

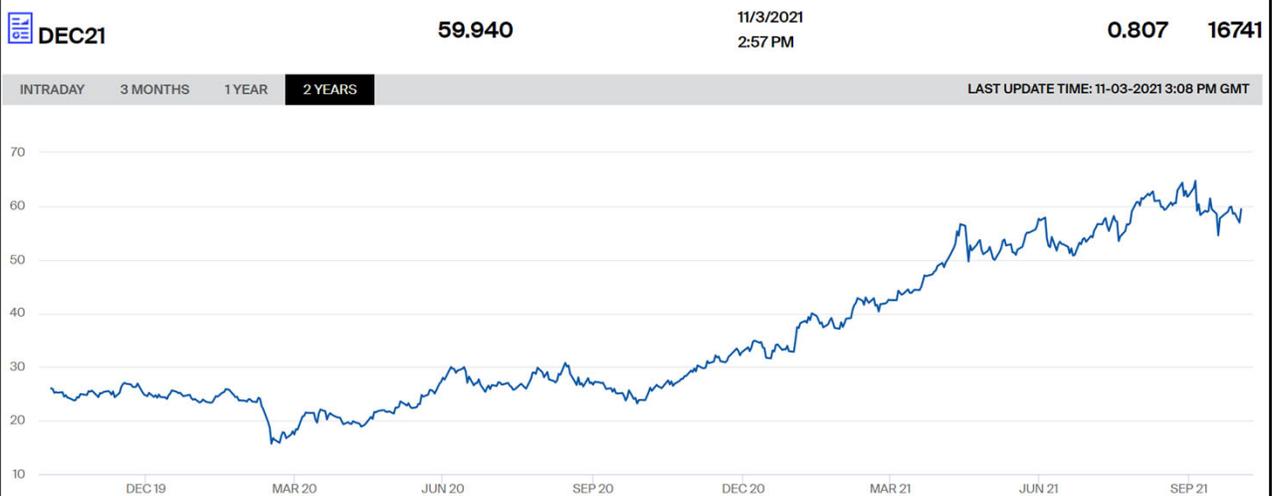
# Agricultural Carbon Programs

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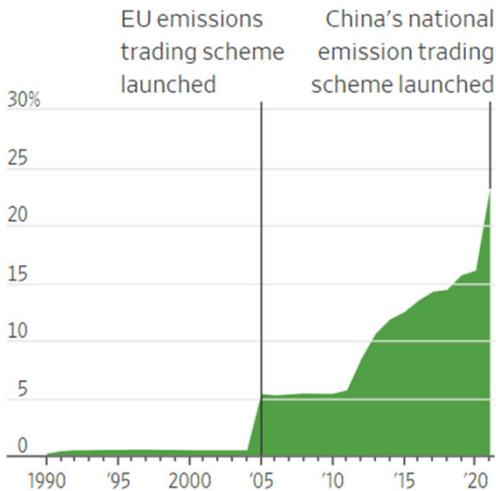
2021 Iowa Organic Conference  
University of Iowa  
Iowa City, IA – November 29, 2021

