

# Carbon Markets, Climate Change & New Opportunities for Business

Presented by  
The Delta Institute  
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# About the Delta Institute

- 501 (C)(3) nonprofit organization
- Transforming the Great Lakes Region into the Vital Center of the Emerging Green Economy
- Programs
  - Environmentally Preferable Purchasing
  - Pollution Prevention and Energy Efficiency
  - Green Development
  - Brownfield Redevelopment
  - Community Development
  - Carbon Offset Trading





What are Emissions Trading  
Markets?

# Emissions Trading Markets

Origin – 1990 Amendments to Clean Air Act

Environmental Problem - Acid Rain

Solution – Cap-and-Trade mechanism to regular sulfur dioxide emissions from power plants

Cap-and-Trade Basics:

- Government caps the level of SO<sub>2</sub> emissions and distributes allocations in one-ton increments for its release
- Each facility must have enough allocations to cover annual emissions
- Facilities that cannot cover annual emissions must either reduce emissions or buy surplus permits from other sources
- Over time, the government releases fewer allocations, raising the value of each allocation
- If market is appropriately allocated, it becomes more economical to reduce emissions than to continue buying permits

# Types of Emissions Trading Markets

## Two Types of Markets:

- Compliance Market - \$4.9 billion mT of offsets in 2008, valued at US\$125 billion (avg. price of US\$26/ton)
- Voluntary Market – Traded 123 million mT of offsets in 2008, valued at US\$705 million, up from 65 million mT (US\$331) in 2007

Sources: Point Carbon, Ecosystem Marketplace,

# Regional Greenhouse Gas Initiative (RGGI)

- Cap-and-trade compliance market for the reduction of greenhouse gases
- 10 participating states (CT, DE, ME, MD, MA, NH, NJ, NY, RI, VT)
  - Each state sets limits on GHG emissions from electric utilities, creates CO<sub>2</sub> allowances and establishes participation in allowance auctions
- Phased-in approach, so initial reductions are modest
- Offsets are allowed, but constrained to 3.3% of utilities total compliance obligation during control period.
  - Landfill methane capture & destruction
  - Afforestation
  - Energy efficiency
  - Avoided methane emissions from agricultural manure mgt
- To date, 140 million allowances have been auctioned, raising US\$432 million



