



# U.S. Carbon Market:

*Regulatory landscape and carbon trading activity*

Presented by:

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**Climate Action Reserve Workshop** – Mexico City

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# Questions to Answer

- Who is Evolution Markets?
- What is the State of Cap and Trade Regulation in the U.S.?
- Is There Liquidity and What is the Pricing? What Credits are Trading?
- What is the Outlook on U.S. Cap and Trade?

# Who is Evolution Markets?

Background and overview

# Evolution Markets Overview

*Evolution Markets provides financial advisory and introductory brokerage services to participants in the global environmental and energy commodity markets*

- Founded in 2000
- Headquarters: White Plains, NY
- Offices: New York – London – San Francisco – Beijing
- World's Largest Environmental Brokerage Firm
  - More than 80 Professionals Worldwide
  - Structured \$85 billion in energy & environmental transactions
- Merchant Banking: *Evolution Markets Financial Services LLC*

# Award Winning Brokerage Platform

*Evolution Markets is a market leading commodities brokerage firm focused on all environmental and clean energy markets*

## ENVIRONMENTAL MARKETS

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- Carbon Credits & Allowances
  - Renewable Energy Credits
  - SO<sub>2</sub> Emissions Allowances
  - NO<sub>x</sub> Emissions Allowances
    - Houston/Galveston NO<sub>x</sub>
    - RECLAIM (L.A. NO<sub>x</sub> & SO<sub>2</sub>)
  - Emission Reduction Credits
  - Weather Derivatives
  - Catastrophic Risk Derivatives
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## ENERGY MARKETS

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- Green Power Transactions
  - Biofuels
    - Ethanol
    - Biodiesel
  - OTC Physical Coal
  - OTC Coal Derivatives
  - Natural Gas
  - Nuclear Fuels
- 

- Merchant Banking, Carbon and Renewable Energy teams work together to provide complementary services to project developers; enhance market insight and leverage; **“EvoFinance”**
- Integrated services create a seamless transaction process

# Leadership in the Markets We Serve

**Environmental Finance**  
MAGAZINE

Magazine Customer Survey

RISK MANAGEMENT • TRADING • FINANCE  
**energy risk**

Best Specialist Broker ('08)  
House of the Year:  
European Emissions ('07)  
Weather / Emissions ('04)

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Top SO <sub>2</sub> Allowance Broker	🏆	🏆	🏆	🏆	🏆	🏆	🏆	🏆	🏆
Top NO <sub>x</sub> Allowance Broker		🏆	🏆	🏆		🏆*	🏆*	🏆*	🏆*
Top EU GHG Allowance Broker				🏆	🏆	🏆*	🏆	🏆*	🏆*
Top U.S. GHG Credit Broker						🏆*	🏆	🏆	🏆
Top U.S. Renewables Broker			🏆*	🏆	🏆	🏆	🏆	🏆	🏆
Top RECLAIM NO <sub>x</sub> 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, Renewable Energy Credits								🏆	🏆
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							🏆*	🏆*	🏆*

\*category runner-up

Deloitte. 2007  
**Technology Fast 50**  
New York

**PointCarbon**  
Carbon Market Awards  
2005: Best Broker

 **Energy Business**  
Silver Award Winner 2003  
New Emerging Energy Markets

 **Energy Business**  
Silver Award Winner 2005  
Renewable Energy

**EVO10**  
A DECADE OF INNOVATION



The Intersection of Environment,  
Energy and Finance.

# Leadership in the Markets We Serve

Since Evolution Markets was founded in 2000, we have received 109 awards for excellence in brokerage from Environmental Finance and Energy Risk Magazines. Below you will find a sample of our most recent awards from 2009. For the full list our awards, please visit [www.evomarkets.com](http://www.evomarkets.com)



*Magazine Customer Survey*

2009

- Best Broker, Options 
- Best Broker, Secondary Market (i.e. issued CERS/ERUs) 
- Best Broker, North American Mandatory Markets (e.g. RGGI) 
- Best Broker, Offsets 
- Best Broker, SO2 
- Best Broker, NOx (Reclaim) 
- Best Broker ERCs 
- Best Broker, Renewable Energy Markets 
- Best Broker, Weather Risk Management, North America 
- Best Broker, Catastrophe Risk 
- Best Broker, NOx \*
- Best Broker, Weather Risk Management, Europe \*
- Best Broker, Weather Risk Management, Asia \*









