

Carbon Offset Credits: A Potential Income Stream for the Permanent School Fund?



Jim Manolis

Minnesota DNR Office of
Management and Budget
Services

Climate & Energy and Forest
Management Subcommittee
meeting

Permanent School Fund Advisory
Committee

June 18, 2009

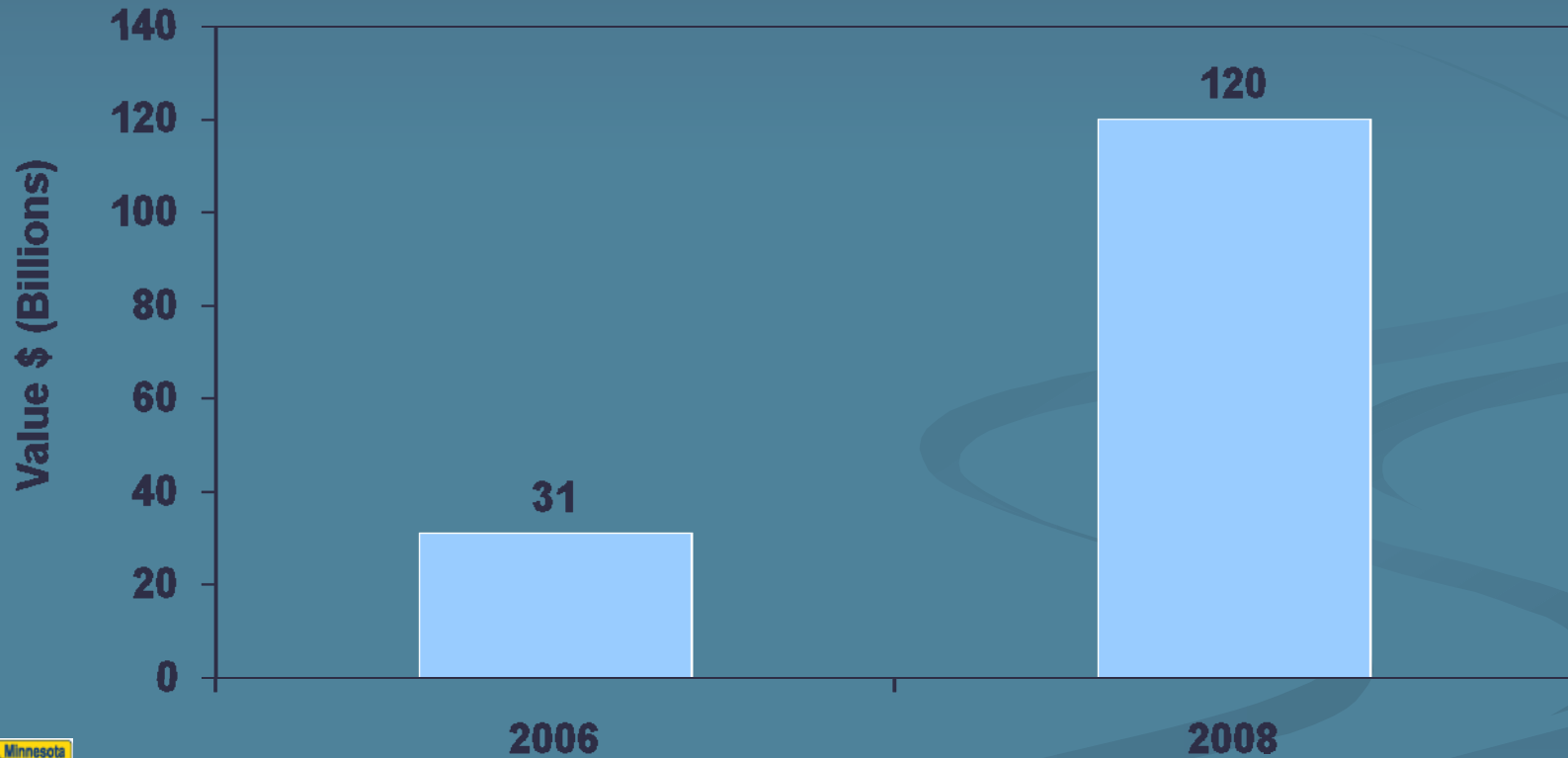


Outline

- Trends in global carbon markets
- What are offsets?
- Forest management techniques to increase carbon sequestration/storage
- Example from Aitkin/Cass counties
- Conclusions-implications for Minnesota