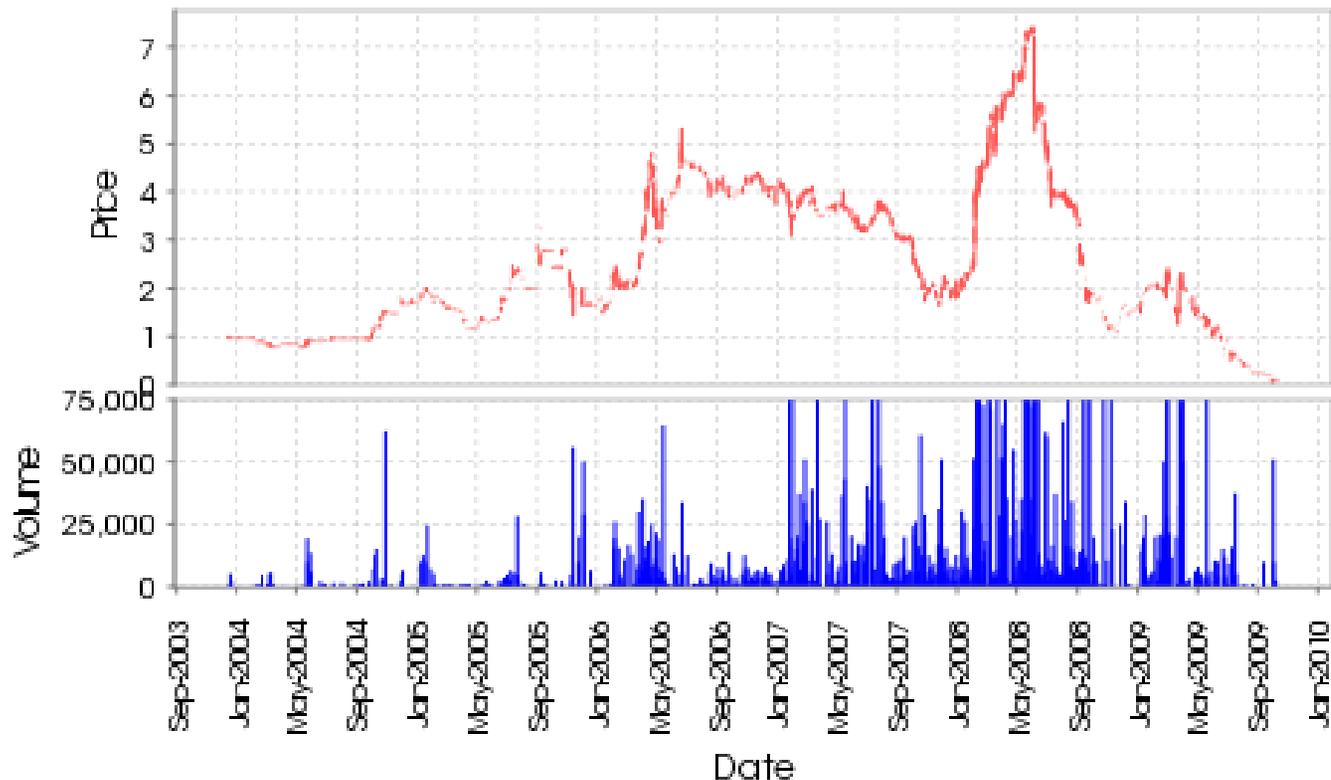
# Chicago Climate Exchange

- Voluntary, private, member-based, cap-and-trade market for the reduction of greenhouse gases
- Self-regulated market with legally binding emission reduction targets
- Starting point is the member's average annual emissions from 1998-2001
- Phase 1 (2003-2006) – 4% reduction by 2006; 2% by 2010
- Phase 2 (2007-2010) – 6% by 2010
- Phase 3 (2010-2012) – Under consideration
  
- Over 400 Members
  - Ford, Manitoba Hydro, Steelcase, DuPont, Sony, Motorola, International Paper, AEP, Michigan State University, MeadWestvaco, Neenah Paper Inc, Plum Creek, Stora Enso, Temple-Inland
- Emission Reduction Results
  - 2003 – 61,341,500 mT (11.5%)
  - 2004 – 72,192,500 mT (14.0%)
  - 2005 – 60,609,800 mT (12.2%)
  - 2006 – 46,531,100 mT (9.2%)
  - 2007 – 20,467,800 mT (4.2%)

# CCX Market Update

- CCX Market price has bottomed out at \$.10/ton
  - Causes: Legislative/policy uncertainty & Trading of CCX super reductions which have no value in future cap-and-trade market

CCX Carbon Financial Instrument (CFI) Contracts Daily Report



# Carbon Offset Standards

- Gold Standard
  - Protocols based on the Kyoto Protocol Clean Development Mechanism
  - Focused on energy efficiency and renewable energy
- Voluntary Carbon Standard (VCS)
  - Opportunities for agricultural and forestry projects
  - Standards that include a risk assessment to measure permanence, additionality and leakage of the project
  - Requires conservation easement
- Climate Action Reserve
  - A national offsets program focused on ensuring environmental integrity of GHG emissions reduction projects to create and support financial and environmental value in the U.S. carbon market
  - Strong emphasis on forestry offset credits
- Prices typically trade higher than CCX at \$5-7 per mT

# Other Policy Drivers

- **Western Climate Initiative** – A multi-state registry to track and manage greenhouse gas emissions in the region, and develop a market-based program to reach the target
  - Partners: Arizona, California, Montana, New Mexico, Oregon, Utah, Washington; British Columbia, Manitoba, Ontario, Quebec
  - Observers: Alaska, Colorado, Idaho, Kansas, Nevada, Wyoming; Nova Scotia; Several Mexican states
  
- **Midwest Greenhouse Gas Reduction Accord** - The establishment of targets for greenhouse gas emission reductions and timeframes consistent with states and province's targets and the development of a regional cap-and trade program design.
  - Members: Iowa, Illinois, Kansas, Michigan, Minnesota, Wisconsin; Manitoba
  - Observers: Indiana, Ohio, South Dakota; Ontario
  
- **Post-Kyoto Protocol (Copenhagen)**



What are Carbon Offsets?