## EUA Futures contract Dec 21 (Euro per metric ton of carbon compliance unit)



<https://www.theice.com/products/197/EUA-Futures>

Share of global greenhouse gas emissions covered by carbon pricing initiatives\*

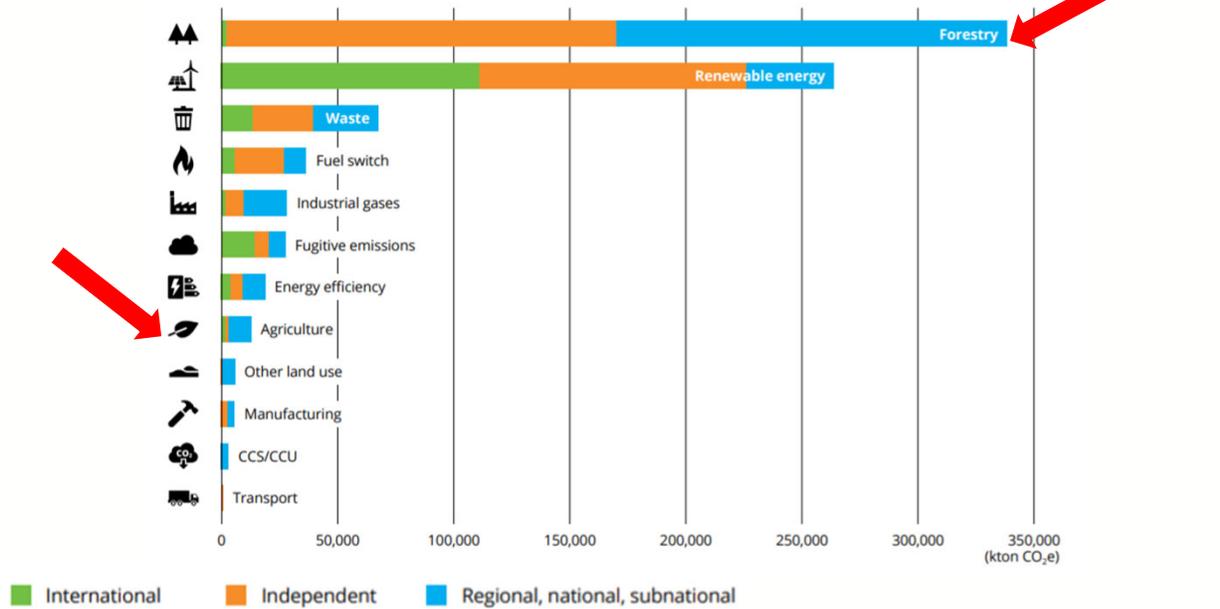


\*Regional, national and subnational programs  
Source: World Bank Carbon Pricing Dashboard

## Explosion in Ag Carbon Demand?

- Maybe...but **credit quality** matters
- Ag practices: relatively cheap way to generate large quantities of low quality credits fast.
- High quality ag credits (additional & permanent) can be generated at higher costs
- Forestry and industrial capture of CO<sub>2</sub> from the atmosphere can generate large quantities of carbon credits of higher quality

Carbon Credits Issued by Sector in 2015-2019 (CO<sub>2</sub> equivalent units)



## Carbon Credit

- A tradable asset (think like a certificate or permit) that represents the right to release or emit carbon into the atmosphere
- Typically, each credit represents one metric ton (2,204 pounds) of carbon dioxide or an equivalent amount of another greenhouse gas
- Carbon credits are created when entities (compared to a set baseline) reduce their carbon emissions or sequester carbon

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## Carbon Credit

Carbon credits can be created in many ways

Some reduce the amount of carbon being emitted

- Examples: Driving/traveling less or switching to “cleaner” fuel sources

Others increase the amount of carbon being sequestered in the soil or water

- Examples: Planting trees or restoring wetlands

For trading to occur, the credits will need to be verifiable

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## Carbon Credits in Agriculture

Agricultural producers can create tradeable carbon credits in a variety of ways:

- Moving from conventional tillage to reduced or no tillage
- Reducing stocking rates on pastures
- Planting cover crops
- Planting trees
- Reducing fertilizer rates
- Converting marginal cropland to grassland

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## Timing Matters

In the majority of cases for carbon credits, it matters when agricultural production practices were changed

The key word is “Additionality”

Most carbon credit opportunities establish the baseline for the credit as the current farm practices

So if you moved to strip-till several years ago, you may not qualify for carbon programs, most contracts are seeking changes from your current practices

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## Permanence Matters

Besides additionality, high quality credits require “Permanence”

Most carbon programs require that practices to capture and sequester greenhouse gases be used over multiple years, to secure the permanence of carbon in the soil.

If practices are discontinued (“Reversal”), carbon programs will penalize the farmer.

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## Beginning Stages of Market Formation

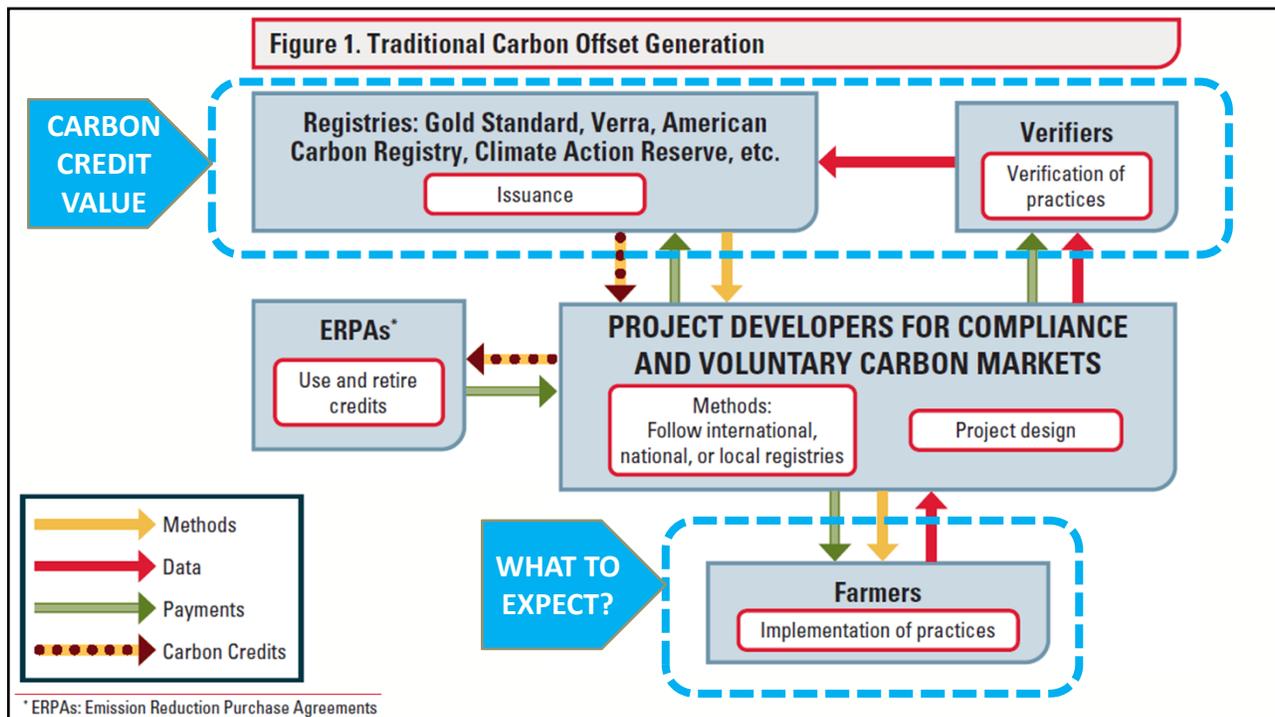
We are still in the early stages of forming functional carbon markets