\*category runner-up

RISK MANAGEMENT • TRADING • FINANCE



*Magazine Annual Ranking*

2009

- Best Broker, Voluntary Emission Reduction (US) 
- Best Broker, Voluntary Emission Reductions (Europe) \*
- Best Broker, U.S. Renewable Energy Certificates 
- Best Broker, U.S. Regional Greenhouse Gas Initiative (RGGI) \*
- Best Broker EUA Options 
- Best Broker, ERUs – Primary (JI) \*
- Best Broker, CERs - Primary (CDM) \*
- Best Broker, US SO2 & NOx 

RISK MANAGEMENT • TRADING • FINANCE



*Specialist Broker of the Year (2008)*

*House of the Year: European Emissions (2007)*

*House of the Year: Weather / Emissions (2004)*



*Carbon Market Awards  
2005: Best Broker*



**Energy Business**  
Silver Award Winner 2003  
New Emerging Energy Markets



**Energy Business**  
Silver Award Winner 2005  
Renewable Energy



*The Intersection of Environment,  
Energy and Finance.*

# Evolution Markets – Carbon

*Evolution Markets has 25 carbon team members located in San Francisco, New York, London and Beijing originating and brokering every global carbon commodity*

- Global origination of carbon offset projects, including India, China, Africa and the Middle East, and several Latin American countries, including Mexico
- Structure and execute the sale of credits via New York, London and San Francisco GHG brokerage desks
- Markets and product groups:
  - **North America:** VERs, RGGI Allowances, Alberta-based offsets, CCX, California/WCI pre-compliance offsets, Options
  - **Europe:** Primary CERs, gCERs, ERUs, AAUs, EUAs, VERs, Options and other financial products