Growth in the Global Carbon Market



Types of Carbon Markets

Compliance Market

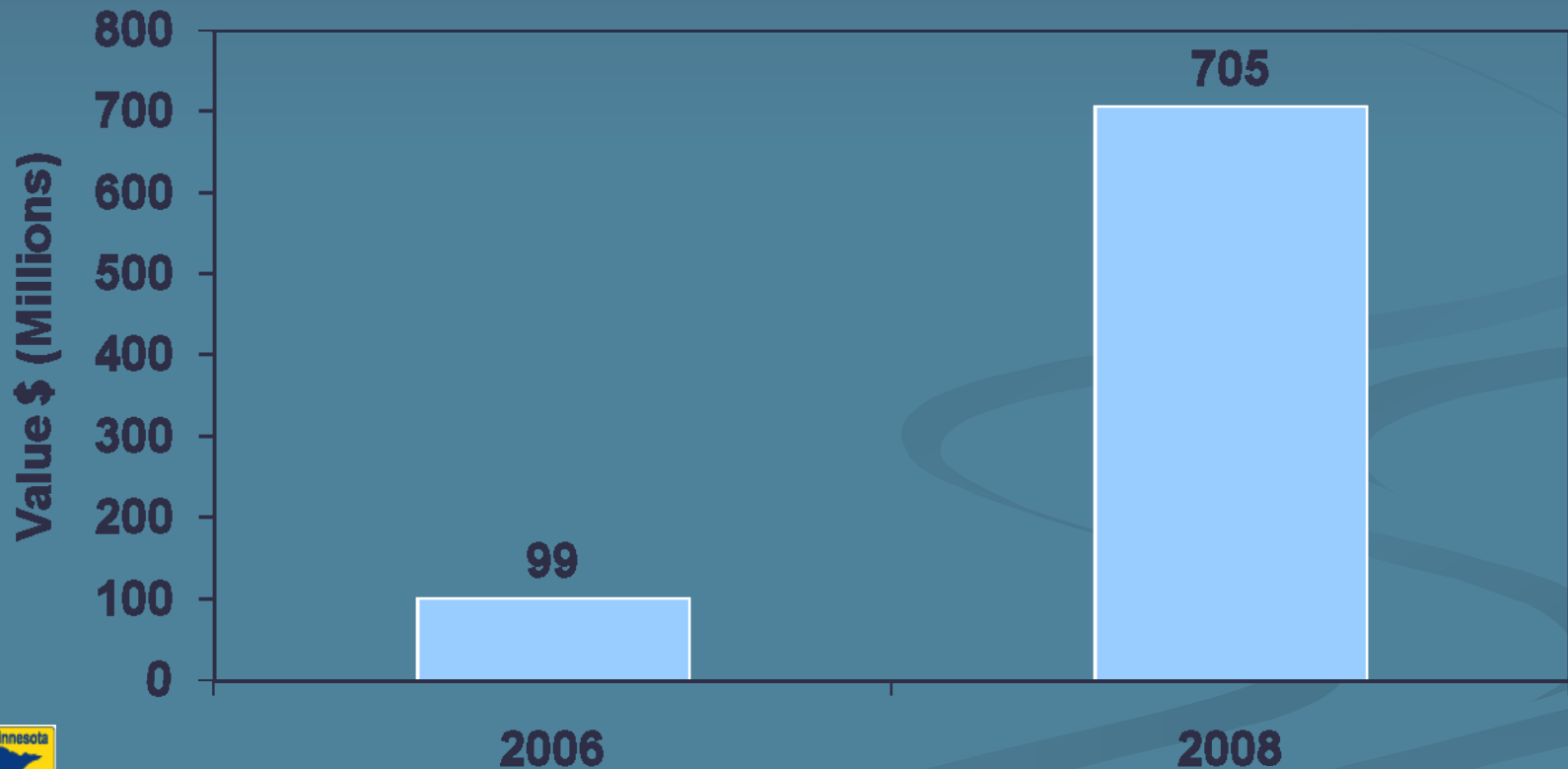
- European Emissions Trading System
- Regional US systems (RGGI)
- Future US Cap and Trade System?