There are several scientific, economic, legal, and social challenges to be addressed

But the individual/company/government efforts happening now are outlining the framework for future markets

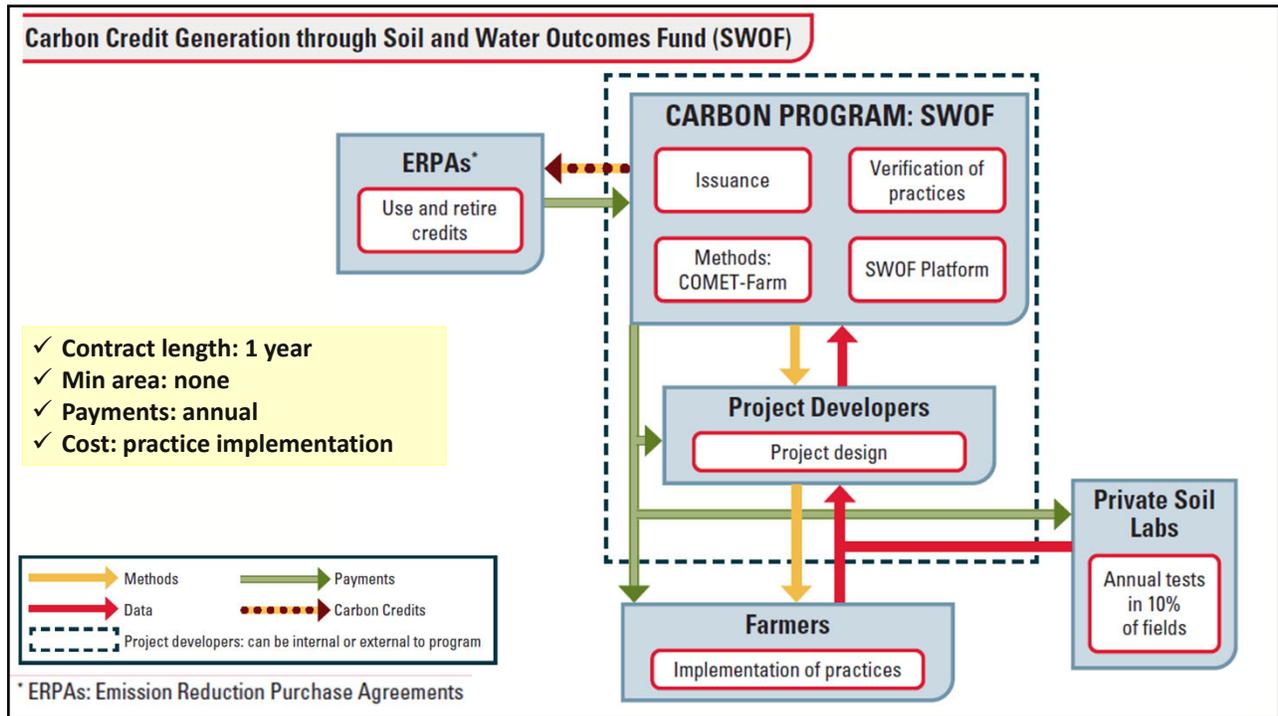
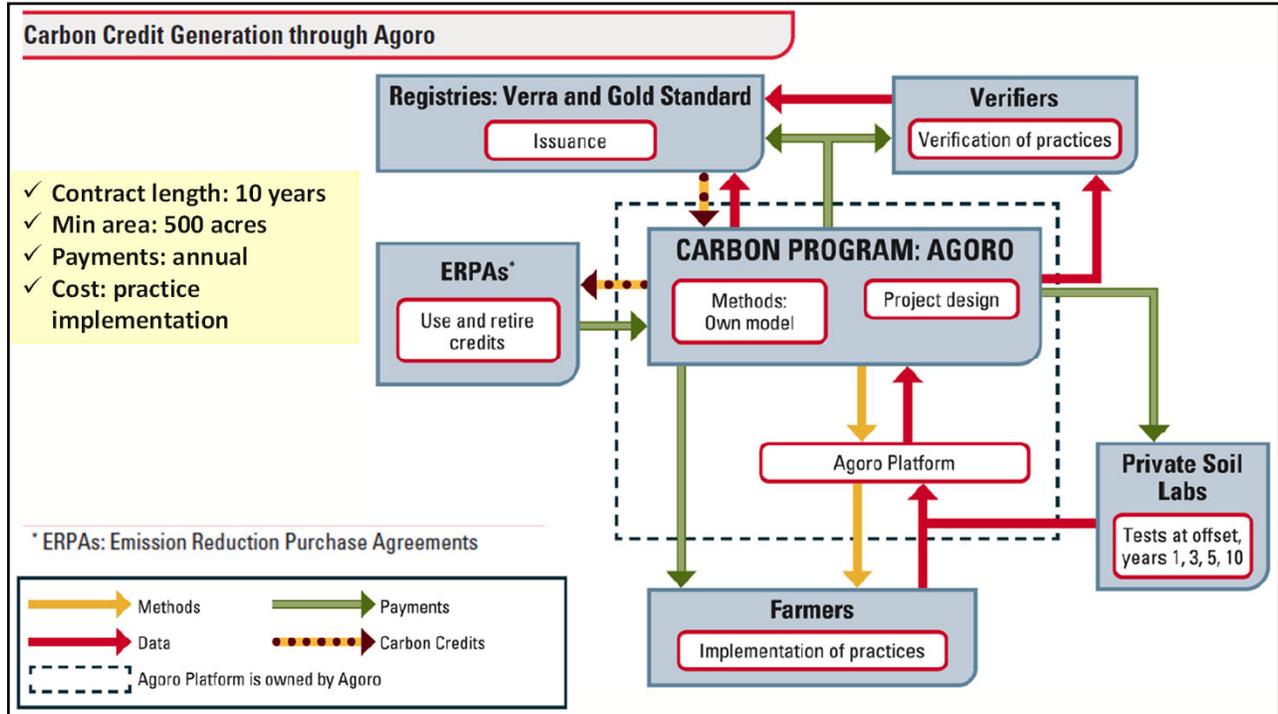
“A long journey begins with a single step”

