

Alternative markets for carbon offset projects

Choosing the right standard for your landfill

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Key takeaways

- Many standards – not just CCX or RGGI
- Different standards provide access to different markets, with different long-term outlooks and substantially different prices
- No good or bad standards

What is a carbon offset?

- Financial instrument representing a measurable, verified reduction in CO₂

What is a carbon offset standard?

- Carbon offset standards provide a set of rules and procedures for creating offsets:
 - Eligibility requirements
 - Calculation methodology
 - Validation process
 - Measuring and monitoring requirements
 - Public disclosure, registration, etc.

Who buys carbon offsets?

- Voluntary market
 - Businesses (corporate social responsibility)
 - Individuals (environmental activism)
- Compliance market
 - Kyoto Protocol
 - RGGI, Western Climate Initiative
- Precompliance market
 - In advance of regulation

Standards overview

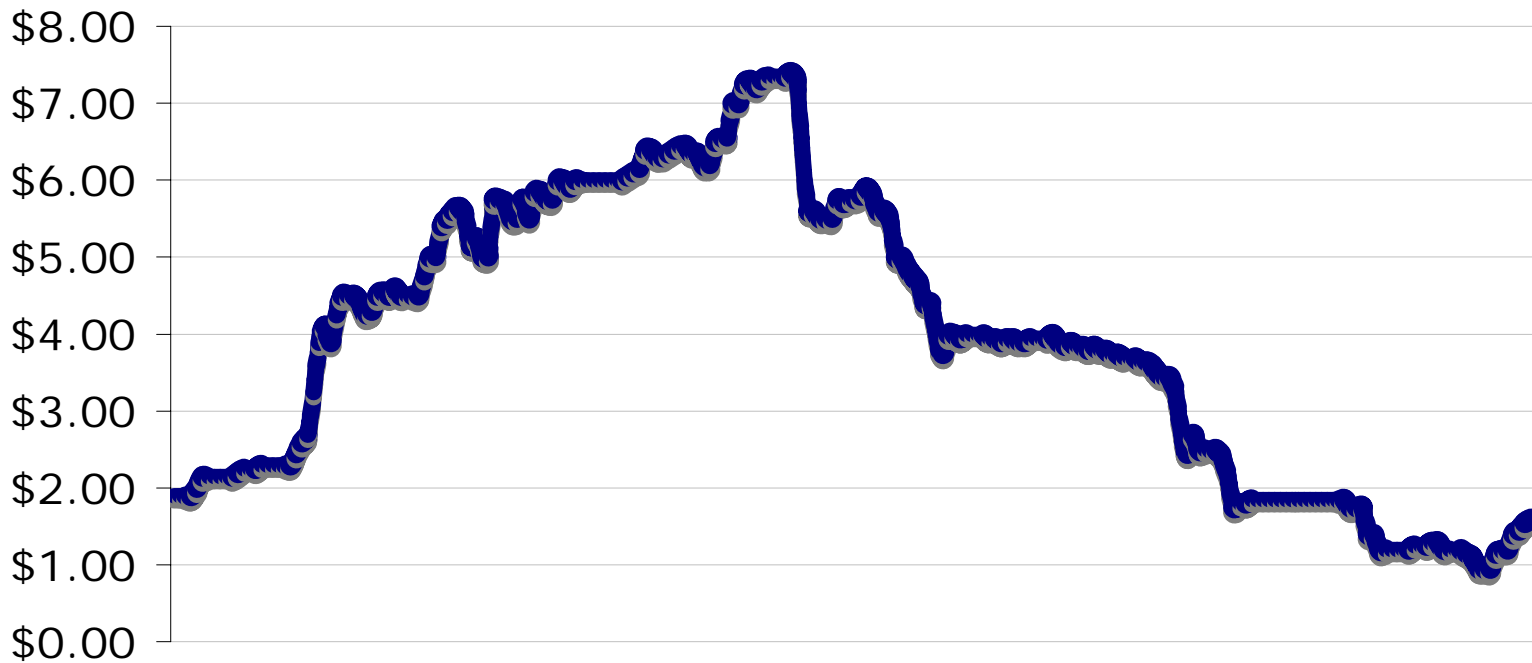
- Voluntary
 - Chicago Climate Exchange (CCX)
 - Voluntary Carbon Standard (VCS)
- Compliance
 - California Climate Action Registry (CCAR)
 - Regional Greenhouse Gas Initiative (RGGI)

Standards differentiators

- Offset price
- Eligibility requirements
- Regulatory risk
- Calculation methodology
- Cost to adopt, project types, geographical focus...

Offset price

CCX closing prices - 2008



Offset price, continued

| Standard | Price |
|----------|---|
| VCS | No spot price. Trades at several dollar premium to CCX. |
| CCAR | No spot price. Trades at several dollar premium to CCX. |
| CCX | Spot price available. Currently about \$1.50/ton |
| RGGI | No projects yet available. Price probably close to CCX. |



Other price considerations

- Value over long term
- Ability to find buyers in future years
- Degree of market risk you want to absorb

Eligibility requirements: start date

| Standard | Start date requirement |
|----------|---|
| VCS | Two years from start date. No grandfathering. |
| CCAR | Six months from start date. Grandfathering ends 11/09. |
| CCX | Unclear – standard changing in 2010 |
| RGGI | Six months from start date. Grandfathering ends 06/09 |



Eligibility requirements: finances

| Standard | Financial additionality requirement |
|----------|---|
| VCS | Carbon offset revenue must help make project happen |
| CCAR | No financial requirements |
| CCX | No financial requirements |
| RGGI | Unknown |



Regulatory risk

| Standard | Risk assessment |
|----------|---------------------------------------|
| VCS | Guaranteed ten-year crediting period |
| CCAR | No protection from regulatory changes |
| CCX | Unclear – standard changing in 2010 |
| RGGI | Guaranteed ten-year crediting period |



Regulatory risk, continued

- Which standards will be recognized in future compliance markets?

Calculation methodology

- End use for gas
 - Example: VCS penalizes open flares
- Historical monitoring and record-keeping
 - Example: CCAR imposes penalties for monitoring lapses

What standard is right for you?

- You don't need to choose a standard before you contract to sell your offsets
- Be mindful of eligibility dates
- Outside party will help with validation
- Offsets are confusing, but there's lots of free advice available

Advice to project owners

- Work with credible vendors who have direct experience with different standards
- Start planning for offsets before you break ground
- Remain open to different standards and deal structures, and consider the long term

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Who creates the standards?

There is generally a single governing body, but many entities cooperate to implement a carbon offset standard.

- Project protocols
- Verifiers
- Registries