Voluntary Market

- Chicago Climate Exchange (CCX)
- Over the Counter Market (OTC)



Growth in the Global Carbon Market (Voluntary)



Allowances and Offsets

- Allowance: a permit to emit greenhouse gases (GHG)
- Offset: a credit for the reduction, removal, or avoidance of GHG emissions from a specific project that is used to compensate for GHG emissions occurring elsewhere

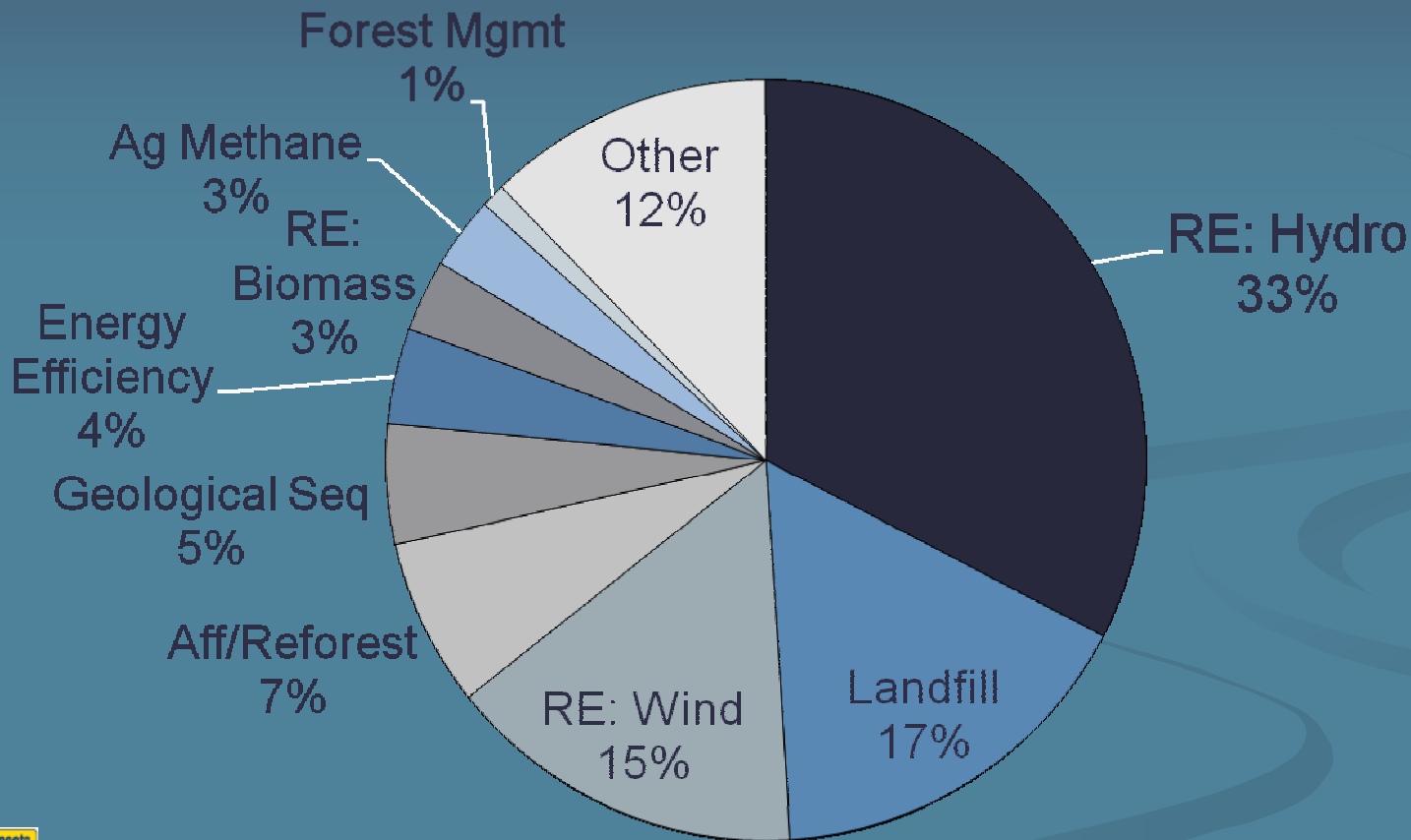


Opportunities with Offsets

- Provide opportunity to purchase emission reductions
- Reduce costs of emission reductions in compliance markets
- Deliver environmental and economic co-benefits



Types of Offset Projects (2008 Transaction Volume)



Source: Ecosystem Marketplace, New Carbon Finance.