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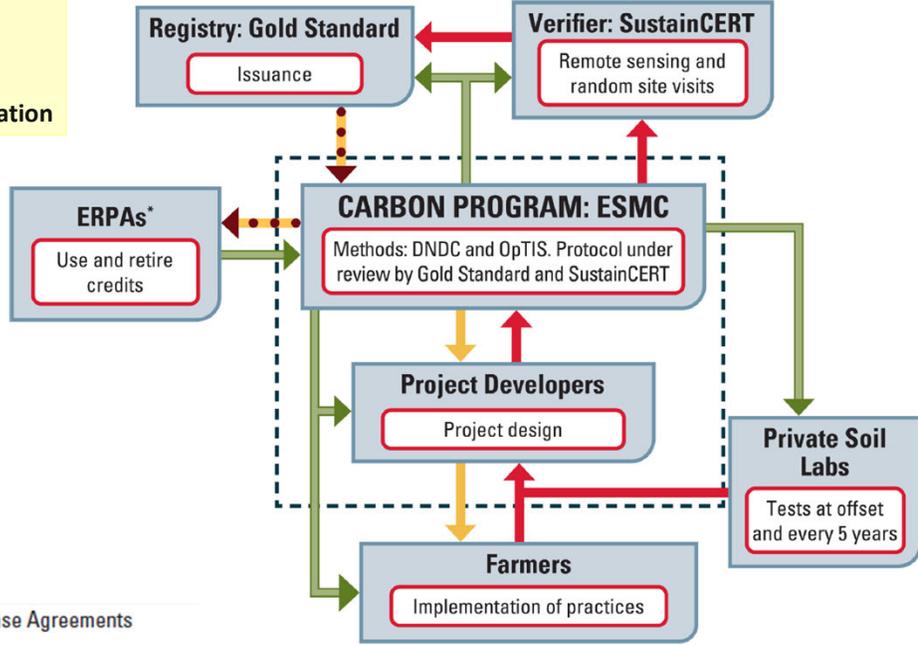
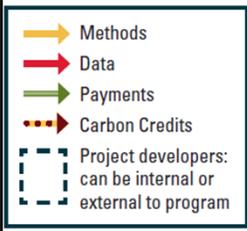
## Voluntary Ag Carbon Programs

