



11th Annual LMOP Conference and Project Expo

When can Landfill Gas Projects Create a REC or a Carbon Credit or Both?



EVOLUTION
MARKETS

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Evolution Markets Inc.

January 09, 2008



Evolution Markets Overview

***Evolution Markets is the
Intersection of Environment, Energy, and Finance™***

Complete Financial Services for Green Markets and Clean Energy Sector

Market Execution Services

Structured Transactions

Merchant Banking

World's Largest Environmental Brokerage

More than 80 Professionals Worldwide

More than \$50 billion in Transactions

Global Offices in New York – London – San Francisco – Buenos Aires

The Markets We Serve

- **Environmental Markets**

- Renewable Energy Credits
- GHG Credits/Allowances
- SO₂ Emissions Allowances
- NO_x Emissions Allowances
- Emissions Reduction Credits
- Houston/Galveston NO_x Allowances
- RECLAIM (Los Angeles NO_x and SO_x)
- Weather Derivatives

- **Energy Markets**

- OTC Physical Coal
- OTC Coal Derivatives
- Green Power
- Natural Gas
- Nuclear Fuels

Evolution Markets Commitment to Renewable Markets



RECs brokerage since 2002

REC brokerage, green power contracts, financial services

Compliance RECs (Northeast/Texas) from New York

Voluntary RECs (Nationwide) and Western Compliance RECs from San Francisco

Market's only Green-e approved broker

Market's most honored brokerage



Environmental Finance Magazine Customer Survey
Best Renewables Broker-North America
(2007, 2006, 2005, 2004, 2003)



RISK MANAGEMENT • TRADING • FINANCE

energy risk

Energy Risk Annual Rankings
Best Broker-North America Environmental Markets
(2006, 2004)



Market Honors

2000 2001 2002 2003 2004 2005 2006 2007



Magazine Customer Survey

(most recent : Dec. 2006)



House of the Year:

- *European Emissions (2007)*
- *Weather / Emissions (2004)*

Top SO₂ Allowance Broker



Top NO_x Allowance Broker



Top EU GHG Allowance Broker



Top U.S. GHG Credit Broker



Top U.S. Renewables Broker



Top RECLAIM NO_x Allowance Broker



Top U.S. Emission Reduction Credit Broker



Top Kyoto Credits Broker



Top Weather Derivatives Broker



Best Broker, US Physical Forwards (Coal)



Best Broker, Europe ETS Carbon Credits



Best Broker, U.S. Environmental Products



Best Broker, Western U.S. Nat Gas Short-term



Best Broker, Western U.S. Nat Gas Long-term



Best Broker, U.S. Weather Swaps Brokerage



Best Broker, European Weather Derivatives Brokerage



PointCarbon

*Carbon Market Awards
2005: Best Broker*



*category runner-up

Evolution Markets: REC Market Pioneer



First RECs brokered in: Texas, Massachusetts, Connecticut, Maryland, District of Columbia, California

First Green-e certified broker

Conducted five REC auctions for Mass. Technology Collaborative

Evolution Markets participates in regulatory process in Texas, Massachusetts, and has a representative on the WREGIS Board

Evolution Markets is a leader in market transparency

evo.id
INTELLIGENT DATA

evo.db
DATA BANK

Monthly Market Update

evolution express

In the Beginning

- Many of these programs have yet to finalize regulatory policy surrounding these markets
- Many different opinions out there...
- In most cases the decision will be made by pricing
- Difficult to predict the future

What are RECs and VER's

- RECs represent the environmental, social, and other benefits of renewable energy generation
- 1MWh = 1 REC (Unless otherwise stated)
- **Additionality (Financial)** -Must prove that your project became economically feasible because of the revenue stream generated by selling a VER
- These are two separate commodities

Voluntary REC and Carbon Markets

- These markets have grown considerably in volume, liquidity, and pricing in the last 12 months
- In Vol REC markets the Green-E standard is by far the most fungible product
- A dominant Voluntary Carbon product has yet develop
 - VER+, VCS, Gold Standard, CCX
- As introductory brokers we serve the marketplace's needs, we do not set standards
- Because of the significant regulatory policy that drives these markets, we highly suggest engaging a knowledgeable intermediary.

Voluntary Standards

Voluntary Carbon Standard (VCS)



- Created with wide industry input
- New standard released November 2007
- Aims to streamline project verification process while maintaining environmental integrity

Gold Standard



- Premium carbon standard (as high as \$16)
- Only Energy Efficiency and Renewable Energy projects
- Projects must feature benefits for sustainable development
- Verification process more involved
- No LFG projects performed & only one US project credited

Voluntary Standards Cont'd

California Climate Action Registry (CCAR)