Challenges with Offsets

- Potential for fraud
- Difficult to measure
- Controversial



Offset Quality Criteria

- Offsets should be real
- Offsets should be additional
- Offsets should be based on a realistic baseline
- Offsets should be quantified and monitored



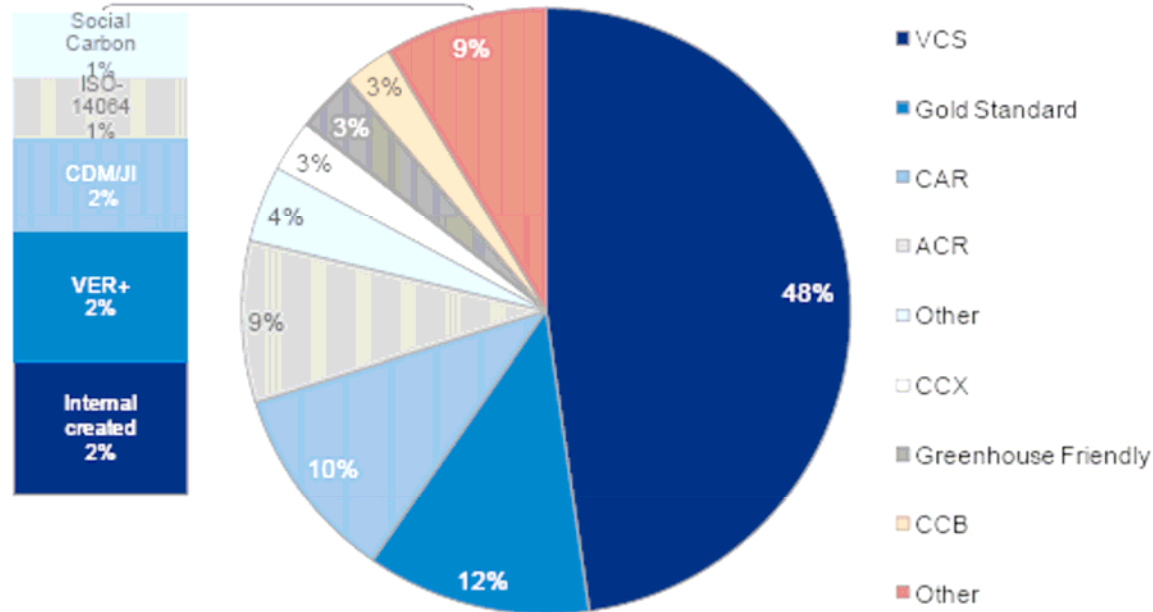
Offset Quality Criteria (Cont.)

- Offsets should be independently verified
- Offsets should address leakage
- Offsets should address permanence



