



The AgraGate Experience & Lessons Learned

David Miller
Chief Science Officer
AgraGate Climate Credits Corp
&
Director of Research
Iowa Farm Bureau Federation



- An entity for carbon credit aggregation owned by Iowa Farm Bureau Federation
- First licensed aggregator on the Chicago Climate Exchange (2003)
- Aggregation Specialists – Building a nation-wide network of contract facilitators in every state.
- Handling about 6 Million Carbon Credits annually
- “Country Elevator of Carbon Credits”



- General Farm Organization
- Part of the American Farm Bureau Federation
- 155,000 member families
- Political Representation
- Member Services



Services

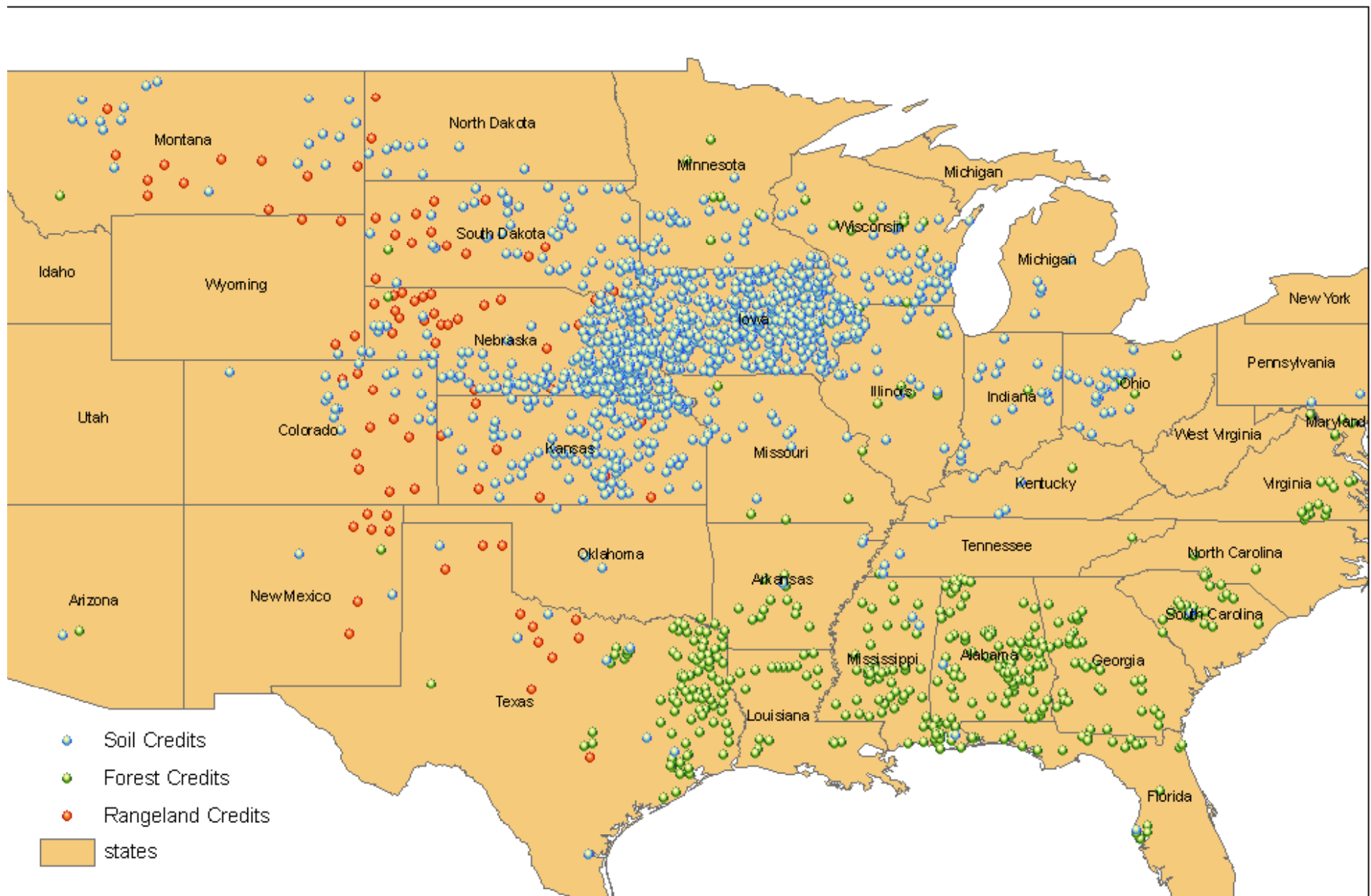
- Information
- Enrollment
- Certification
- Verification
- Credit marketing



