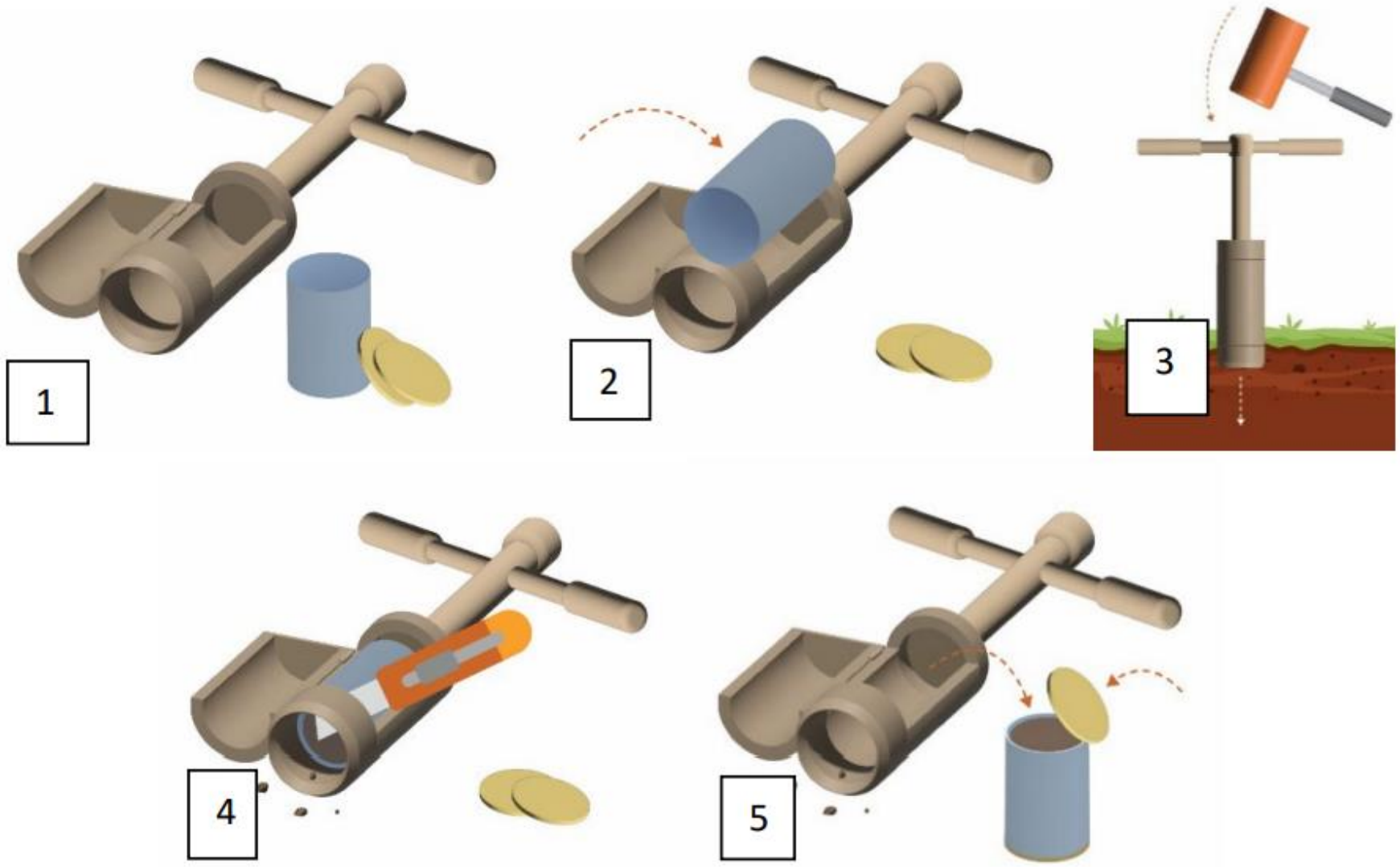


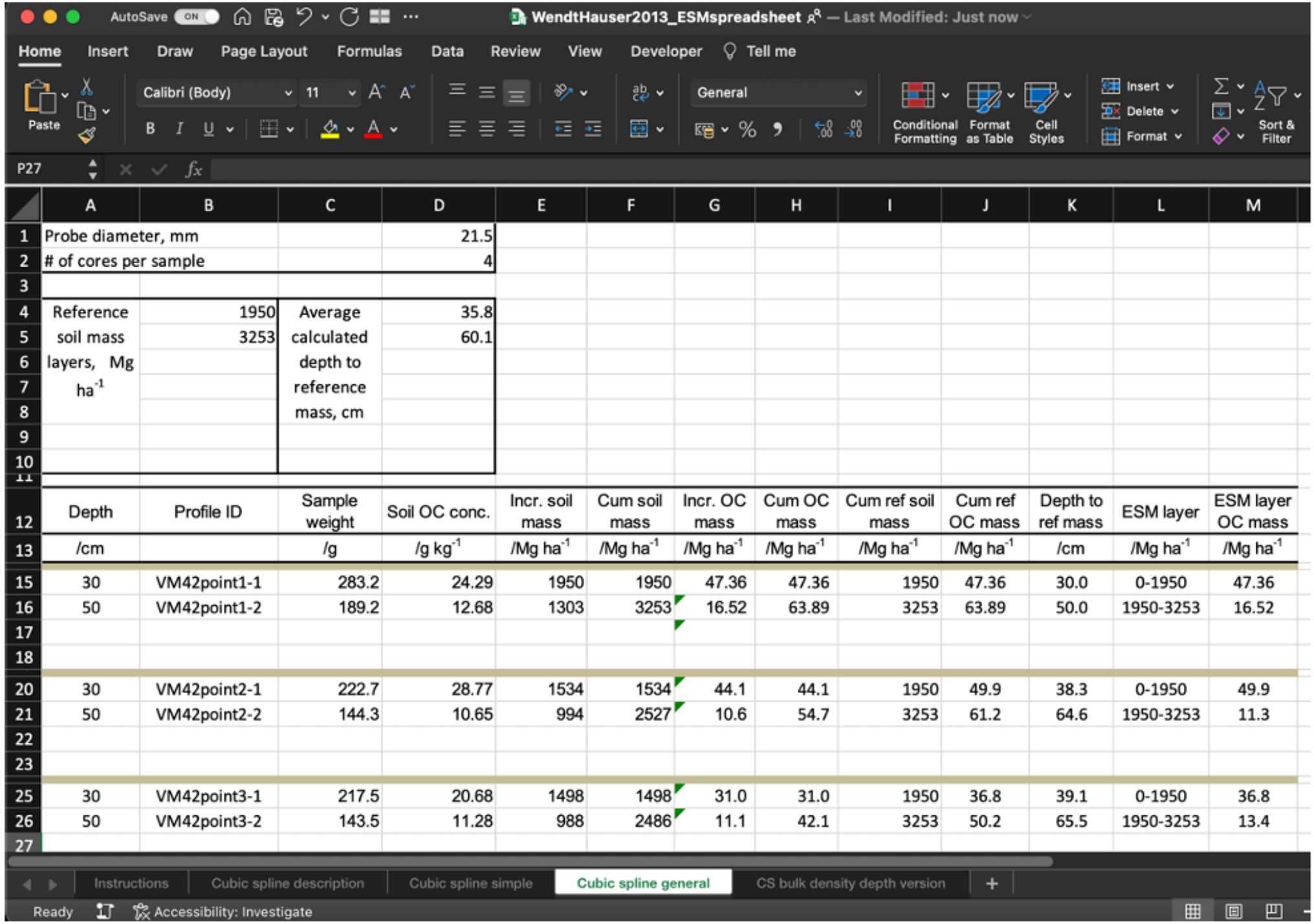
3

4

Bulk Density

Bulk Density





AutoSave ON — WendtHauser2013_ESMspreadsheet — Last Modified: Just now

Home Insert Draw Page Layout Formulas Data Review View Developer Tell me

Paste | Calibri (Body) | 11 | General | Conditional Formatting | Format as Table | Cell Styles | Insert | Delete | Format | Sort & Filter

P27

	A	B	C	D
1	Probe diameter, mm			21.5
2	# of cores per sample			4
3				
4	Reference soil mass layers, Mg ha^{-1}	1950	Average calculated depth to reference mass, cm	35.8
5		3253		60.1
6				
7				
8				
9				
10				