# What is the State of Cap and Trade Regulation in the U.S.?

Emerging policy and markets

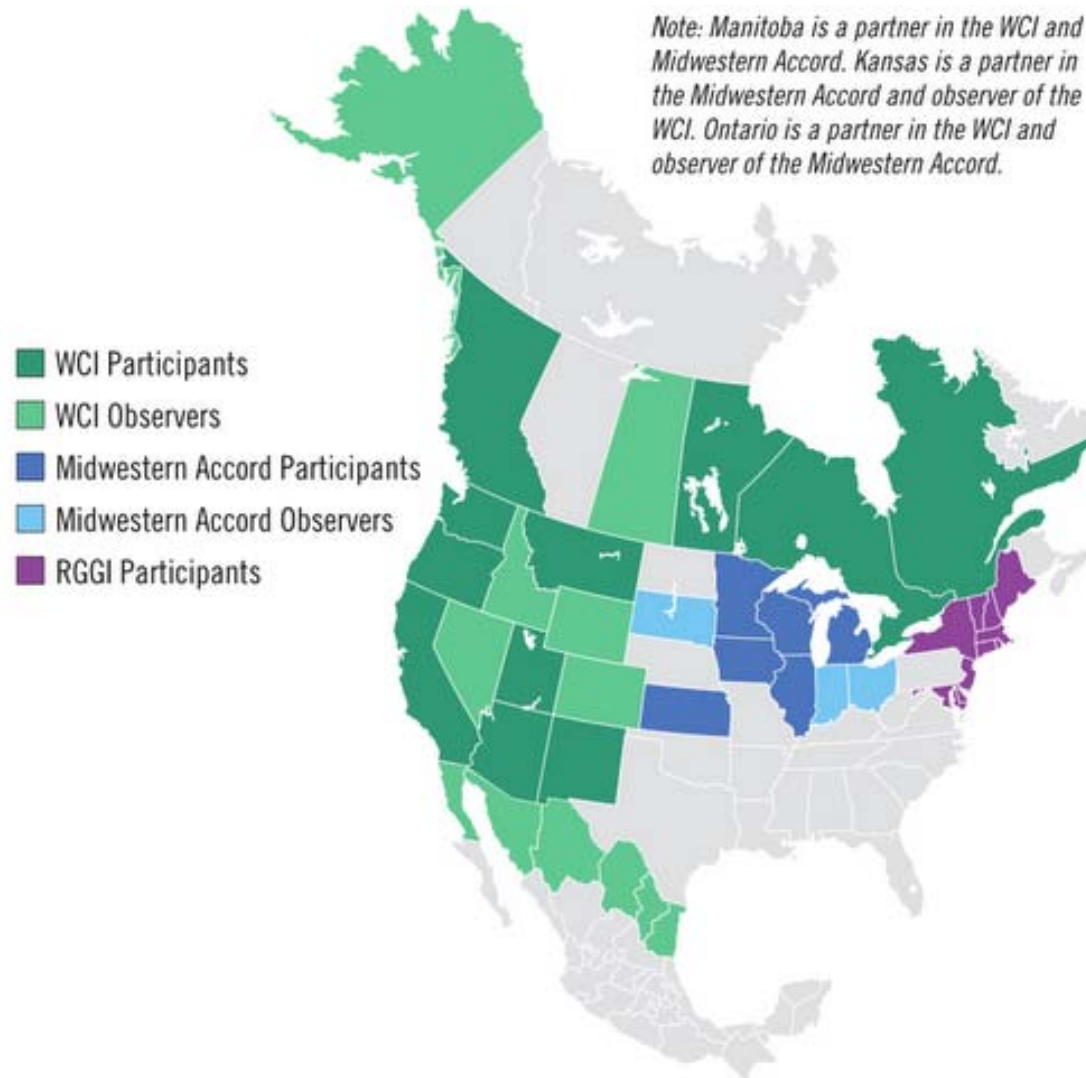
# Market Segments

## Carbon markets in North America:

- COMPLIANCE – regulation establishing mandatory cap on greenhouse gas emissions and a market for trading carbon allowances and offsets (i.e. RGGI)
- PRE-COMPLIANCE – **emerging** regulations **proposing** mandatory caps and ensuing **speculative** markets for carbon offsets (i.e. California, WCI and Federal)
- VOLUNTARY – no regulations; market for carbon credits driven by voluntary corporate social responsibility / green business decisions (i.e. Gold Standard)

- In June 2009, U.S. House of Representatives passed the American Clean Energy and Security Act of 2009 (a.k.a. Waxman-Markey) establishing a cap on greenhouse gas emissions starting in 2012
- Current Senate Energy Bill introduced by Senate Majority Leader Harry Reid (D-Nevada) last month **excludes** cap and trade and a federal renewable energy standard
- Midterm elections in November could change the political party mix in both houses of Congress (# of Democrats to Republicans) making 60 votes for cap and trade more difficult in the Senate
- Cap and trade remains anticipated by U.S. market participants but there is no clear timeline. In the absence of federal legislation, we expect continued expansion of regional and state-level programs such as the WCI, California's AB 32 and other programs.
- Growth in state-level renewable energy markets in U.S. in absence of federal renewable energy policy (i.e. today U.S. has roughly 25 states that have adopted renewable portfolio standards)

# Regulatory Patchwork



# Western Climate Initiative

## Partner Status

- California and New Mexico are the only U.S. states in position to move forward with the WCI. In conjunction with Quebec, Ontario and B.C., these states/provinces cover approximately 70% of the WCI regions emissions.

## Latest

- Final design document released July 27<sup>th</sup> provides further clarification on the WCI's direction 2010 through 2012.
- The jurisdictions will engage in a review process to qualify emissions from outside programs and parties.
- WCI clearly states that Offsets from programs in Canada, U.S. and **Mexico** will be eligible for phase I upon review.
- Emissions reporting will take place through January 1<sup>st</sup>, 2012 at which point phase I shall begin and continue through Jan. 2015.

# California

## **September 2006:** A.B.32 – California’s Global Warming Solutions Act

- Mandate to reduce emission to 1990 levels by 2020
- 2020 Target: 365 MMt CO<sub>2</sub>e (for capped sectors)

## **December 2008:** California Air Resources Board Approves Climate Change Scoping Plan

- Cap and trade system covering 85% of emissions

### **Scoping Plan Measures:**

- Energy efficiency program, including building and appliance standards
- Clean vehicle standards, including the Low Carbon Fuel Standard
- Increase renewable energy to 33% of mix
- Cap and trade program

### **Cap and Trade:**

- Preliminary Draft Regulation (PDR) released in November 2009
- Final Regulation expected to be Approved Fall 2010
- Phase I expected to start January 2012
- Linkage with other systems, i.e. CDM, WCI and CAR