U.S. Farmer Participation in CCX

- 16 million acres nationally in 36 states
- 9,000 farmers, ranchers & landowners
- 25 professional verification entities approved
 - “green jobs” employment & income is a reality at CCX
- Tens of millions of dollars in new income through global environmental services
- 2 major soils aggregators
 - AgraGate & Farmers Union
- Several minor aggregators
 - 4.5 million acres no-till
 - 2 million acres grass establishment
 - 5 million acres rangeland
 - 0.5 million acres afforestation
 - 4 million acres managed forest
 - ag methane projects

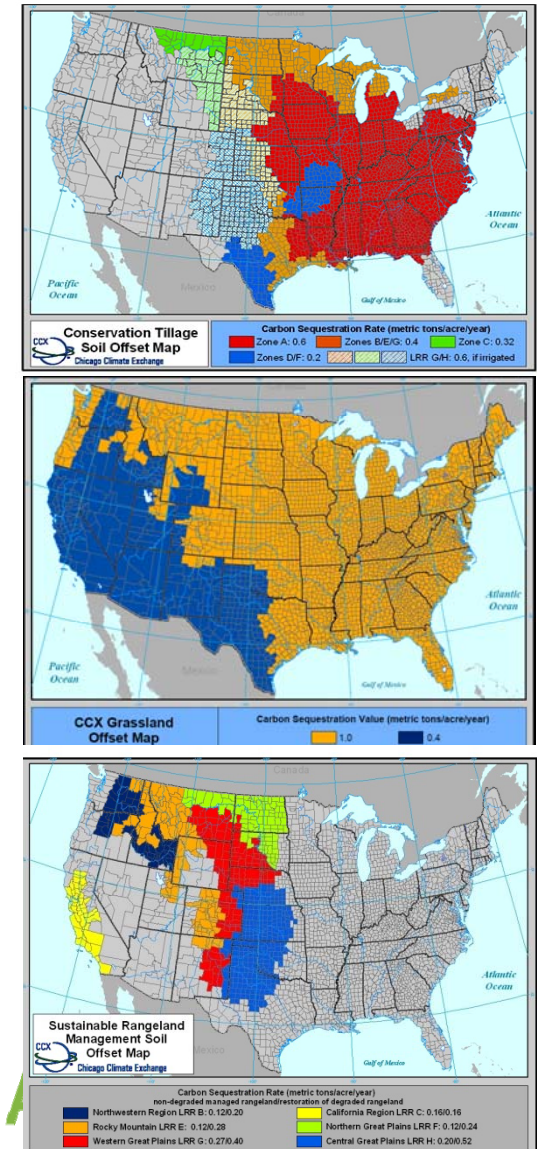
AgraGate Credits



Credits as of May 2009

Agricultural soil sequestration offsets in CCX

- No-till, New Grasslands, Rangeland
- CCX Special Committee on Soil Carbon (scientific committee) provided guidance on annual carbon gains, geography
- 20% Implicit Reserve to mitigate against post-contract reversals
- 20% Explicit Reserve to mitigate against in-contract reversals
- Full accountability in-contract
- Avoided perverse incentive to till if only “new” no-tillers allowed in
- 100% annual certification; 10% visual inspection;
- Pilot project on satellite imagery



CCX Offsets Issued 2009

Agricultural Soil Carbon Offset	10,857,400
Forestry Offset	6,022,000
Landfill Methane Offset	1,840,700
Renewable Energy Offset - Wind	1,557,200
Energy Efficiency Offset	1,413,400
Coal Mine Methane Offset	1,159,300
Renewable Energy Offset	1,041,700
Fuel Switching Offset	904,200
Agricultural Methane Offset	483,800
Renewable Energy Offset - Biomass	472,300
Waste Disposal Offset - HFC Destruction	255,700
Ozone Depleting Substance Destruction Offset	175,300
Renewable Energy Offset - Biogas	55,800
Wastewater Treatment Methane Recovery Offset	44,300
Organic Waste Disposal Methane Offset	25,700
Grand Total	26,308,800