	A	B	C	D	E	F	G	H	I	J	K	L	M
12	Depth	Profile ID	Sample weight	Soil OC conc.	Incr. soil mass	Cum soil mass	Incr. OC mass	Cum OC mass	Cum ref soil mass	Cum ref OC mass	Depth to ref mass	ESM layer	ESM layer OC mass
13	/cm		/g	/g kg^{-1}	/Mg ha^{-1}	/Mg ha^{-1}	/Mg ha^{-1}	/Mg ha^{-1}	/Mg ha^{-1}	/Mg ha^{-1}	/cm	/Mg ha^{-1}	/Mg ha^{-1}
15	30	VM42point1-1	283.2	24.29	1950	1950	47.36	47.36	1950	47.36	30.0	0-1950	47.36
16	50	VM42point1-2	189.2	12.68	1303	3253	16.52	63.89	3253	63.89	50.0	1950-3253	16.52
17													
18													
20	30	VM42point2-1	222.7	28.77	1534	1534	44.1	44.1	1950	49.9	38.3	0-1950	49.9
21	50	VM42point2-2	144.3	10.65	994	2527	10.6	54.7	3253	61.2	64.6	1950-3253	11.3
22													
23													
25	30	VM42point3-1	217.5	20.68	1498	1498	31.0	31.0	1950	36.8	39.1	0-1950	36.8
26	50	VM42point3-2	143.5	11.28	988	2486	11.1	42.1	3253	50.2	65.5	1950-3253	13.4
27													

Instructions | Cubic spline description | Cubic spline simple | Cubic spline general | CS bulk density depth version | +