- Carbon and Ecosystem Service Market Entities
  - ESMC                      Soil and Water Outcomes Fund
- Carbon Market Entities
  - Indigo                      Nori
- Input Supply Companies
  - Corteva                      Agoro Carbon Alliance
  - Bayer Carbon              Nutrien
- Data Platforms
  - CIBO Impact              Gradable Carbon



### Carbon Credit Generation through Ecosystem Services Market Consortium (ESMC)

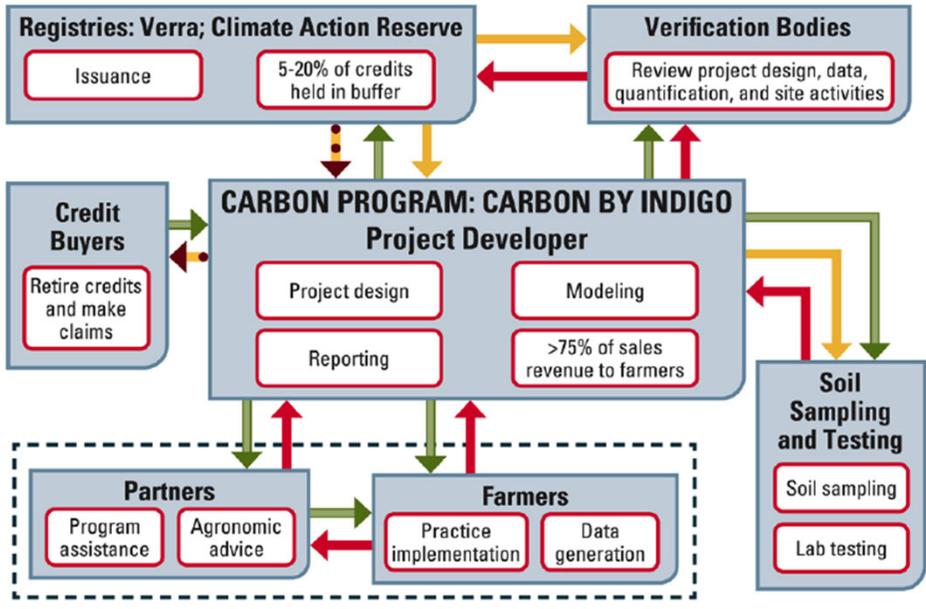
- ✓ Contract length: 10 years
- ✓ Min area: none
- ✓ Payments: annual
- ✓ Cost: practice implementation