Lessons Learned

- The US “voluntary” market has allowed ag & forestry to “learn by doing”
- Ag & Forestry offsets are the oil that will enable a GHG reduction program to run smoothly
- As the carbon market matures, more opportunities are likely to emerge for ag & forestry
- Over-estimation of offset supply
- Political uncertainty can kill fledgling markets
 - Specific authority & recognition of ag & forestry offsets
 - USDA needs to be the lead agency on ag & forestry offsets
 - “grandfathering in” of early action credits
- Perfection is the enemy of progress & success
 - Mechanisms designed for developing countries are not necessarily good for the US
 - Zero tolerance does not work for ag
 - Reasonable operating criteria for offsets – must work on “working lands”

Lessons Learned

- Contract length matters
 - Land control turnover
 - Commitment
- The paperwork requirements may be more than most farmers will put up with.
- Offsets vs USDA programs
- Scalability matters
- Adaptability to weather & production circumstances matters
- Voluntary eco-system markets are not reliable enough for most farmers
- Myths & perceptions are hard to overcome
- There are a lot of people who are quite content to dictate production practices to farmers without understanding the ramifications of such practices

Approaches to Greenhouse Gas Regulation

- Traditional Command and Control
 - Regulatory agency sets standards
 - Specific technologies (scrubbers)
 - Performance (tons, tons/unit output)
- Cap and Trade
 - Regulatory agency sets overall objective (total allowable emissions)
 - Allocates or auctions emission allowances (auction = tax)
 - Firms must obtain allowances in order to emit a pollutant
 - Firms can receive allowances, purchase allowances, or reduce emissions
- Cap and Trade with Offsets
 - Unregulated firms can receive credits for reducing emissions
 - Regulated firms can purchase offset credits to meet regulatory requirements (“offsetting emissions”)
- Emission Taxes
 - Internalizes public damage
 - Equates costs of abatement

Emerging Issues for Carbon Markets

- Scope of Coverage
- Eligibility
- Consistency of Rules
- Financial Impacts
- Environmental Considerations
- Unintended Consequences

Issues for Ag & Forestry

- Who regulates?
- Will offsets be included
- Who will set standards for ag & forestry?
- Effects on ag inputs
- Effects on energy markets
- Effects on economy
- Linkages to world markets
- Fungibility

Key Carbon Offset Issues (RSVP&E)

- Real – Quantification methodology
- Surplus – Additionality measures
- Verified – 3rd party certification
- Permanence – Duration & reversability
- Enforceable – Contract terms & ownership

CCX Offset Projects

- As science directs, foster emission reductions all sectors: low cost, win-win
 - Landfill, agricultural and coalmine methane capture/destruction
 - Agricultural soils best management practices
 - Afforestation & forest management
 - Fuel switching, renewables
- All projects must be independently verified by an approved entity
- CCX Offset Rules can be found at:
 - http://www.chicagoclimateexchange.com/docs/offsets/CCX_Rulebook_Chapter09_OffsetsAndEarlyActionCredits