Ready | Accessibility: Investigate

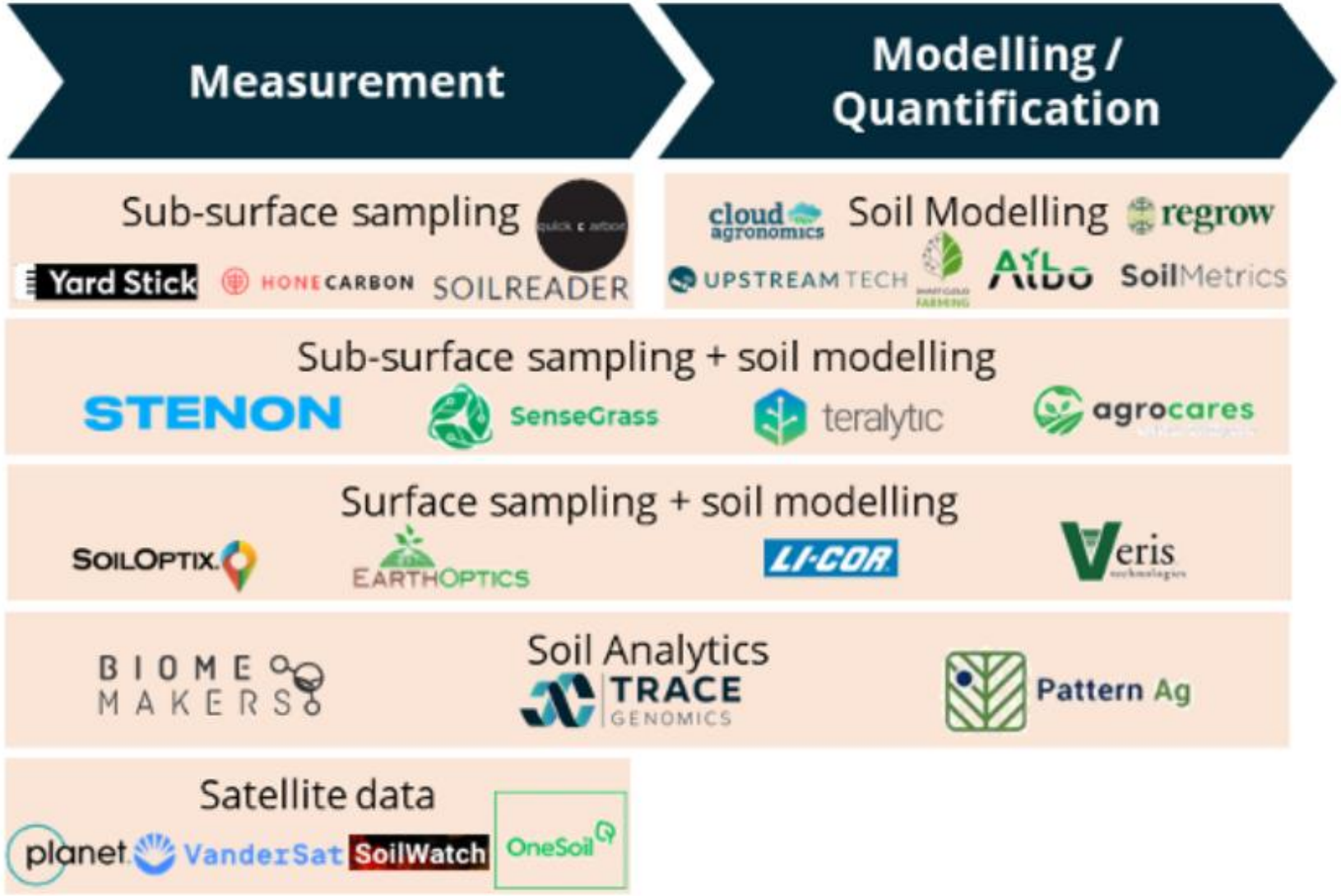