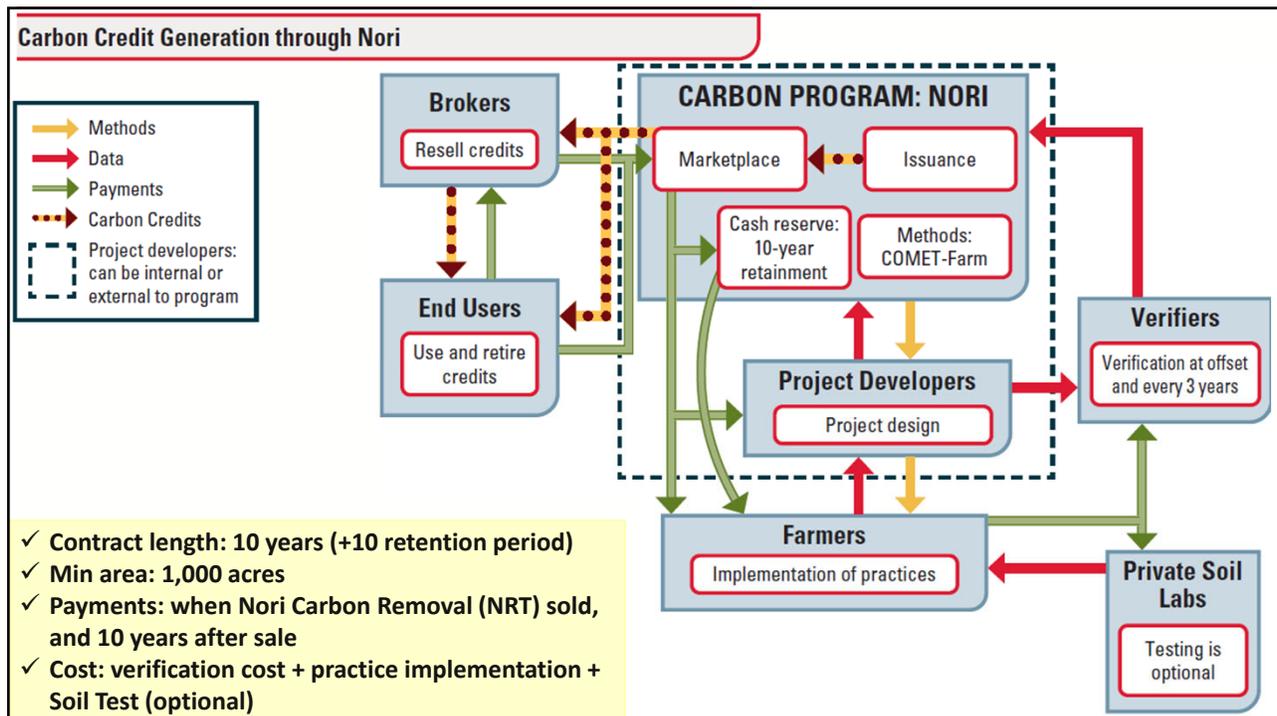
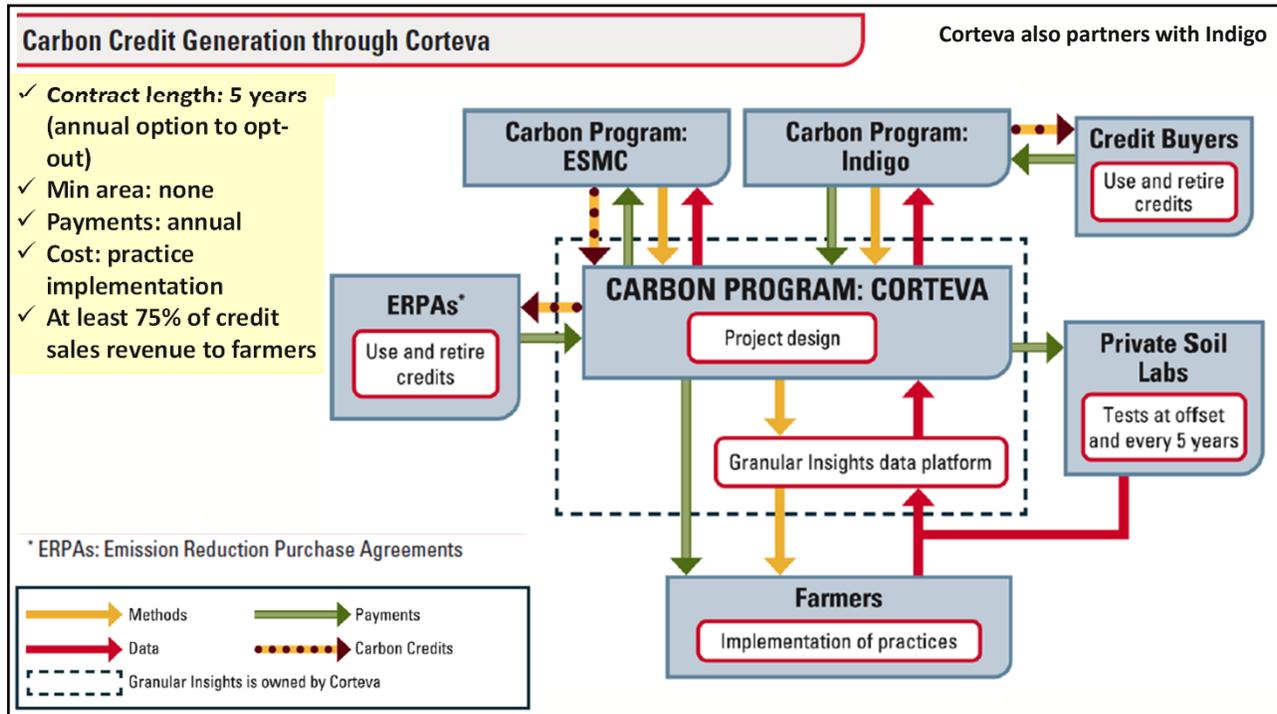