# California

## Capped Sectors:

- Starting 2012 (Narrow Scope):
  - Large industrial facilities emitting 25,000+ mtCO<sub>2</sub>E/yr
  - Electricity generation, including electricity imports
  - First entity to place power onto the California grid is covered
- Starting in 2015 (Broad Scope):
  - Transportation fuel
  - Upstream industrial fuel below 25,000 mtCO<sub>2</sub>E/yr, and residential and commercial fuel combustion

**\*Observed increase in trading of pre-compliance offsets**

## Compliance Pathways:

### California Carbon Allowances

- Permit distributed by California

### California Compliance Offsets

- ARB-approved External Offsets, i.e. CRT
- ARB-issued Offsets
- 4% of a facilities compliance obligation allowance (**Demand: 122M offsets from 2012-2020**)
- October 2007, September 2008\*: Board approves **Climate Action Reserve (CAR)** forestry and livestock protocols

### Facility-level Investments

- Fuel switching (coal → nat gas or biomass)
- Renewable energy
- Energy efficiency
- New technology

# Offsets Status Update

## Early Action Credit (current thinking)

- Location: California
- Type: Livestock (v.2.0) and Forestry v.2.1 and v.3.1)
- Product: CRTs
- Vintage: 2005-2014
- Accepted on 1:1 basis, no discount for compliance

## Transitioning

- ARB transitioning four CAR protocols to compliance protocols
  - Domestic Ozone Depleting Substances (ODS)
  - Forestry
  - Urban Forestry
  - Livestock
- Adoption of ARB protocols expected later this year

## Criteria for ARB Offsets

- U.S., **Mexico**, Canada
- Start date: December 31, 2006
- Crediting period: 5-10 years for non-sequestration (1 renewal); 10-30 years for sequestration (unlimited renewal)
- No strict financial additionality requirements
- Could decide to link with CDM
- Looking at sector-based crediting, i.e. REDD



# Status: Moving forward despite political uncertainty

## Rulemaking

- Public stakeholder process ongoing for the remainder of 2010
- Next draft of Regulation expected this month. It is expected to disclose more details about cap and trade design elements, i.e. offsets program, allowance allocation, cost containment, etc.
- Program start date: January 1, 2012
- First compliance period ends December 31, 2013

## Governor's Race

- Jerry Brown - supports AB 32
- Meg Whitman – has indicated she would sign executive order to delay cap and trade
- Election day: November 2, 2010

## California Jobs Initiative

- Registered with Attorney General as "Proposition 23"
- Coins AB 32 a "job killer" and proposes to suspend cap and trade until unemployment falls to 5.5% for one year (current rate: 12.5%)
- Latest polling data by the Public Policy Institute of California: more than 60% oppose Prop 23 (support AB 32)

# Is There Liquidity and What is the Pricing? What Credits are Trading?

The U.S. pre-compliance carbon market

# Traded Credits

## U.S. Pre-compliance Offsets

- Climate Reserve Tonnes (CRTs) – leading offset standard for California. CAR-approved project types include:
  - Landfill Gas (U.S. and Mexico)
  - Livestock Methane (U.S. and Mexico)
  - Forestry
  - Organic Waste Digestion
  - Coal Mine Methane
  - Nitric Acid Production
  - Ozone Depleting Substances (ODS)
- Voluntary Carbon Units (VCUs)
- Chicago Climate Exchange (CCX) Offsets

# Climate Action Reserve

## Climate Reserve Tonnes (CRTs)

- Trading began Fall 2008
- Priority pre-compliance offset for California and potentially WCI
- Dairy, forestry and ozone depleting substances (ODS) quantification protocols will be “transitioned” into the compliance system, according to the ARB
- **10 million spot and forward CRTs have traded at Evolution Markets since Fall 2008**
- Market participants:
  - Financials – banks, hedge funds, commodity trading firms
  - Project developers – CDM project developers, public/private landfill owners, landowners, etc.
  - Retailers – green marketing firms
  - Compliance buyers – utilities, generators, refining, etc.