Predictable: facilitate carbon finance

Additional: beyond regulation, recent

Verifiable: eligibility, quantity, ownership

No cherry picking – emitters must take entity-wide reductions

Fungible: All Carbon Financial Instruments are equivalent

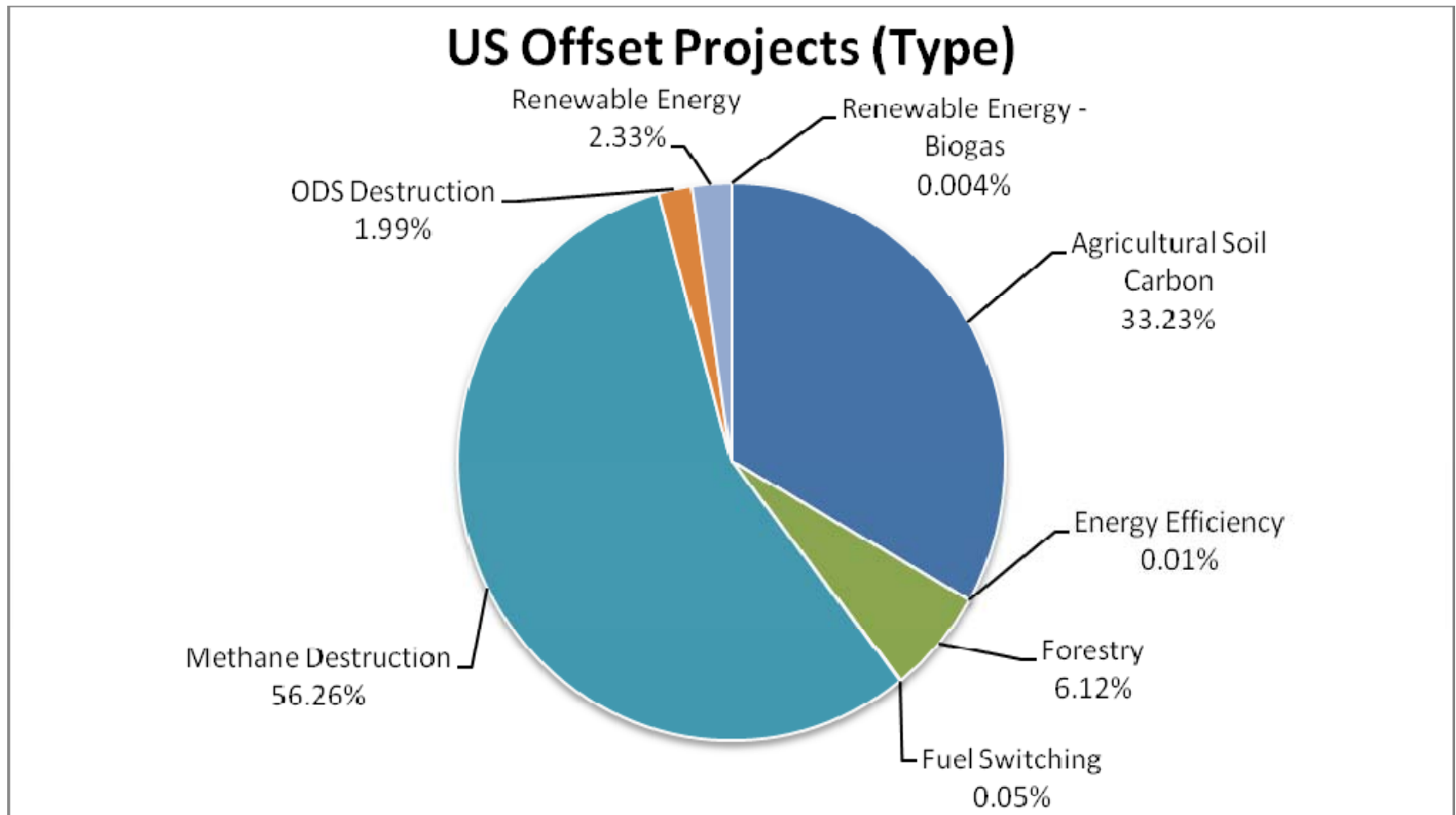
Avoid perverse incentives

Conservative crediting

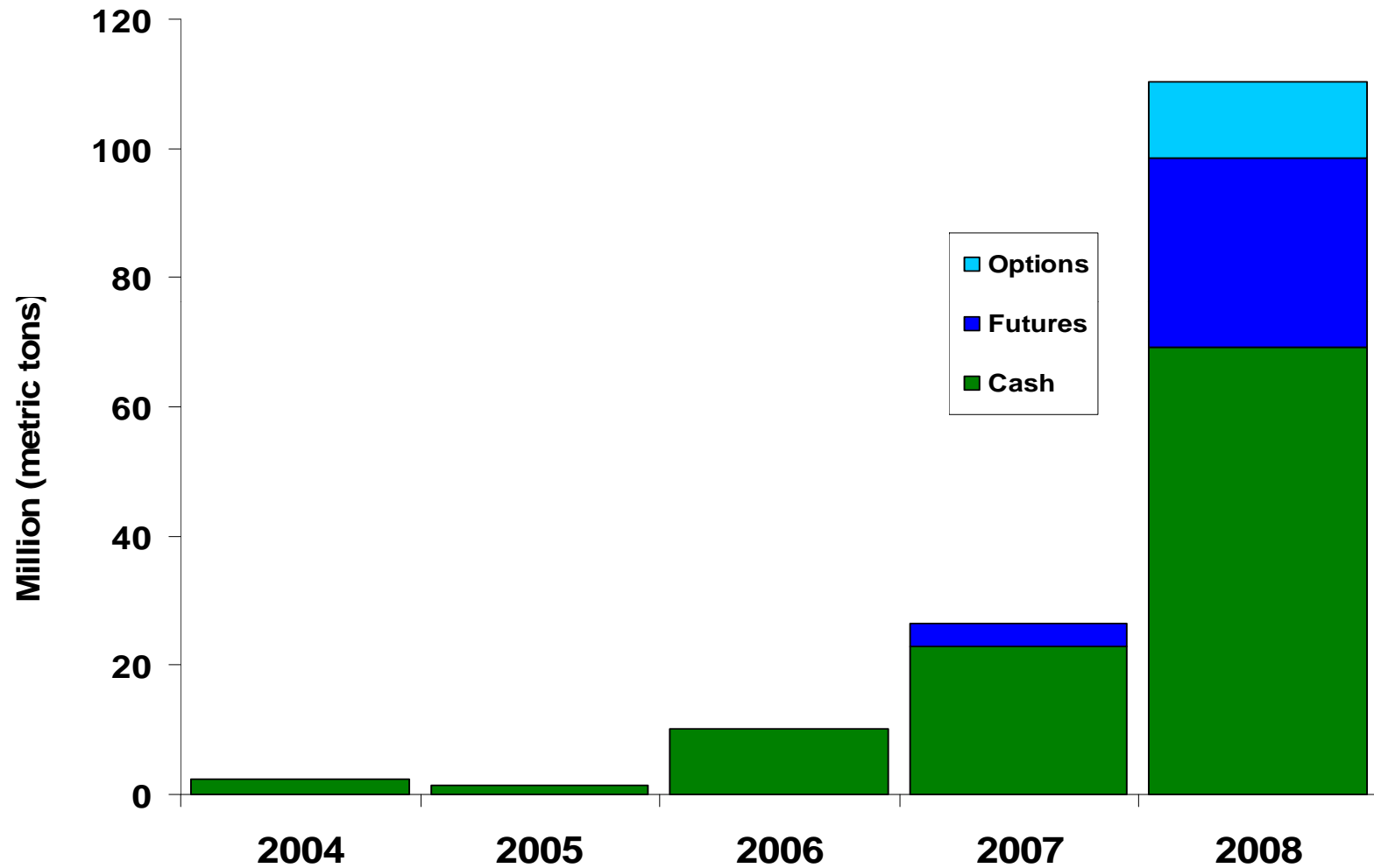
Reserve pools for sequestration assurance