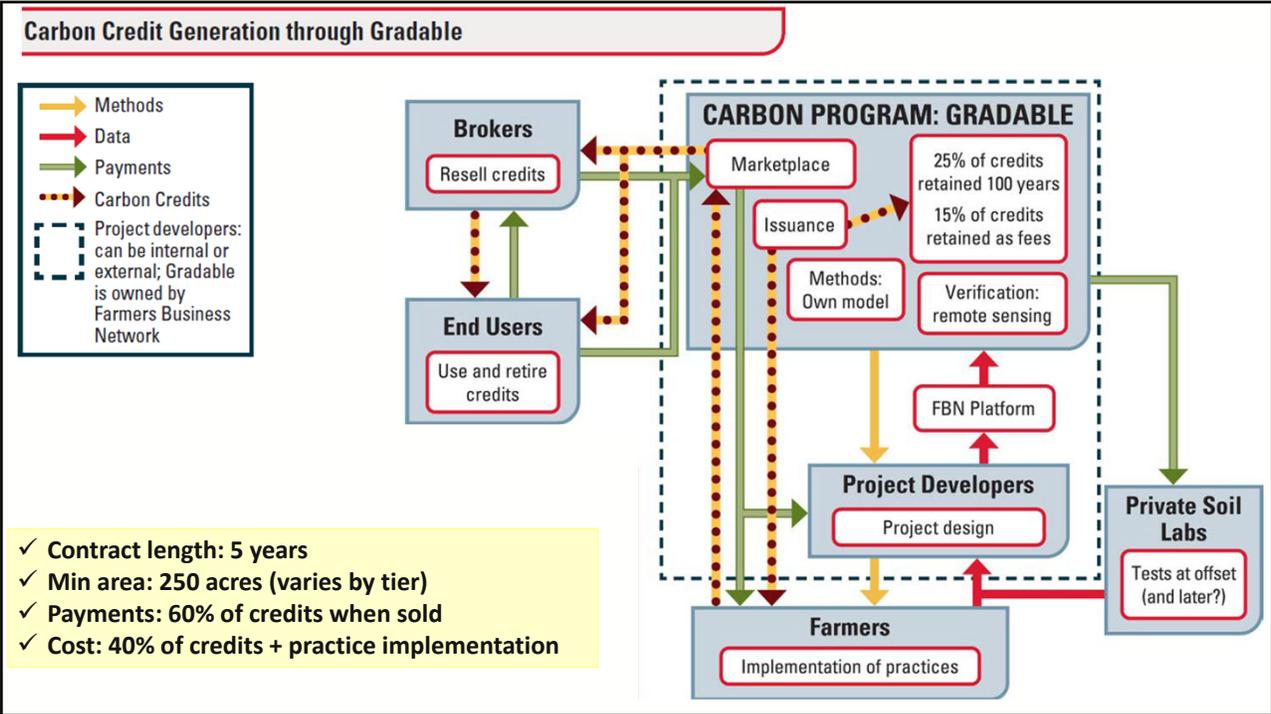
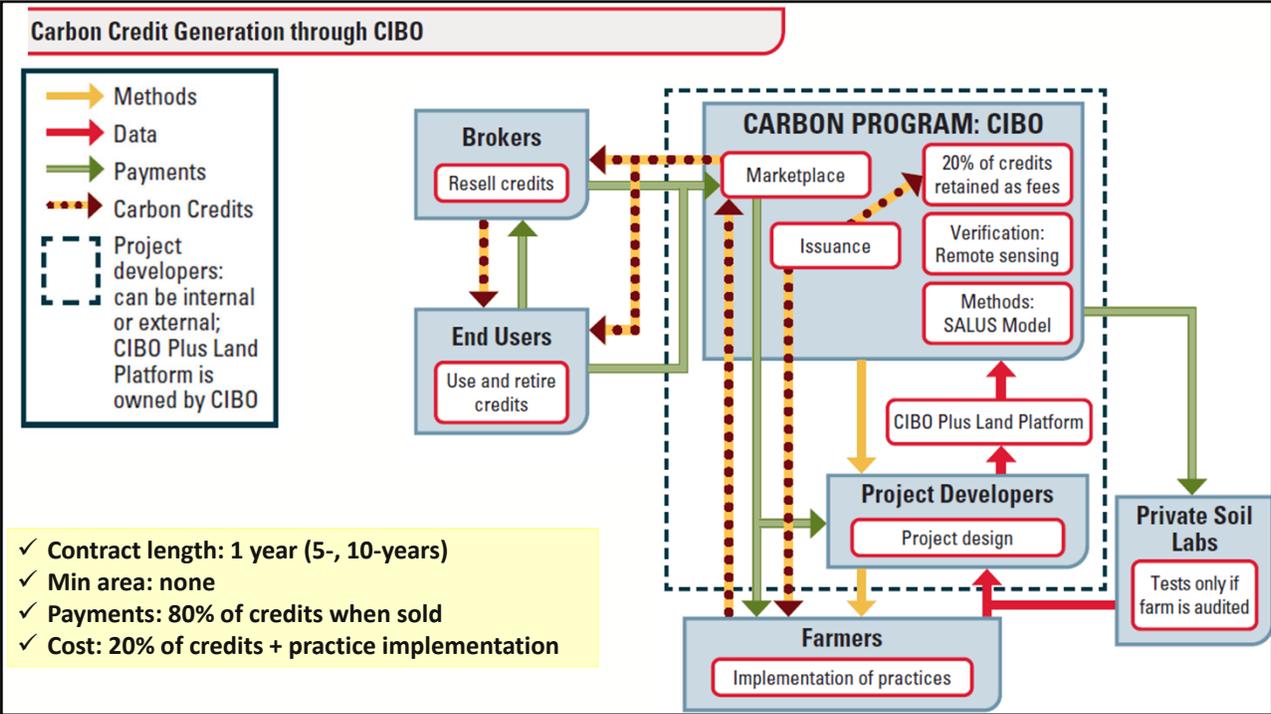
\* ERPAs: Emission Reduction Purchase Agreements