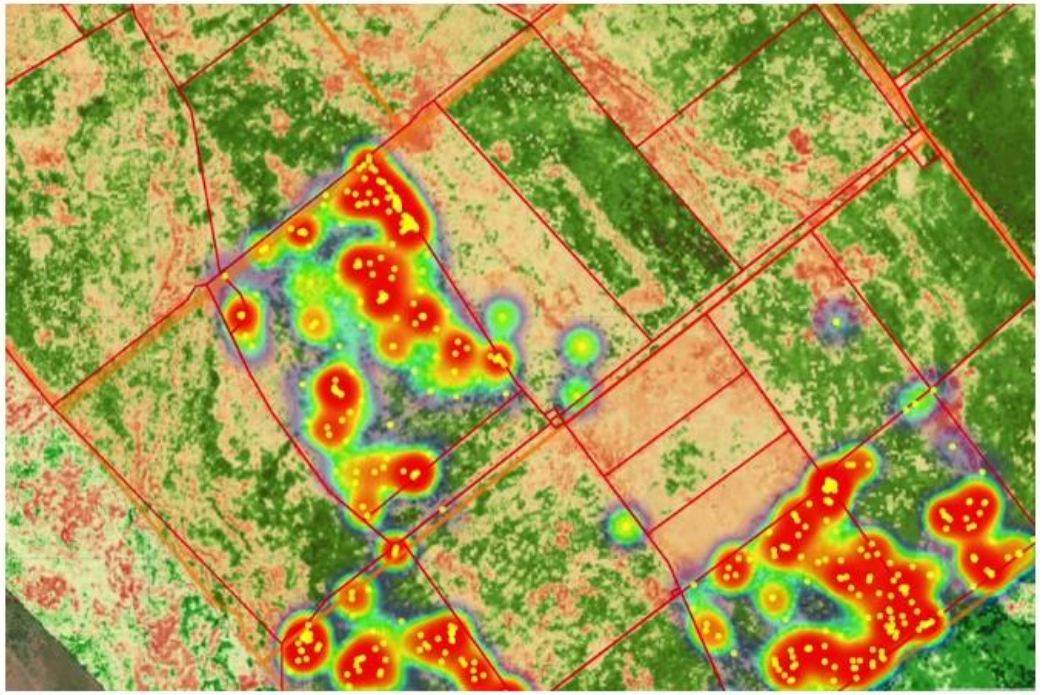
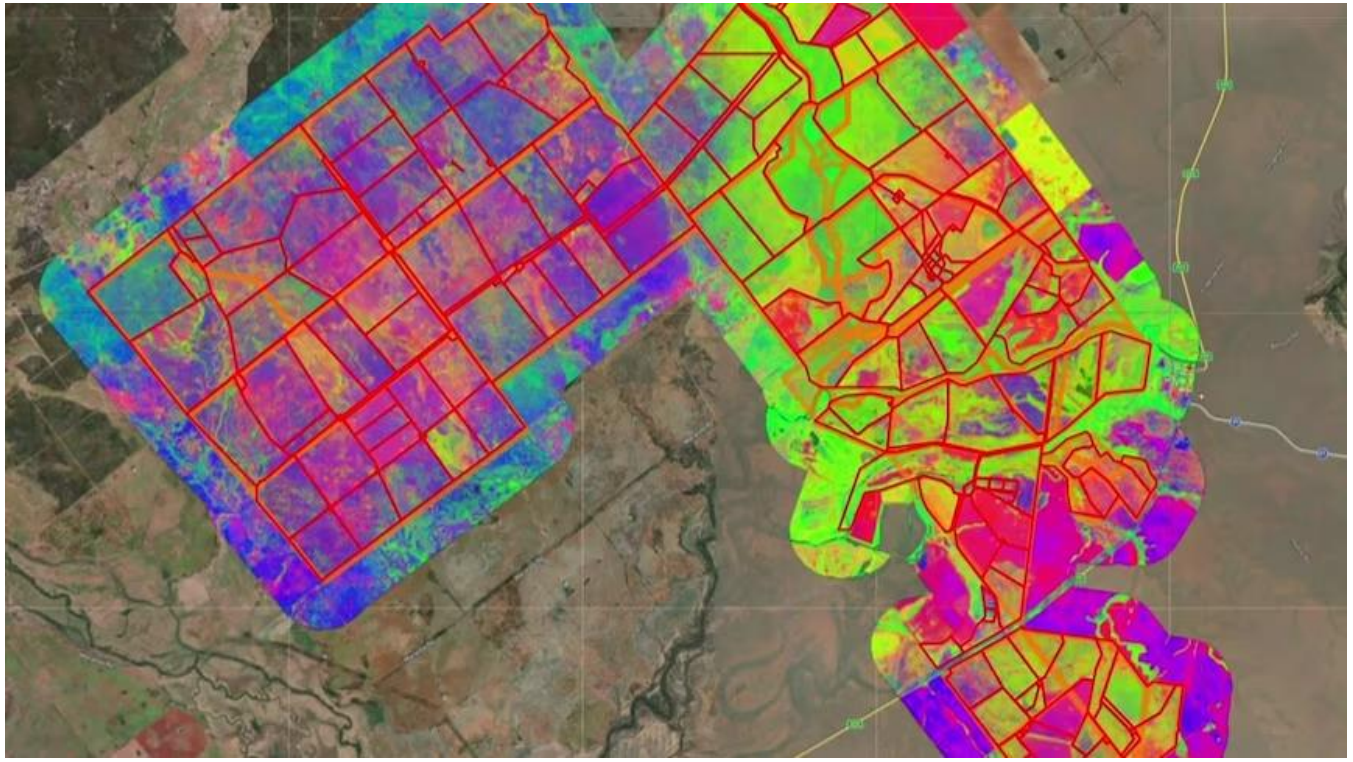