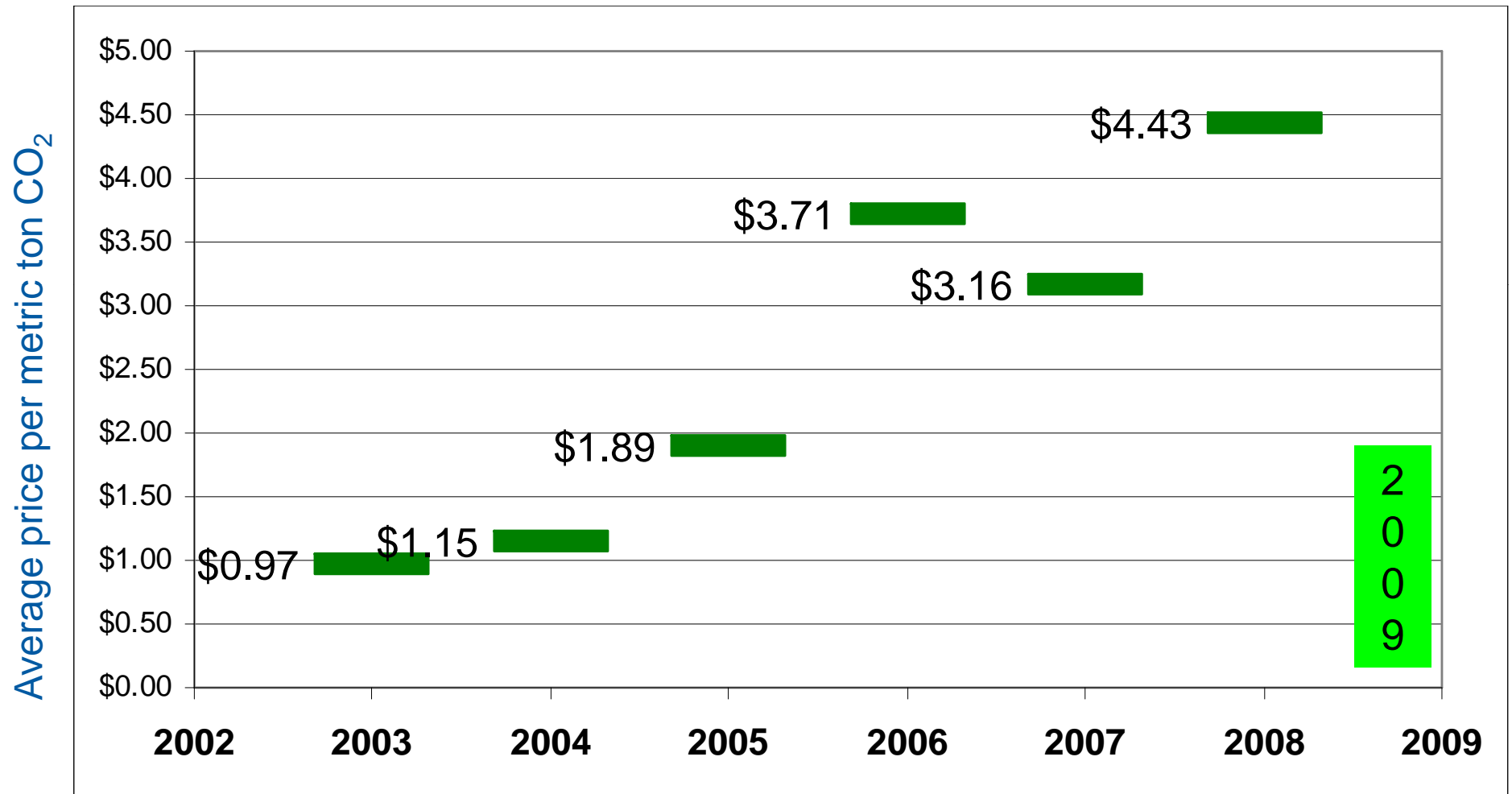
Composition of CCX Domestic Offsets Pool through April 2009



CCX CFI spot and derivatives volume 2004-2008

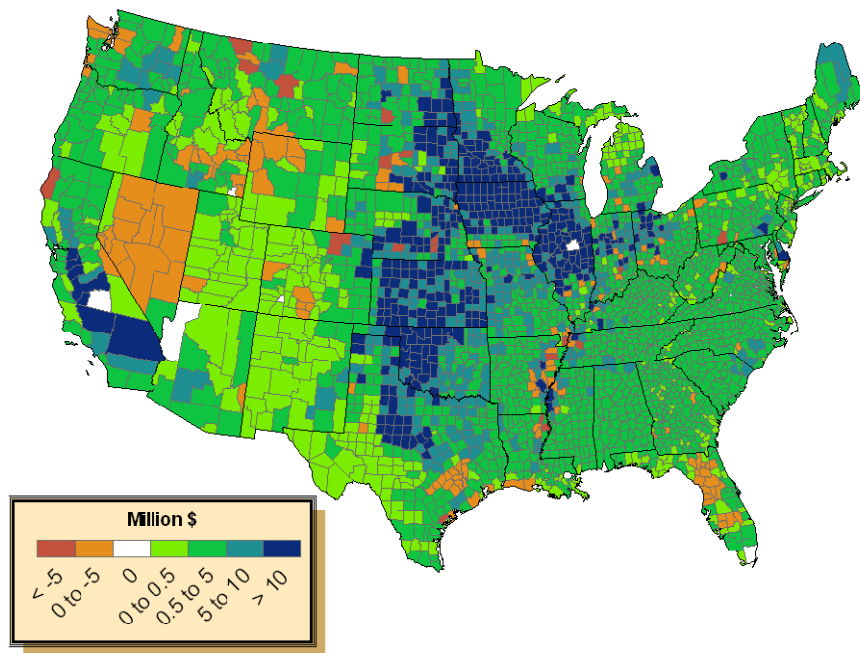


Annual Average* Price for CCX CFIs 2003-2008



* Volume-weighted average for spot market trades

Total Ag Net Returns in 2025*



- Improved returns are a result of:
 - Reductions in corn & soybean acres
 - 23% reduction in hogs
 - 13% reduction in cattle
 - Reductions in other production