# Pricing and Liquidity

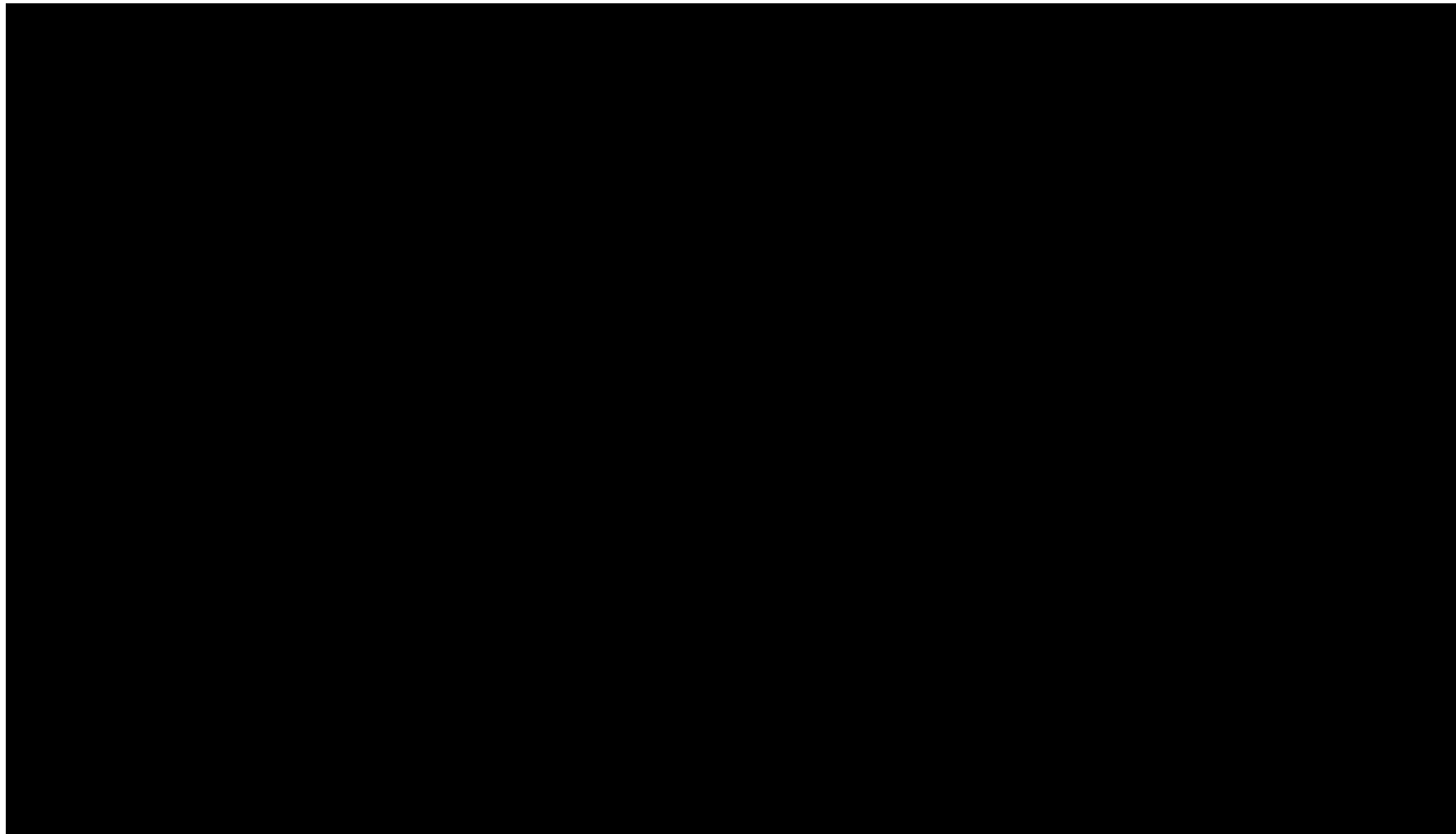
## Wholesale CRT Pricing

- CA-based CRTs attract a premium to non-CA CRTs; price convergence across vintages for California CRTs
- Not commoditized yet; most trades executed in primary over-the-counter market, limited open interest on exchange
- Pricing reflects project cost, commercial/credit, regulatory risk