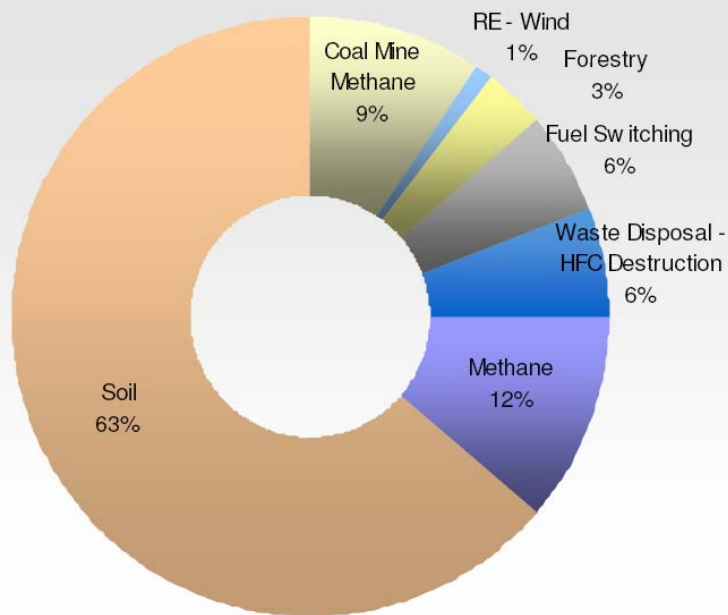


- Recently released Landfill Gas Project Protocols
- CCAR also informs much of California's developing climate policy
- Also developing the national Climate Registry
- 2008 Federal budget provides \$3.5 million to create mandatory GHG registry
- Signs point to the Climate Registry as leading option

Voluntary Markets continued

- **Most desired LFG product comes from a Non-NSPS facility with an online date of after 2005.**
- **At this point due to silence in various RPS's, you can monetize both products.**
 - RECs from the generation of electricity
 - VCS Carbon Credit for the Voluntary capture and destruction of methane
- **States like New Jersey are expected to better define this policy moving forward**
 - Price to determine Seller's Market

Chicago Climate Exchange



Questionable Environmental Quality of Projects

- CFI's are exchanged without project information – after buying a buyer *may* be able to assess credit's integrity at seller's discretion
- Soil sequestration projects are not accepted on global scale (but sold alongside other quality credits)

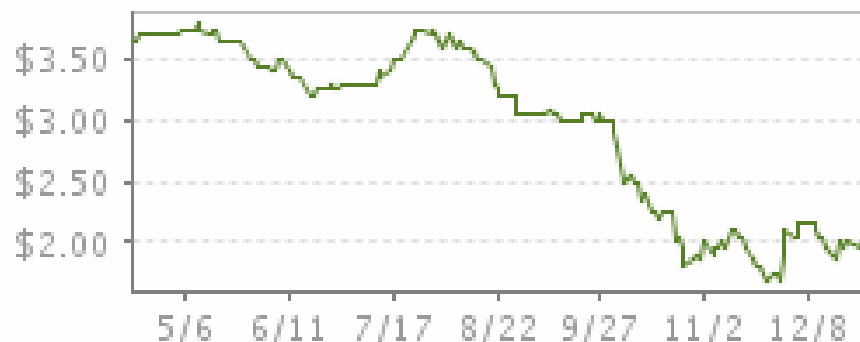
CCX Price history

2007 CFI's closed at \$1.90

Over the counter

~ \$4.50/VER

CCX CFI Vintage 2007 (180 day price history)



Regional Greenhouse Gas Initiative (RGGI)

- **January 1, 2009 start date**
- **CO₂ only, 25MW+ generators only**
- **Regional Cap: First Period Supply of 188 million tons (roughly 1990 emissions)**
- **Level emissions 2009-2014; 2.5% reduction per year 2015-2018**
- **Standards-based offset provisions, with price triggers**
 - **3.3% at or below \$7.00 average price for 12 months after the 14 mo settling period**
 - **5% above \$7.00 average price for 12 months (after settling period)**
 - **10% above \$10.00 average price for 12 months (after settling period)**
- **Outstanding questions**
 - **Few facilities covered, modest cap**
 - **Cost uncertainty due to price triggers and allocation**

- **Offset Provisions**

- **Offset project types:**

- Landfill methane capture and destruction; (12/20/05 –online)
 - Reduction in fugitive emissions of sulfur hexafluoride (SF6) from electricity transmission and distribution equipment;
 - Sequestration of carbon due to afforestation;
 - Reduction or avoidance of CO2 emissions from natural gas, oil, or propane end-use combustion due to end-use energy efficiency; and
 - Avoided methane emissions from agricultural manure management operations.

- **Offset project locations:**

- any participating RGGI state; and
 - any state with a memorandum of understanding with the Department of the RGGI state, to carry out certain obligations relative to CO2 emissions offset projects in that state or U.S. jurisdiction, including but not limited to the obligation to perform audits of offset project sites, and report violations

Regional Greenhouse Gas Initiative (RGGI)

- **The following states are participating in RGGI**
 - ME, VM, NH, CT, MA, RI, NY, NJ, MD, DE
- **The following states have and RPS that are also in RGGI**
 - ME, CT, NH, MA, RI, NY, NJ, MD, DE
 - General rule of thumb – You must be located in the footprint of the ISO and deliver to grid to qualify for the various RPS's (exceptions apply)
- **RGGI clearly states that you can only sell one (1) product...Carbon or RECs, but not both. Seller will decide based on pricing.**
 - Big Question of who owns RECs vs Carbon
- **What LFG qualifies for Carbon in RGGI**
 - Online date of Dec 20, 2005

California – AB 32

- **Landfill Gas in CA has been declared a “discrete” early action**
 - This means it will be regulated; ergo not available for a Vol market
 - Standards to define installation and performance of active gas collection and control systems
- **CA Air Resources Board must have regs in place by 1/1/11 to take effect by 1/1/12**
- **These regulations are far from final**
- **CA currently does not allow Unbundled RECs to trade for compliance purposes**
- **WREGIS will hopefully bring REC trading to CA in Cal 2008**

Voted Top Renewables Broker – North America

Voted Top Carbon Broker – North America

12/07 Environmental Finance Customer Survey

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