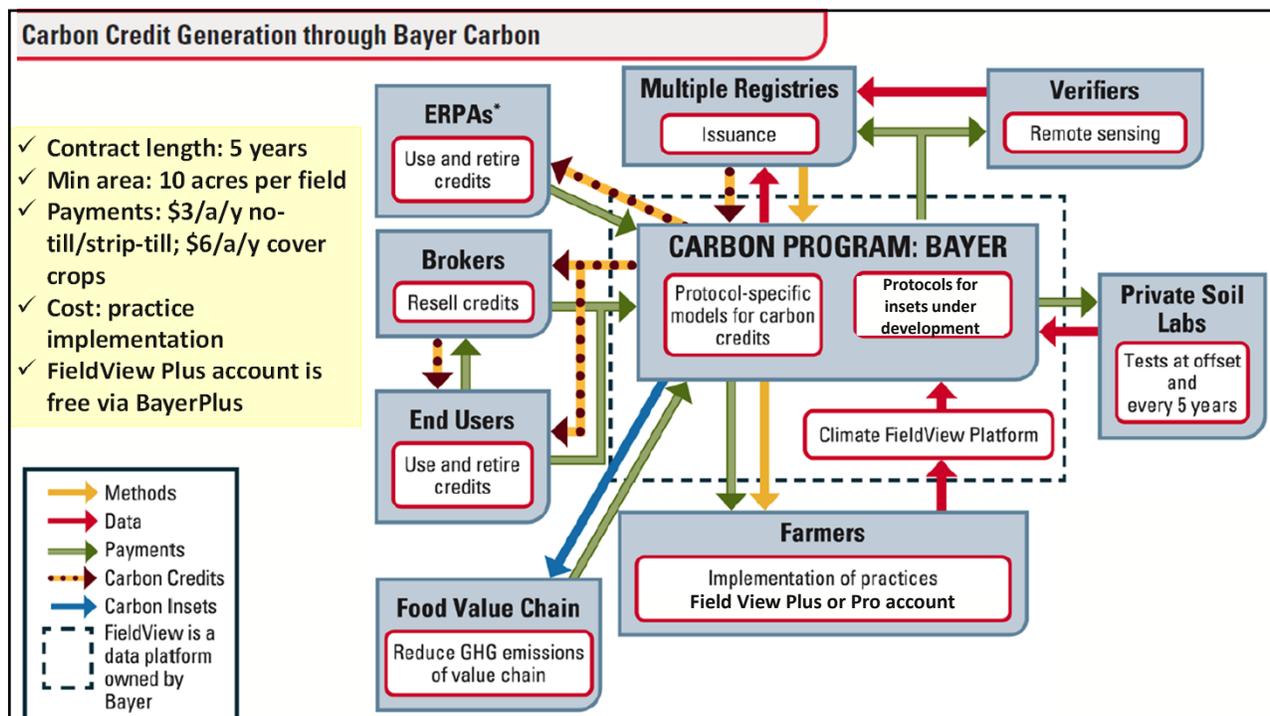
### Carbon Credit Generation through Indigo

- ✓ Contract length: 5 years
- ✓ Min area: 150 acres per field
- ✓ Payments: 50% y1, 20% y2, 10% y3-y5
- ✓ Cost: practice implementation
- ✓ 5-20% credits held in buffer
- ✓ At least 75% of credit sales revenue to farmers









## Contract Specifics

- What practice changes does the contract cover?
- How is the carbon measured?
- How are the payments and the costs shared?
- “Stacking” payments: Can your practice changes be used in this carbon opportunity and government programs?
- What is the contract length, terms, and exit clauses?
- What management data and verification are you required to provide?
- Is there free customer support to help you enter data into the online database?
- Is there free agronomic guidance to implement practice changes?

## Final Thought

If you want to participate in carbon markets:

# Do Your Homework

Talk with your family, your attorney, trusted advisors

Understand the benefits and restrictions from participation

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Questions?