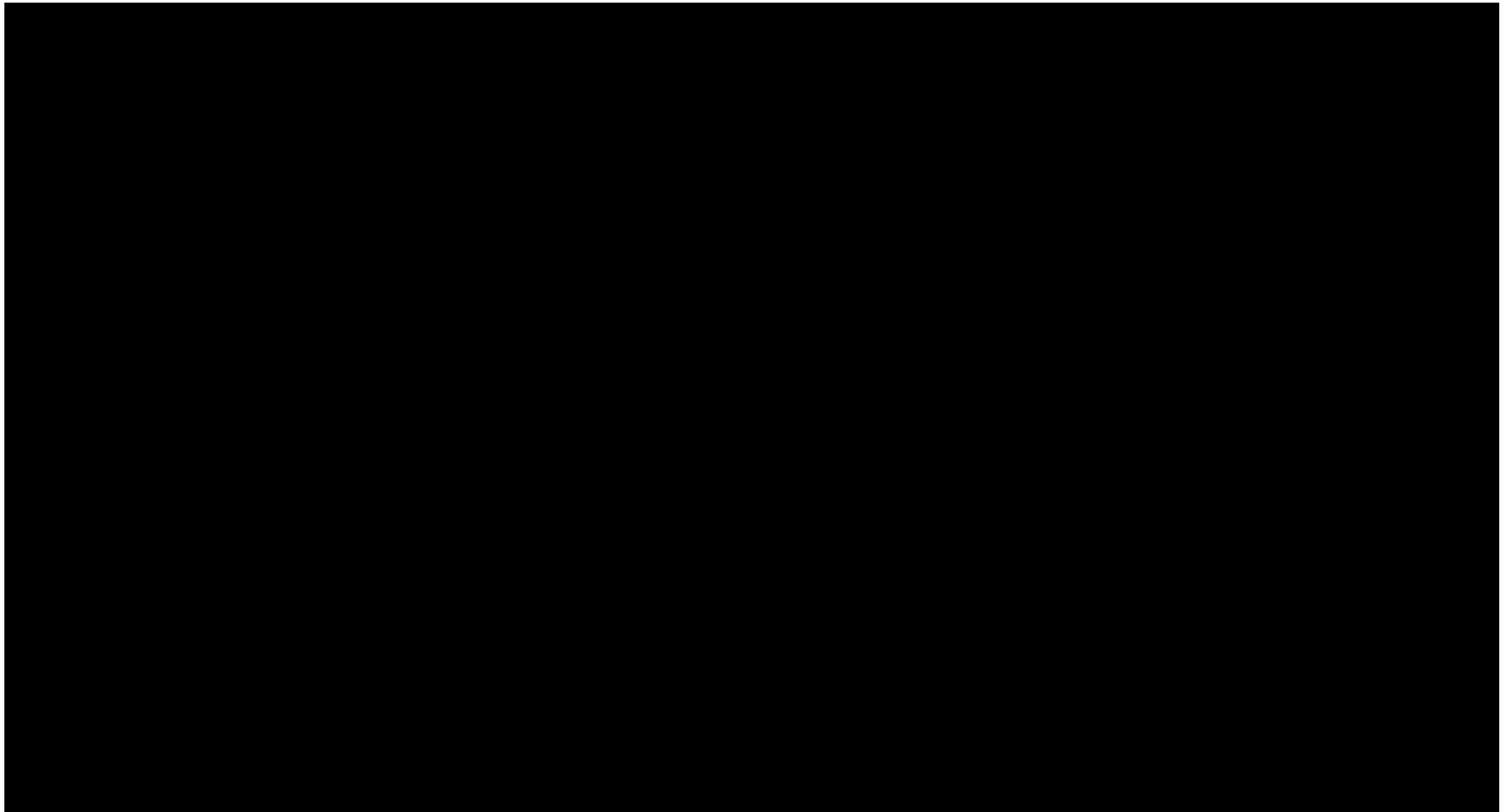
## Liquidity

- Thin market, soft pricing with persistent downward pressure
- Issued (spot) landfill gas CRTs are most liquid
- Regulatory volatility and unclear signals restraining demand
- 6,077,612 issued credits

# Historical Pricing



# Pricing



# What is the Outlook on U.S. Cap and Trade?

Final thoughts



# Final Thoughts

- **Design of the cap and trade programs continue regionally despite lack of federal program; in response, a pre-compliance carbon offset market has rapidly developed with firms speculating and hedging risk**
  - Evolution has executed pre-compliance trades of more than 10 spot and forward million CRTs
  - North American carbon market value grew 279% in 2009, according to World Bank, to \$2.4 billion (represents roughly 880 million tonnes, or a 487% increase in traded volume over 2008)
- **California market size expectation (excludes offsets):**
  - @ a price of \$12.54/tonne = \$2.5 billion USD
  - @ a price of \$60.00/tonne = \$22 billion USD
- **Potential for a U.S. carbon market persists**

# Contact Information



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