# Earning Carbon Offsets

Offsets are typically achieved through financial support of projects that reduce the emission of greenhouse gases in the short- or long-term

Common Offset Projects:

- Destruction of Industrial Pollutants (HCFCs, ODS)
- Renewable Energy (Solar, Wind, Biomass)
- Energy Efficiency
- Agricultural/Landfill Methane Destruction
- Fuel Switching
- Forestry (Afforestation, Sustainable Forest Management)
- Agricultural Practices

# Benefits of Carbon Offsets

- **Provides entities with flexibility to meet compliance targets in the most cost effective manner**
  - Offsets are a short-term bridge, giving facilities time to change operating procedures or install new pollution control equipment
- **Lowers the initial cost of compliance**
  - Market with carbon offsets - \$13-17 per mT
  - Market without carbon offsets - \$100 + per mT
- **Provides environmental co-benefits**
  - Conservation tillage reduces soil erosion
  - Sustainable forest management discourages sprawl by keeping land in the family
  - Tree & native grass planting creates wildlife habitat
- **Leads to increased investment in eligible activities**

# Complaints about Carbon Offsets

- **Akin to “papal indulgences,” allowing the emitters to pay for absolution rather than changing behavior**
  - This rationale typically targets terrestrial based offsets
- **Effectiveness and permanence of terrestrial offset projects**
  - Carbon benefits from agricultural and forestry practices are easily reversed
- **Lack of a single standard creates uncertainty on the validity of certain offsets**
  - Some standards are more stringent than others and carry the perception of higher quality offset credits
- **Questions on the ‘additionality’ of offset projects – Are offset projects providing additional carbon benefits above and beyond ‘business-as-usual’?**

# Delta's role in carbon offset trading

- Associate Member and Registered Aggregator on Chicago Climate Exchange
  - Delta aggregates carbon offset credits generated by landowners who implement conservation practices that sequester atmospheric CO<sub>2</sub>
    - Illinois Conservation & Climate Initiative (ICCI)
    - Michigan Conservation & Climate Initiative (MCCI)
    - Managed Forest Carbon Offset Program
  - Credits are sold over the CCX trading platform
    - Delta currently has over 350,000 mT of offset credits available for sale via CCX market platform or Delta's retail carbon website
    - Since 2006, Delta has returned over \$2 million in net revenue to landowners in the Great Lakes Region

[www.deltacarbon.org](http://www.deltacarbon.org)



What's Next?

# The Future of U.S. Carbon Trading

## ▪Chicago Climate Exchange

- Scheduled to end in 2010 - CCX members discussing a Phase 3 which may extend to 2012
- CCX is positioning itself to be the trading platform in a mandatory system
- CCX will likely fill the gap until the compliance market takes effect
- Best Case Scenario – CCX credits fungible in compliance market

## ▪President Obama

- Reduce to 1990 levels by 2020
- Reduce 80% below 1990 levels by 2050
- Unclear what role agriculture or forestry would play in a compliance market

# American Clean Energy & Security Act of 2009

- **Sponsored by Congressman Waxman (D-CA)**

- **Targets & Timetables**

- 17% reduction below 2005 levels by 2020; 83% reduction below 2005 levels by 2050

- **Key Offset Provisions**

- 35% of allowances given away free to power producers until 2026. By 2030, all allowances will be auctioned
- Energy intensive manufacturers receive 15% of allowances free in 2014 – the first year the manufacturing sections is under the mandatory cap
- Bill allows for 2 billion offset credits per year, although type of offsets is not specified
  - International offsets valued at an equal rate to allowances, but only from 2012 to 2017 – after that, international offsets will be worth 20% less than allowances
  - 50/50 split between international & domestic offsets (2 billion total), unless there is a shortage of domestic offsets. In case of shortage, up to 75% of offsets can come from international sources

**Note: U.S. EPA analysis predicted prices between \$13-17 in 2015**

# Clean Energy Jobs & American Power Act

- **Sponsored by Senators Kerry (D-MA) and Boxer (D-CA)**

- **Targets & Timetables**

- 20% reduction below 2005 levels by 2020; 83% reduction below 2005 levels by 2050

- **Key Provisions**

- Does not use term “cap-and-trade” – “Pollution Reduction & Investment”
- Auctions 25% of emission allowances between 2012-2050 to largest polluters
- Contains price collar for emission allowances with floor of \$10 and ceiling of \$28 – when price hits \$28, government would auction more allowances
- Bill allows for 1.5 billion domestic offsets annually,
- Requires President Obama to establish and update a list of eligible offset project types
  - In fact, gives President total discretion on how to establish, manage & verify offset credits
- Early Offset Options - allows for the issuance of offset credits for offsets from State or other programs that meet specified criteria. Project must occur between January 1, 2009, and three years after enactment or the effective date of Federal offset regulations