Fig 7: Breakdown of existing measurement and modelling systems for soil carbon content [48]



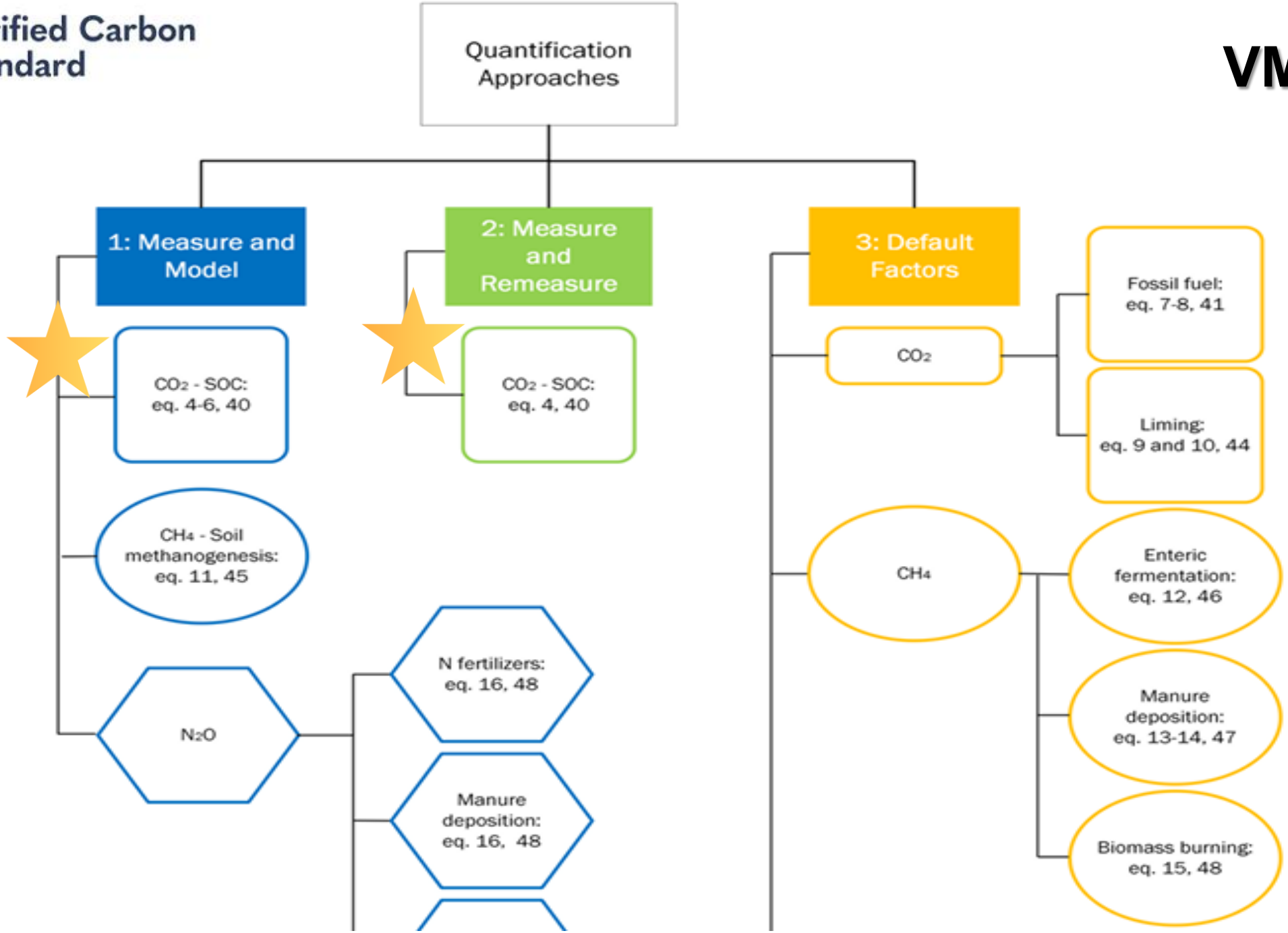


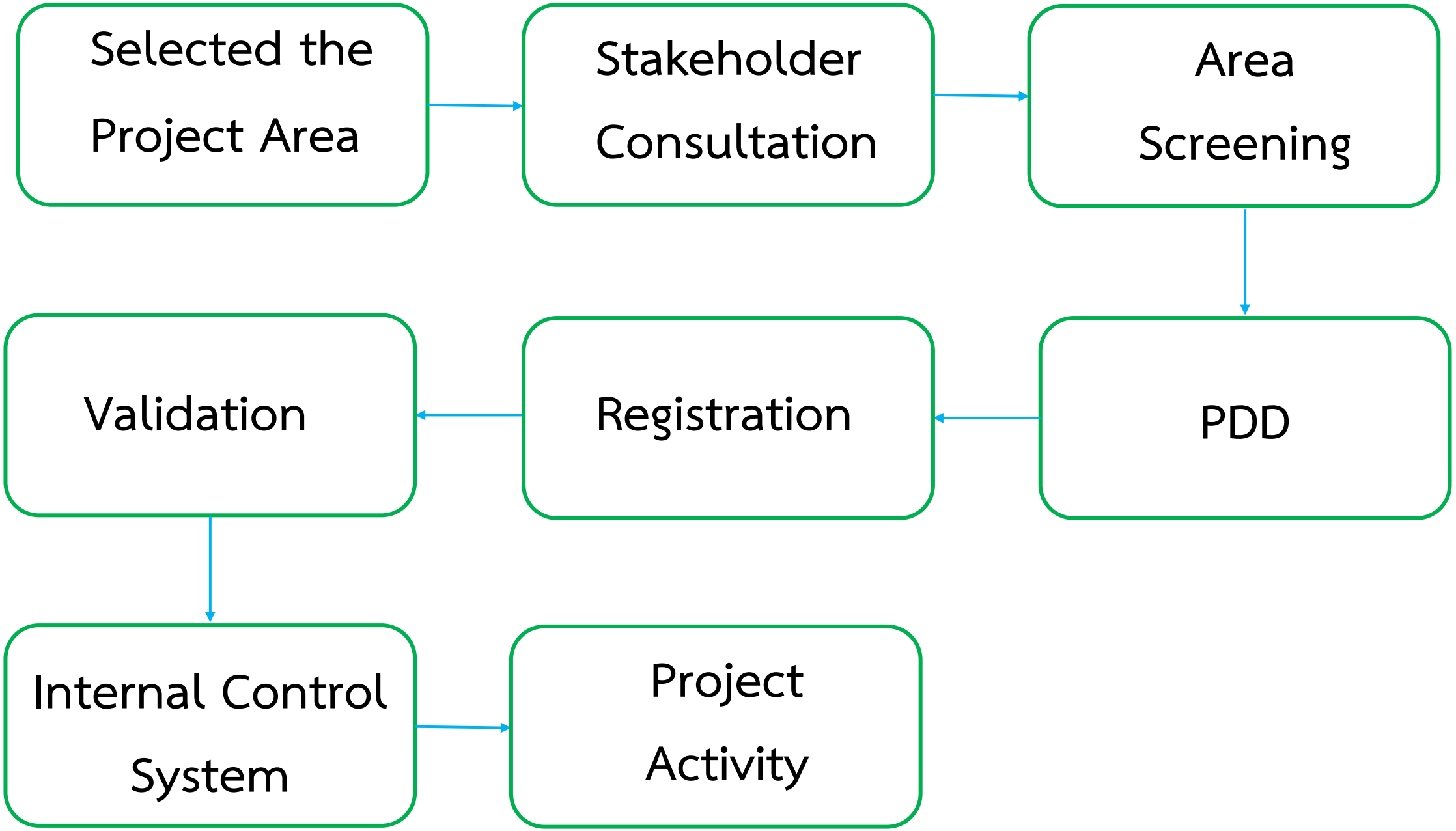
The AACo's satellite mapping tool will help farmers measure and forecast soil carbon. *(Supplied)*

Walkley-Black (wet) oxidation and loss on ignition (LOI) are not recommended due to accuracy concerns but may be applied where no other method is available. The use of remote sensing to estimate and monitor SOC stock changes is not currently allowed. However, it may be permitted in the future once a specific VCS tool is developed and available that provides guidelines that ensure the robustness and reliability of this method.

Verified Carbon Standard

VM0042




Selected the Project Area
Stakeholder Consultation
Area Screening
PDD
Registration
Validation
Internal Control System
Project Activity

Carbon Offset Program	Market Volume (in M)	Name of carbon credits issued	Project Locations	Projects Sector
Verified Carbon Standard (VCS)	746 M carbon credits (70% share)	Verified Carbon Units (VCUs)	Projects dominant in developing countries	Covers all sectors
Gold Standard (GS)	184 M carbon credits (17% share)	Verified Emission Reductions (VER)	Over 80 countries, mostly developing nations	Covers all sectors, excluding REDD+ projects
American Carbon Registry (ACR)	63 M carbon credits (6% share)	Emission Reduction Tons (ERTs)	United States	Covers AFOLU projects, industrial processes and wastes
Climate Action Reserve (CAR)	66M carbon credits (6.2% share)	Climate Reserve Tonnes (CRTs)	United States, Canada, Mexico	Agriculture, forestry, wastes, energy, and non-carbon emission reductions