Many “Verification Standards” Emerging

Figure 27: Third-Party Standard Utilization, OTC 2008¹

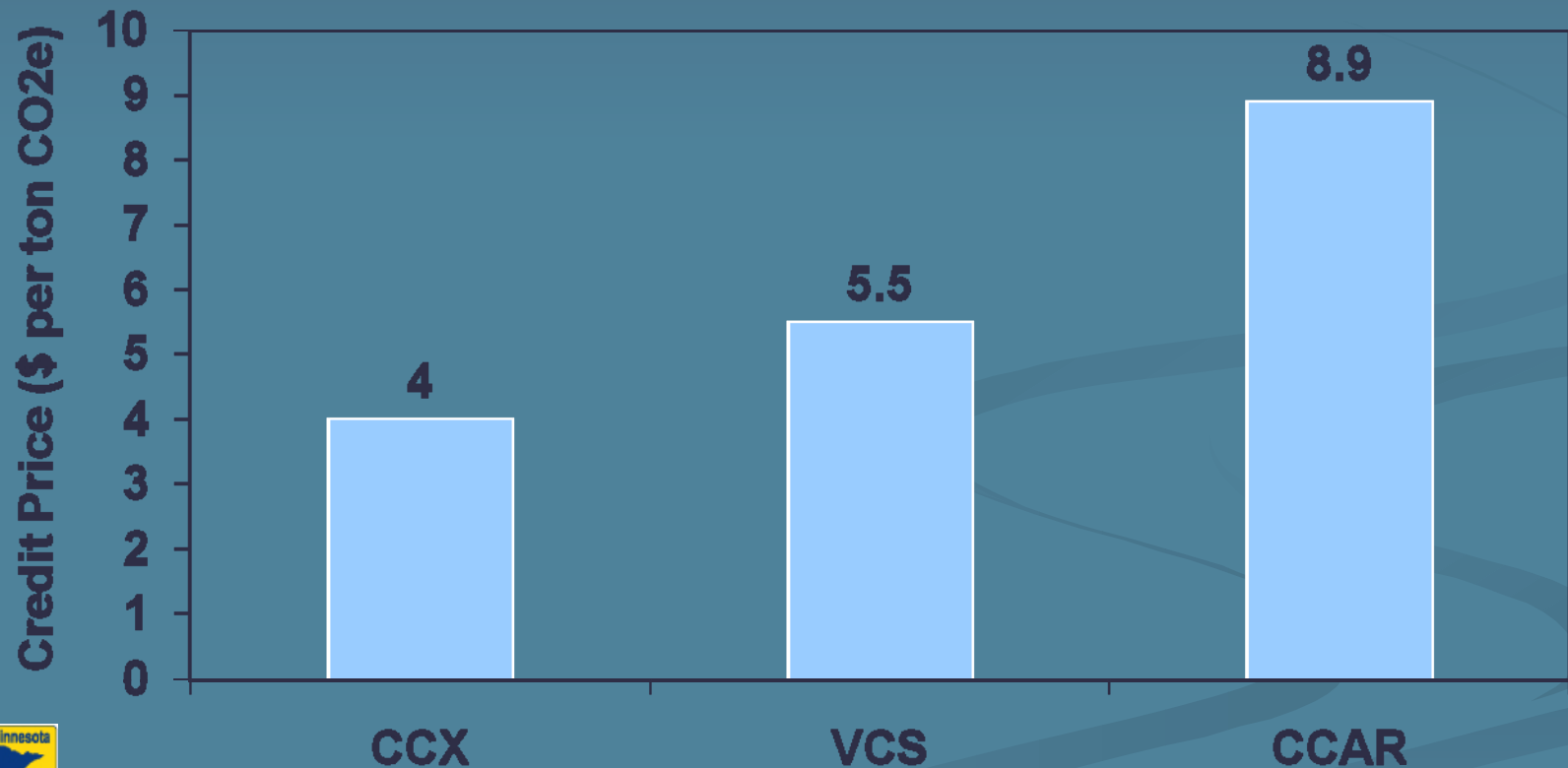


Source: Ecosystem Marketplace, New Carbon Finance. (1) Based on 335 observations

Emerging standards vary in rigor and cost of implementation

- Chicago Climate Exchange (CCX)
- Voluntary Carbon Standard (VCS)
- California Climate Action Reserve (CCAR)

Credit Prices Vary by Standard (2008 average values)



Source: Ecosystem Marketplace, New Carbon Finance.

Forest management strategies for increasing carbon stocks and sequestration



Management recommendations for increased carbon stocks and sequestration

- Influence sequestration rates
 - Increase or maintain high-levels of growth
 - Thinning, fertilization, improved growing stock
 - Increase stocking levels on understocked stands
 - Stock “from below”-underplanting



Management recommendations for increased carbon stocks and sequestration

- Influence carbon storage
 - Increase quality and size of trees
 - Potential for long-term storage in long-lived wood products
 - Reduce respiration rates associated with decomposition
 - Thin to salvage mortality
 - Utilize logging residues



Management recommendations for increased carbon stocks and sequestration

- Influence carbon storage
 - Extended rotation periods
 - Increase total carbon accumulated in forest biomass
 - Partial harvesting systems
 - Minimize respiration rates during regeneration period



Minnesota North Woods Carbon Partnership: Cass and Aitkin County Land Departments Case Study

John Gunn, Ph.D.

Senior Program Leader

Manomet Center for Conservation
Sciences

Brunswick, Maine



26 February 2008

Conclusions

- Carbon markets, policies and verification standards are rapidly evolving
- It is difficult to predict the potential value of carbon credits derived from forest management on Trust Lands



Conclusions

- Don't expect a carbon “windfall”, but carbon credits will likely offer an additional income stream for MN forest management activities
- More detailed study is needed; e.g., proposed LCCMR projects:
 - “Climate Change Adaptation Plans for Minnesota’s Natural Resources”
 - “Demonstrating Carbon Sequestration in Minnesota Forests”

Questions?

- Contact:

jim.manolis@state.mn.us

651-259-5546