# Senate Amendment to Kerry-Boxer Bill

- **Sponsored by Senators Stabenow (D-MI)**

- **Key Provisions**

- Establishes a U.S. Domestic Offset System
- The bill directs officials to set-up a list of eligible offset projects, including, at a minimum:
  - Methane collection from coal mines, landfills and natural gas systems
  - Afforestation/Reforestations
  - Forest Management
  - Geologic Carbon Capture
  - Grassland and Rangeland Sequestration
  - Altered Tillage Practices
  - Urban Tree Planting
  - And more..

# Other Legislative Items of Note

- **Cap-and-Dividend Bill of 2009**

- **Sponsored by Rep. VanHollen (MD)**

- **Key Provisions**

- 100% of emission allocations are auctioned off
- 100% of revenue returned to citizens
- “Polluters will be paying consumers for the privilege of using the atmosphere as a dumping ground for global warming pollution”

- **U.S. EPA Issues Endangerment Finding for GHG Emissions**

- Clears the way for the agency to regulate GHG emissions via the Clean Air Act
- Rulemaking process and public comment period is underway
- If Congress doesn't act, the EPA will



# Canadian Carbon Politics

# Ontario Cap-and-Trade Act

- Purpose- Harmonize its cap-and-trade program with Canadian federal, North American and international approaches
  - A broad, common system would maximize Ontario's trading opportunities, ensure a level playing field for our industries and avoid punitive cross-border tariffs.
- Bill would allow Ontario to participate in the Western Climate Initiative, which is scheduled to begin in 2010
- Provincial Goals
  - Cut absolute GHG emissions 6% below 1990 levels by 2014; 15% by 2020; 80% by 2050.
  - Ontario is second largest GHG emitter in Canada
    - GHG emission per capita of 15 mT
    - Transportations accounts for 25% of total GHG emissions; Industry 21%; Electricity sector 15%

Note: Quebec has introduced similar legislation, allowing it to participate in the WCI

# Alberta GHG Regulations

## ▪Regulatory Framework

- Facilities emitting more than 100,000 mT must improve emissions intensity by 12% below their average 2003-05 emissions

- Not an absolute emission cap

- Compliance Options

- Purchase Alberta-based carbon offsets

- Pay C\$15 into a technology fund for every mT over capped emission limit

- Facilities facing carbon caps bought offsets between C\$11 and C\$13.50 in 2008

- Province's biggest emitters bought 2.75 million offsets in 2008

- 25 offset projects registered for compliance in 2008, compared to 7 in 2007.

- Projects generated 3.5 million offset credits

- 10 of 25 projects were agricultural tillage



# U.S./Canada Partnership

- Federal Government wants to integrate its climate regulations with the U.S. through the creation of a joint North American emissions trading scheme
  - Canadian oil companies could face tariffs under Waxman bill
  - Waxman bill will provide rebates to U.S. industries financially hit by the cost of compliance
  - If rebates are inadequate to compensate for the cost of compliance, the bill would require importers of foreign goods in those sectors to buy special allowances to account for the carbon content of their imports
  
- Waxman bill only accepts allowances from emissions trading schemes in countries that have absolute emission caps, not emission intensity caps, i.e. Alberta.
- Waxman bill provides for the development of Carbon Capture and Sequestration Technology (CCS), which Alberta is spending C\$2 billion to develop
  
- Environmental Defence argues that Canadian GHG targets are much weaker than proposed U.S. targets – Canada can't wait for U.S. to act



What are the Business Opportunities & Impacts?

# Opportunities & Impacts on Small Business

## ■ Impacts

- Small business not likely to be regulated under a cap-and-trade market
- Greatest impact is indirect – Costs passing from regulated entities to customers
  - Utility bills, costs to transport goods, fuel taxes, insurance costs, etc
- Everything will become more expensive

## ■ Opportunities

- Become more energy efficient – energy and carbon are linked
  - Minimize your exposure to volatile energy prices
- Take advantage of growing ‘green’ sentiment
  - Be careful of claims and substantiate everything
  - Corporate Sustainability Reporting
- Examine federal legislation and identify revenue opportunities, e.g. offsets

Emerging carbon policy will dramatically change the way everyone does business

# contact information



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