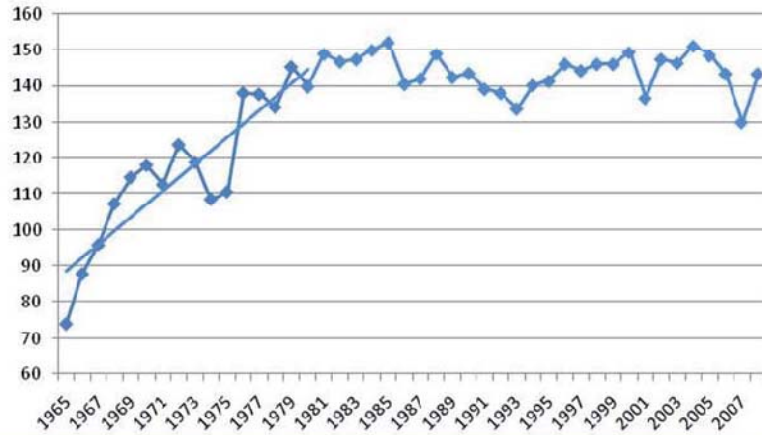
*University of Tennessee analysis, October 2009

Asking the Right Questions

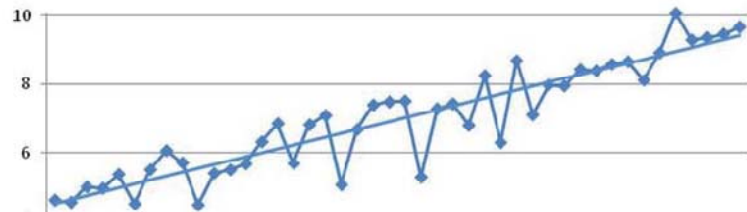
- What can agriculture and forestry do to mitigate carbon emissions?
- Focus is on reductions:
 - Less nitrogen
 - Less cattle
 - Reduced stocking rates
 - Land-use change
 - Afforestation
 - Grasslands
 - Forest preservation
- How can we achieve global food security in a carbon constrained world?
- Focus on resource use efficiency
 - Output per unit of input
 - Increased food production
 - Technology solutions
 - Minimizes land-use change
 - Resource utilization
 - Managed forest
 - Grazing efficiency
- Adaptation

US

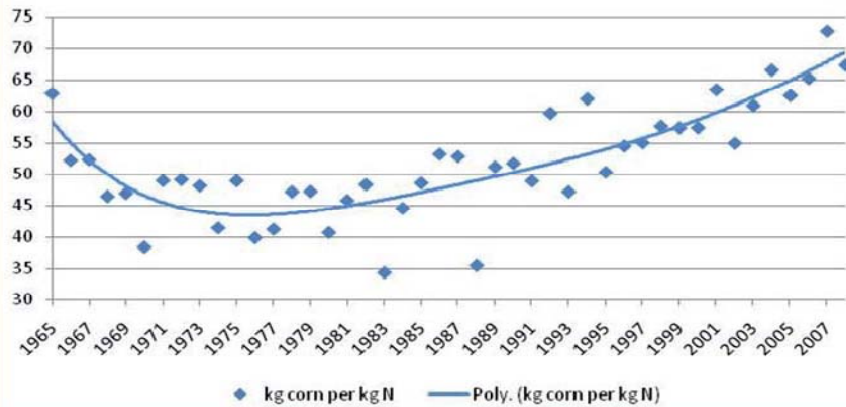
Application rates (kg N /ha)



Maize yield (t/ha)

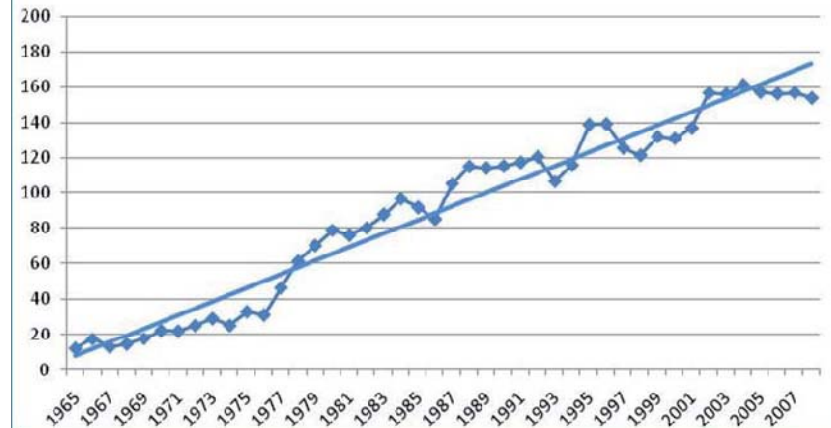


PFP - N

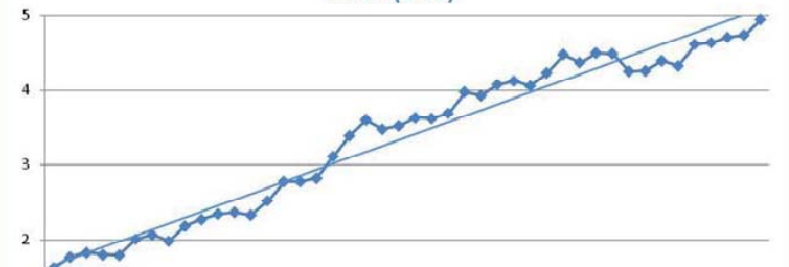


China

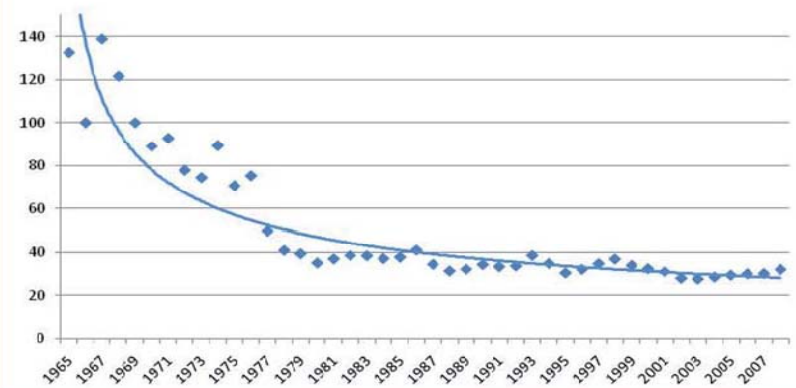
Application rates (kg N /ha)



Yield (t/ha)



Kg harvest product per kg N applied



Issues for Future Market Design

- Are offsets ever appropriate for land-use change?
- Can offsets stimulate efficiency gains?
 - Baseline issues
- Tradeoffs between “accuracy” and monitoring costs
- Reconciling measured data with verification costs
- Resolving conflict of “early adopters” with additionality rules
- What constitutes a “reversal”?
- “Backward looking” liability
 - Crediting permanence
 - Role of reserves
- Statistical validity of program design

Concluding Thoughts

- Farmers are skeptical of claims that carbon opportunities will be good for ag
- Policies that result in a sector shrinkage are not going to be embraced
- Carbon emission reductions need to be measureable, verifiable, and consistent with the over-arching goals of producing food, feed, fiber and fuel
- Agriculture has already proven they can provide offsets at scale if the protocols are practical and reasonable
- A growing economy may need to consider GHG intensity reductions as well as absolute reductions.

Let us remember:

- For society as a whole, there is a very strong correlation between energy use and standard of living. Energy makes manual labor more efficient; is a catalyst for transformation of ingredients and raw products to usable goods; and energy extends the capabilities of the human mind.
- For society to prosper, it must grow. The debate cannot become one of, “maintaining the status quo with less”. It must be a debate about “how to do more with what we have.”

Questions?

For more information

www.agragate.com

Info@agragate.com

